ANZAM

AUSTRALIAN & NEW ZEALAND ACADEMY OF MANAGEMENT

FLOURISHING IN OUR NEW NORMAL

35th ANZAM Conference

Gold Coast, Australia

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Proudly hosted by:

Griffith UNIVERSITY

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Conference Proceedings

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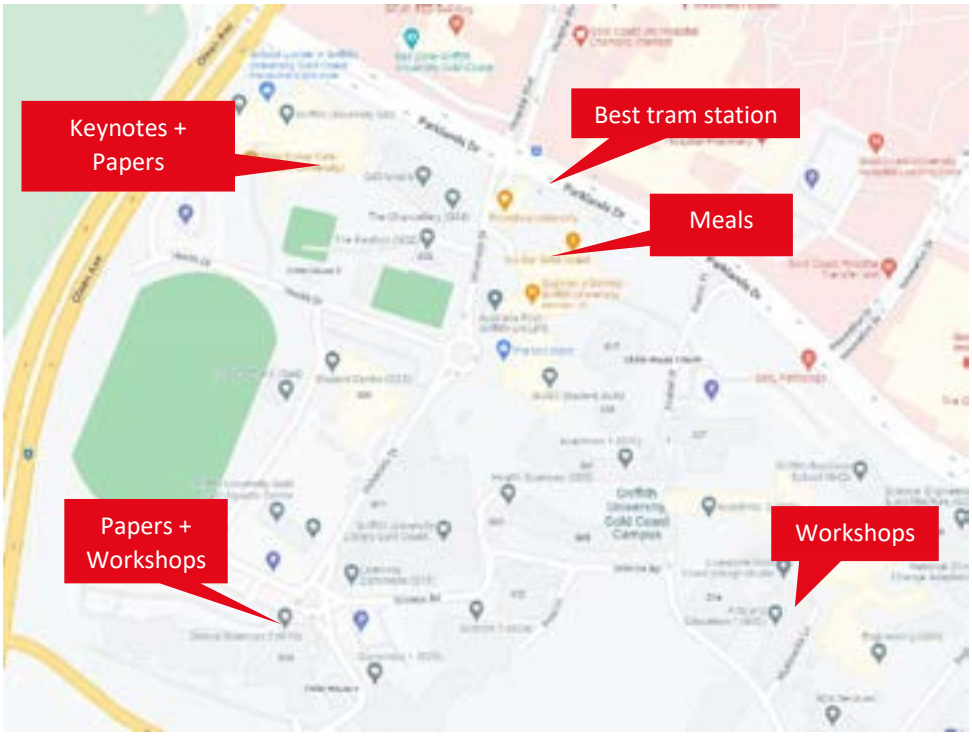
Griffith University and ANZAM acknowledge the Yugambeh/Kombumerri people as the traditional custodians of the land upon which we meet as we pay respect to the Elders, past, present, and emerging. We extend our respect to all Aboriginal and Torres Strait Islander peoples.

ANZAM recognises the unique role of Māori as Tangata Whenua and embraces Te Tiriti o Waitangi recognising Māori as tino rangitiratanga of Aotearoa/New Zealand while embracing the three guiding principles of the Treaty – Partnership Participation and Protection.

Program Key

Stream Details			Paper Details	
HRM	01. Human Resource management	Dr Justine Ferrer Dr Diep Nguyen	**WS**	Workshop
OB	02. Organisational Behaviour	Dr Andrei Lux Prof Joe Jiang	**DEL**	Delivered Paper Session
SSI	03. Sustainability and Social Issues	Dr Mehran Nejati Prof Shuang Ren	**INT**	Interactive Paper Session
GDI	04. Gender, Diversity and Indigeneity	Dr Diana Rajendran	*All times listed are in Australian Eastern Standard Time (GMT+10)* *Virtual presentations may be either liver or prerecorded. The program indicates which sessions are not available in Hybrid mode.* *Hybrid will be delivered via MS Teams. Details on how to join the Teams site will be sent to your email. Please allow 24 hours before your membership is finalised.*	
ESME	05. Entrepreneuriship and SMEs	Dr Tanya Jurado Dr Stephanie Macht		
LGS	06. Leadership, Governance and Strategy	Prof Herman Tse Dr Yulong Liu (David)		
T&L	07. Teaching and Learning	Dr Laura Rook Dr Beth Tootell		
BPISC	08. Buisness Processes, Innovation and Supply Chain	A/Prof Arun Elias A/Prof Matthew Pepper		
HMO	09. Health Management and Organisation	A/Prof Ann Dadich A/Prof Stephanie Best		
PSNFP	10. Public Sector, NGOs and Not-for-Profit	Dr Geoff Plimmer Dr Matthew Xerri		



Monday 5th December

	Doctoral Workshop – Registration Closed	Private
	HOSM/IM – Invitation only	Private
15:30	Conference Registration Opens	Uni Bar - The Link (G07)
17:00	Welcome Reception – Ticketed Event - $40 admission	Uni Bar - The Link (G07)

Tuesday 6th December

Registration desk opens: 7:30 AM Uni Bar - The Link (G07)

First session begins: 8.30 AM

Last session concludes: 5:00 PM

Social program: 6:30 PM Conference Dinner (tickets purchased separately)

Session 1 – 08:30 through 10:20 – All delegates in G40_5.63

08:30	Welcome to Country	Uncle John Graham
08:45	Welcome to Griffith	Prof. Caitlin Byrne
09:00	Conference opening by ANZAM President & Presentation of Stream Awards	Prof. Kerry Brown
09:15	Keynote Address: Co-designing our new normal	Prof. Michelle Tuckey

Morning Tea – 10:20 through 10:40 – Uni Bar - The Link (G07)

Session 2 – 10:40 through 12:20 – Concurrent Breakout rooms

Location	Stream	Titles	Session Chair
G30_1.13	WS-01	Emotions and Cognitions in the rough – Prior registration required see conference website for details *Herman Tse; Neal Ashkanasy; Peter Jordan; Kevin Lowe; Ashlea Troth*	
G30_1.17	WS-02	Mixed methods research in business and management *Roslyn Cameron; Xanthe Golenko; Farveh Farivar; Heinz Herrmann; Matt Xerri*	

G40_4.111	OB-DEL	192 - A multi-level investigation of distributed leadership and team effectiveness – *Shameem Shagirbasha; Juman Iqbal; Kumar Madhan* **(Virtual)** 23 - Early career experiences in project management: a qualitative study – *Jessica Borg; Christina M.Scott-Young; Naomi Borg* **(Virtual)** 38 - Setting up Project Managers to Thrive in their Post Covid-19 Pandemic Careers - *Naomi Borg; Christina Scott-Young; Nader Naderpajouh, Jessica Borg* **(Virtual)** 75 - Public service motivation and performance: the mediating effects of leader-member exchange and organisational citizenship behaviour in French local governments – *Pauline Colin; Pierre Garner* 88 - A qualitative study of buyers' negotiation training and preparation in a disruptive environment - *Kristina Sisyuk; Peter Innes; Wayne Graham* 251 - The Influence of Leaders' Emotional Intelligence on Employees' Psychological Safety and Performance in the Australian Hospitality Industry - *Manju Sharma; Sardana Islam Khan; Geoffrey Chapman*	Andrei Lux
G40_4.112	OB-DEL	330 - Pretend, if you can't end it – Key Determinants of Employees Decision to create False Representations at workplace – Moderating Role of Perceived Alternative Job Opportunities - *Mohtsham Saeed; Danny Soetanto; Deepak Sardana* 119 - Does cyberslacking improves job performance and reduces turnover intentions while telecommuting? Studying the mediating effect of cyberslacking between job demands and job performance and turnover intentions - *Vibhash Kumar; Nidhi Mathur; Ashima Verma* 4 - From a Restless Pillow to a Ruffled Mind: Testing a Moderated Mediation Model of Off-the-Job Antecedents of Abusive Supervision - *Samson Samwel Shillamkwese; Hussain Tariq; Hirra Pervez Butt* 7 - How do Chinese senior executives cope with work stress: An exploration of their collective coping strategies - *Zheng (Daniel) Duan; Hongxia Qi; Christian Yao* 19 - How does Technology Destroy the Life? Understanding the Effect of Technology-Assisted Supplemental Work on Family Outcomes - *Chao Ma; Sijia Zhao* 24 - Employee Well-being Through the Covid-19 Lockdown: Comparing Principles from Conservation of Resources Theory - *Jarrod Haar; Azka Ghafoor; David Brougham*	Joe Jiang
G40_4.113	HRM-INT	283 - Effect of a Strengths-based Psychological Climate on Job Crafting and Organizational Commitment – *Ankur Kushwaha* 140 - Organisational support for bereaved employees in Australia – *Leesa Taylor; Roslyn Cameron* 156 - Understanding need for novel voice in the Indian IT Industry – *Rimleena Boro; Shrihari S Sohani; Biju Varkkey* 196 - The challenge of increasing both well-being and resilience under COVID-19 with HRM: How employee assistance programmes can work toward this goal? –*Tianyi Long* 230 - Exploring the challenges of a implementing a four-day work week: an Australian manufacturing case study – *John Whiteoak; Melissa Sullivan* 236 - Collaborative autoethnography: Antagonistic identity discourses in senior academic management roles – *Michelle Gander*	John Molineux
G40_4.114	Mixed-DEL	95 - Women and Green Entrepreneurship: Review and prospects - *Seema Potluri; Subramaniam Ananthram; Subha Parida; B.V. Phani* 2 - How to reach scaled social impact in emerging economies? Stories of social entrepreneurs' composition of social bricolage and identity work in Kenya and Rwanda – *Emiel Eijdenberg; Felix Ostertag* 33 - Empathy and Moral Obligation in Forming Social Entrepreneurial Intention: An Alternative Framework - *Minhajul Islam Ukil* 208 - Gender equity in the Western Australian Mining Industry: Diversity & Inclusion programs and gender outcomes – *Ashley Speers; Kerry Brown; Fleur Sharafizad; Maryam Omari*	Amie Shaw

		281 - The impact of bifurcation of consciousness on the career progression of female academics in Australia – A qualitative study – *Fleur Sharafizad; Kerry Brown; Uma Jogulu; Maryam Omari* 49 - Actor Perceptions of Gender Quotas for Australian Boards - *Jillian Latham; Linley Lord; Alison Sheridan; Melissa Marinelli* **(Virtual)**	
G16_1.11	ESME-INT	170 - Is there a connection between psychological ownership and entrepreneurial resilience? – *Hafsa Ahmed; Juan Pellegrino* **(Virtual)** 293 - Credit and Capacity for the Most Missing Middle: Insights from Small and Growing Businesses in Myanmar and Ghana – *Mohammad Zainuddin; Vincent Potier; James Gordon* 154 - Family Business Self-Efficacy: Theoretical Foundation, Conceptualisation, and Dimensions – *Sadhana Singh; Patrick Raymund James M. Garcia; Laramie R Tolentino; Francesco Chirico* 328 - Defining Strategic Management Principles: A critical evaluation in the context of Micro and Small Businesses - *Kerry Anne Toyer* **(Virtual)** 287 - Rural Resilience and Entrepreneurship: investigating discourse in Northeast Victoria – *Ruby Power; Matthew Thomas; Babita Bhatt; James Gordan* *Vacant*	Yuli Suseno
G16_1.12	T&L-INT	74 - Antipodean contributions to The International Journal of Management Education: is there untapped potential? *Neil Marriott* **(Virtual)** 238 - Indigenising management education - *Diane Ruwhiu; Lincoln Wood; Paula O'Kane; Fiona Edgar; Maria Amoamo* 128 - Business-related online short courses in Australia: E-learning innovation to foster education for sustainable development? – *Subas Dhakal* **(Virtual)** 202 - Majlis based Transformative Learning: Using a Culturally Informed Multi-Dimensional Approach to Transformative Learning – *Zeenath Khan; Nilupulee Liyanagamage; Gayani Gunasekera; Mario Fernando* 229 - Exploring educators' experiences of integrating entrepreneurship and innovation teaching - *Dana Cumin; Kenneth Husted; Stefan Korber; Grigorij Ljubownikow; Peter Rachor; Christine Woods* 68 - COVID-19's Impact on Students' Perceptions of Employability and Work Readiness – *Michael Bothamley; Susan Ressia; Ben French*	Susan Ressia
G16_1.13 *(Available in person only)*	LGS-INT	16 - How Inclusive Leadership Creates a Fearless Organisation – *Mehran Nejati; Azadeh Shafaei* 96 - Extending Understanding of the Leadership of Employee Wellbeing: A Healthy Leadership and Actor-Network Theory Approach – *Lisa Smith; Sara Ekberg; Heather Stewart* 171 - Exploring the relationships among servant leadership and multiple dimensions of wellbeing in an international organization – *Chelsea Gill; Anke Steinmeyer; Justin Craig* 178 – Shaping employees' attributions through boundary-spanning behaviour – *Neeti Ingole; Shrihari Sohani* 313 - A Proposed Conceptualisation of Joyful Leadership – *Katie Mcintyre* 336 - Responsible Leadership in the Governance of Managed Retreat: A Place-Based Approach to Climate Change – *Brad Jackson*	Sudong Shang

G16_1.14 *(Available in person only)*	GDI-DEL	27 - The perceived benefits of employer engagement in active labour market programs in Australia: the role of HR and CSR logics – *Jo Ingold; Angela Knox* 78 - Driving Social Inclusion through Sport and Physical Activity: A case study of women from refugee and migrant backgrounds - *Hui-ling Wang; Theophilus Tagoe; Shamika Almeida; Kishan Karrippanon; Janne Schwarck; Kelly Andrews* 113 - Workplace Access and Treatment Within Organisations: An Exploratory Study of the Experiences of Acid Attack Survivors – *Arindam Bhattacharjee; Chetan Joshi* 204 - (Re) Production of gendered societal institutional constraints in organizations: A qualitative study of women board of directors in Sri Lanka - *Welamedde Gedara Vishaka Gunasekara; Paresha Sinha; Suzzete Dyer* 199 - Role of social capital in adapting to a post-pandemic work environment: Evidence from rural India – *Aanchal Gupta; Samar Singh* 122 - An exploratory study of age composition and dynamics in Australian retail - *Muhammad Ali; Marzena Baker; Mirit Grabarski*	Raymond Trau
G16.1.15	*This room is available to those who need a quiet place to work*		

Lunch – 12:20 through 13:20 – Uni Bar - The Link (G07)

Session 3 – 13:20 through 15:00 – Concurrent Breakout rooms

Location	Stream	Titles	Session Chair
G30_1.13	WS-03	Workplace wellbeing in the rough – Prior registration required see conference website for details *Laramie Tolentino; Carys Chan; Rebecca Mitchell; Patrick Garcial; Paula Brough; Ashlea Troth; Kate Hutchings; Katrina Radford; Hataya Sibunruang*	
G30_1.17	WS-04	Integrating and embedding sustainable development goals for delivering responsible management education *Fara Azmat; Mehran Nejati; Chamila Perera;*	
G40_4.111	OB-INT	216 - The impact of organisational justice on organisational citizenship behaviour and turnover intention in China – *Luyang Liu; Jingwen Shi; Rita Lai-ying Chan* 231 - Towards Identity Work as Practice: A Research Agenda – *Jonathan Robberts; Julie Wolfram Cox* 297 - Deciphering the web of deception in delivery dynamics – *Priyam Kukreja; Jatin Pandey* 305 - Leader Behaviours and Organizational Change – *Priyam Kukreja; Jatin Pandey; Sanjeev Tripathi* 93 - Employee Green Behaviours and Wellbeing: The Role of Workspace Configuration and Leadership - *Jingyi Wang; Oluremi B. Ayoko* 273 - Corporate Social Responsibility and Employee Commitment in the New Normal – *Keshara De Silva; Chitra De Silva Lokuwaduge*	Peter Jordan
G40_4.112	OB-DEL	65 - Conceptualising the Meaning of Working for Singaporean Graduates aligned with 21st century Economic and Social Policy: "Market, Meaning & Me" - *Kim Yin Chan; Moon-ho R. Ho; Jeffrey C. Kennedy; Jia Lin; Kwee Hoon Lim; Marilyn Uy; Olexander Chernyshenko* **(Virtual)** 290 - To Compensate or To Apologize? Speed of Recovery After Causal Based Trust Violations - *Muhammad Jawad Malik; Antonio Gitto; Muhammad Zubair Elahi; Ayesha Javed* 45 - Does Leadership determine employee Unethical Pro-Organizational Behavior? – *Rahatulaain Ahmad; Mehran Nejati; Ben Farr-Wharton; Tim Bentley* 103 - How psychological attributes influence workplace learning – a sequential-mediation conceptual model - *Khanh-Linh Nguyen; Duy Dang-Pham; Seng Kok; Burkhard Schrage* 253 - Ride Hailing Service: A Literature Review and Recommendations for Future Research – *Ria Triwastuti; Limin Fu; Yuli Suseno* 137 - Team antecedents of employee wellbeing for first responders in Australia - *Aglae Hernandez Grande; Fleur Sharafizad; Ben Farr-Wharton*	Neal Ashkanasy

G40_4.113	HRM-INT	245 - Individual and organizational correlates of mental illness: The importance of creating a positive "disclosure climate" – *Rina Hastuti; Andrew R Timming; Timothy Bartram* 260 - Onboarding, Learning Transfer and Job Performance in Hybrid Work Environments - *Momo Kromah; Remi Ayoko; Ken Tann; Dhaval Vyas* 291 - High Performance Work Systems and Employee Retention in Chinese Organisations: The Mediating Effect of Employee Wellbeing – *Zhili Yang; Terri Mylett; Suzan Burton* 325 - Organizational dissent as a predictor of workplace bullying: The case of New Zealand employees – *Beth Tootell; Stephen Croucher; Jo Cullinane; Doug Ashwell* 342 - The impact of COVID-19 on employee wellbeing in higher education: the experience of a regional university – *Betty Frino; Shamika Almeida* 345 - The proverbial meat in the sandwich: managing in Business Schools through the COVID pandemic – *Justine Ferrer; Peter Holland; Melissa Parris*	Justine Ferrer
G40_4.114	GDI-DEL	84 - Gender Equality in the Workplace: The Case of Singapore – *Adrian Heng Tsai Tan; Thu Thuy Tien Nguyen; Carolyn Koh; Linley Lord* 121 - An Exploratory Study of Neurodiversity in Australian Retail – *Muhammad Ali; Mirit Grabarski; Marzena Baker* 158 - Barriers and enablers to Asian-Australian Professionals' ascension to Australian Corporate Leadership: A Research Agenda – *Saminda Arambewala; Sardana Islam Khan; Catherine White* 263 - Te Awa Tupua: How Indigenous and non-Indigenous world views affect management and implementation of the Whanganui River Settlement Act – *Miriama Cribb; Jason Mika* 210 - Reversing the gaze: the influence of religion and culture on Saudi women academic careers – *Johara Alslmee* 195 - Diversity climate: fairness and discrimination in the skilled migrant hiring process - *Thi Tuyet Tran; Alan Montague; Nuttawuth Muenjohn; Roslyn Cameron; Shea Fan* **(Virtual)**	Sharlene Leroy-Dyer
G16_1.11	WS-05	"Stop making the quizzes so difficult, B*TCH": Teaching Evaluations and Effects on Early Career Academics' Wellbeing *Marissa Edwards; Erin Gallagher; Stuart Middleton; Elizabeth Nichols; Hafsa Ahmed*	
G16_1.12	LGS-INT	157 - In search of a resource allocation strategy during digital transformation – *Samrat Bagchi* **(Virtual)** 109 - Managing uncertainty using CEO appointment announcements: Evidence from COVID-19 pandemic – *Natalie Elms; Xin (Tracy) Qu; Sarah Osborne* 35 - Zoom in, Zoom out: How foreign firms respond to nested multiple reference groups – *Pengcheng Ma; Lin Cui* 269 - Digital Transformation Towards Ambidextrous Learning Organization using Cloud Computing: A Systematic Literature Review – *Minu Saratchandra; Anup Shrestha; Peter Murray* 288 - Leadership and Organizational Agility: Multilevel model – *Ankur Kushwaha* 79 - Dynamic digital capabilities: how SMEs should evolve their strategic orientations as they grow - *Elsamari Botha; Jeandri Robertson; Russell Wordsworth; Bernard Walker; Leyland Pitt; Caitlin Ferreira*	Peter Galvin

G16_1.13 *(Available in person only)*	HMO-INT	21 - Choosing to Challenge Occupational Stigma: Implications for Workers' Mental Health – *Asmita Manchha; Ken Tann; Kirsten Way; Michael Thai* 67 - Managed Isolation and Quarantine (MIQ) operations for Covid-19 control in New Zealand: A sentiment analysis of the peoples' feedback – *Ram Roy* 148 - What are the current legislations relating to lifestyle, recreation, or activities programs for people living within long-term residential aged care facilities in OECD countries? - *Sarah-kaye Page* 309 - Encouraging Flourishing in their New Normal: Design Thinking for Rehabilitation Professionals – *Judy Matthews; Gaj Panagoda* *Vacant* *Vacant*	Ann Dadich
G16_1.14 *(Available in person only)*	BPISC-INT	131 - The Effects of Knowledge Hiding Climate on Firm Innovation: Testing Human Capital and Firm Size as Moderators – *Jarrod Haar; Conor O'Kane; Urs Daellenbach* 162 - Cognitive Enterprise: Defining the Pillars and Assessing the Cognitive Maturity – *Shoaib Riaz; Gianluca Elia; Alessandro Margherita* 194 - Organizational culture distance, common institutional ownership, and organizational resilience in supply chains - *Huashan (Jason) Li; Andrew Yu* 244 - Analysing Stakeholder Conflicts in Transport Infrastructure Projects: Use of Evaporating Cloud – *Arun Elias* 257 - Actualising Supply Chain Sustainability - A practical guide – *Peter Robertson* *Vacant*	Matthew Pepper
G16.1.15	*This room is available to those who need a quiet place to work*		

Afternoon Tea – 15:00 through 15:20 – Uni Bar - The Link (G07)

Session 4 – 15:20 through 17:00 – Concurrent Breakout rooms

Location	Stream	Titles	Session Chair
G30_1.13	WS-06	HRM at the crossroads *Justine Ferrer; Gerry Treuren; Peter Holland; Tim Bartram*	
G30_1.17	WS-07	Why I rejected your R&R *Anna Carmella Ocampo; Neal M. Ashkanasy; Peter Jordan; Kevin Lowe; Ofer Zwikael; Herman Tse; Remi Ayoko*	
G40_4.111	OB-INT	322 - Can Negative Emotions Lead to Desirable Negotiation Outcomes? – *Sweta Singh* 197 - Wayfaring the COVID Challenge: Experiences of Online counsellors during the Pandemic – *Vartika Varyani; Jatin Pandey; Amitabh Deo Kodwani* 184 - Is it a challenge? Regulation of workplace emotions when Working From Home (WFH) - *Dinithi Padmasiri Mampe Kankanamalage* 97 - Unpacking the Forgetting Process after Rare High-Impact Events – *Artemis Chang; Meng Zhang; Wasana Bandara; Anna Wiewioa; Kevin Desouza* 43 - Slowly fading away: Toward an understanding of retirement resistance through the lens of the Australian legal profession – *Valerie Caines* 259 - The Role of Congruence on Propensity to Trust on Joint Gains in Negotiation – *Sudeep Sharma; Ruchi Sinha; Hillary Anger Elfenbein*	Jillian Cavanagh

G40_4.112	OB-DEL	104 - Maybe they're born with it, maybe it's contextual - Enablers and implications of leader bottom-line mentality – *Katrin Riisla; Yannick Griep* **(Virtual)** 209 - The Prospect of Work-From-Home from Employees' Perspectives: A Twitter Sentiment Analysis– *Amlan Haque; Kishore Singh; Sabi Kaphle; Heena Panchasara; Wen-Chun Tseng* **(Virtual)** 299 - What We Do For Love: Emotional Stewardship and Coping in Family Businesses – *Ayoosha Saleem; Francesco Barbera; Chri Graves; Arvid Hoffmann* 188 - Distinguishing between Perceived Developmental HRM and Perceived Organizational Support: A Social Information Processing Perspective – *Yuhee Jung; Norihiko Takeuchi* 234 - Understanding the networked organisation through graphic ideation: An empirical illustration – *Smita Paul; Snejina Michailova* 304 - Emotional Intelligence and Work Safety: A Study of Chinese Pilots – *Zhongmin Wang; Zhou Jiang; Anna Blackman*	Carys Chan
G40_4.113	BPISC-DEL	107 - Value Creation in Service Firms and the Role of Dynamic Capabilities – *Angel Sharma; Sushil Bhakta Mathema; John Koirala* 76 - Co-opetition in the Disaster Recovery Phase: The Christchurch Rebuild Case Study – *Mark Wilson; Neil Ritson; Robert Radics* 181 - Drivers and patterns of industry convergence: A literature-based framework – *Annika Wambsganss; Nathalie Sick; Soeren Salomo; August Diederich; Stefanie Broering* 139 - Factors affecting adoption of digital technologies in horticulture supply chains; *Edith Gomez; Louis Sanzogni; Luke Houghton; Daryl Joyce* 224 - Understanding Intra-personal Algorithm Aversion: A Construal Level Theory of Psychological Distance – *Fatemeh Jafaralijasbi; Steven Lui; Stephen Zhang* **(Interactive paper)** 252 - A Systematic Literature Review Exploring the Relationship Between Near-Future Vehicle Technology and Sustainability – *Alex Clifton; Kerry Brown; Ferry Jie; Hadrian Djajadikerta; Reza Kiani Mavi* **(Interactive Paper)**	Arun Elias
G40_4.114	T&L-DEL	123 - Global Teams: Preparing work-ready graduates for the digital era – *Farveh Farivar; Małgorzata Marchewka; David Cheng* 20 - Developing and sustaining sustainability behaviors beyond university learning: A new approach using the theory of planned behavior – *Ananya Bhattacharya; Wee Chan Au; Glen Croy* 77 - Exploring the impact of online global experiences on students' career development and employability – *Rebecca Cozens; Matthew Xerri; Amanda Daly; Ashlea Troth* 284 - Understanding Student Engagement with Instructional Videos – *Catherine White; Rachel Atkinson; Anthony Weber; Warren Lawson* 161 - Developing Your Own Innovating Classroom Practice: The Teaching With Heart Model – *Stuart Middleton* *Vacant*	Laura Rook
G16_1.11	WS-08	Navigating Academic Constructs: Non-Indigenous Supervisory Practice with First Peoples and Māori HDR Candidates *Diane Ruwhiu; Mark Jones; Cassino Doyle; Sharlene Leroy-Dyer; Ella Henry; Pauline Stanton; John Burgess; Mark Rose*	

G16_1.12	SSI-DEL	169 - Is there enough food for all of us? Examining entrepreneurial activity within food security – *Hafsa Ahmed; Nadeera Ranabahu; Huibert (Herb) de Vries* **(Virtual)** 172 - Changes to career prospects international students require due to global pandemic and adjusts the behaviours to align with the new world - *Gazi Farid Hossain; Rashadur Rahman* 187 - Contribution of sustainable practices to the firm's economic value creation – *Samira Soltani Behroz; Lincoln Wood; Joe Cooper; Sara Walton* 190 - Effectuating Voluntary Pro-Environmental Behavior in the Textile Industry: Environmentally Specific Servant Leadership, Green Organizational Climate, Green Crafting and Green Role Identity – *Hina Zafar; Yuliani Suseno; Feng Tian; Jo Ann Ho* 69 - Corporate purpose and the Sustainable Development Goals: An exploratory study of large Australian companies – *Kyoko Sasaki; Wendy Stubbs; Megan Farrelly* 186 - Systematic literature review: Big data in green supply chain – *Smaïl Benzidia; Jomana Mahfod*	Mehran Nejati
G16_1.13 *(Available in person only)*	LGS-DEL	34 - The influence of director independence on organizational CSR performance – *Ranjita Islam; Muhammad Ali; Erica French* 54 - The Focus Advantage: Evaluating the Performance Impact of Focus versus Diversification – *Sabutay Fatullayev; André Sammartino* 179 - Reconceptualizing accountability and governance - the promise of blockchain technology – *Gavin Nicholson; Xin (Tracy) Qu* 164 - Long Passed but Not Long Gone: The Effects of Top Managers' Parents' Educational Diversity on Firm-level Innovation – *Sam Tavassoli* 301 - How firm boundary choices alter over time: Building a dynamic model for the UK pension industry 1985-2014 – *Peter Galvin; Nicholas Burton* 302 - Director financial literacy: How do board directors measure up? – *Jackie Bettington; Gavin Nicholson*	Chia-Yen (Chad) Chiu
G16_1.14 *(Available in person only)*	ESME-DEL	11 - Founder and the global path of the Fintech INVs: A Comparative Study of Australian and European Companies – *Elysée Dubois; Huan Zhang; Massimo Garbuio* 81 - Australian dairy business models: research review and future directions for survival and sustainability – *Gillian Walker; Vanita Yadav; Delwar Akbar; Azad Rahman* 50 - Learning the ropes: the role of mentoring activities on family wisdom – *Claudia Leon Cano; Benjamin Fath; Darl Kolb* 124 - SME explorative and exploitative search through microfinance institutions – *Christian Sarfo; Jing Zhang; Paula O'Kane; Conor O'Kane* 175 - Crisis self-efficacy – perceived ability to respond to crises – *Kim Klyver; Paul Steffens; Suna Lowe Nielsen* *Vacant*	Ross Chapman
G16.1.15	*This room is available to those who need a quiet place to work*		

Wednesday 7th December

Registration Desk Opens: 7:30 AM Uni Bar - The Link (G07)

First session begins: 8.30 AM

Last session concludes: 5:00 PM

Social program: Conference close and Celebration @ Mantra Sharks

Session 5 – 08:30 through 10:20 – Concurrent breakout rooms

Location	Stream	Titles	Session Chair
G30_1.11	WS-09	ANZAM Educator of the Year Workshop: Work digitalisation and Graduates' work readiness: What business schools can do? *Farveh Farivar*	
G30.1.17	WS-10	Publishing management learning and education scholarship – Prior registration encouraged see conference website for details *Paul Hibbert; Stuart Middleton; David Jones*	
G40_4.111	OB-INT	40 - Bottom-Line Mentality: Implications for Supervisor Emotional and Behavioral Reactions – *Mayowa Babalola; Gbemisola Soetan* **(Delivered Paper)** 262 - Toward an Authentic Model of Employee Wellbeing - *Therese Roe; Ryan Gould; Matthew Xerri* 146 - Do employees remain innovative while working remotely? – *Snjezana Ahlgren; Shahnaz Naughton* 111 - Cybercrime, employee productivity and wellbeing in a hybrid work environment – *Remi Ayoko; Momo Kromah; Hai Luong; Ryan Ko* 248 - How effective is remote work? An exploratory investigation into the role of technology and culture – *Reshma Mohammed; Rupashree Baral* **(Virtual)** 341 - Job burnout during COVID-19: Mapping the research landscape – *Ravikiran Dwivedula* **(Virtual)**	Paula Brough
G40_4.112	OB-DEL	57 - Measuring Work-related Learning Mindsets for Graduate Employment and Employability in the Context of Protean Careers - *Hoon-ho R. Ho; Kim Yin Chan; Jeffrey C. Kennedy; Jia Lin; Kwee Hoon Lim; Marilyn Uy; Olexander Chernyshenko* **(Virtual)** 25 - Organizational Reactions to Covid-19 Lockdown: Longitudinally Comparing HR Practices Through a Proactive versus Reactive Approaches – *Jarrod Haar; David Brougham; Azka Ghafoor; Maree Roche* 91 - How Compassion Makes Teams More Innovative: A Temporal Contingency Approach to Team Compassion, Team Integrative Complexity, and Team Innovation – *Linh Bui; Guihyun Park; Goran Kuljanin* 150 - The Mediating Role of Individual Behaviour Strategies in the JD-R Model: A Study on Teacher Burnout in China – *Han Cheng; Youqing Fan; Henry Lau* 159 - The mediating roles of passion to living a calling – *Sharon Pek Yoke Cheah; Jane Terpstra-Tong; Yin Teng Chew; Meng-Long Huo* 201 - Leader humility and employee mental health: the mediating role of occupational self-efficacy – *Shivam Upadhyay; Pankaj Singh*	Sudeep Sharma

G40_4.113	HRM-DEL	6 - E-coaching and work role performance: Mediation of three types of self-efficacy – *Ray Tak-yin Hui; Don Chi Wai Wu; Jim Luo* **(Virtual)** 110 - Feedback, Creativity and Innovative Behavior at Work: A Systematic Review – *Muhammad Ijaz; Fannie Wu; Alexander Newman; Amanda Pyman* 292 - The impacts of COVID-19 on talent management in Bangladesh: a qualitative investigation – *Nigar Sultana* 296 - Management capabilities for the transition to Industry 4.0: an advanced manufacturing SME case study – *Melinda Laundon; Penny Williams; Greg Hearn; Jose H.P. Rodrigues* 180 - Risks of Adaptive Leadership: Exploring the Impact of Leaders' Engagement in Adaptive Leadership on Their Well-being - *Maria Cecilia Tournour; Chia-Yen (Chad) Chiu; Ruchi Sinha* *Vacant*	Geoff Chapman
G40_4.114	PSNFP-DEL	15 - Upskilling public sector leadership in the context of the new normal of public governance and public policies – *Marika Tammeaid; Petri Virtanen; Harri Jalonen* **(Virtual)** 58 - Working under conditions of austerity: Do behavioural capabilities affect Street Level Bureaucrats' ability to deliver public value? – *Yvonne Brunetto; Matthew Xerri; Benjamin Farr-Wharton; Julia Ashton-Sayers* 60 - Police Management: Is managing police officers' personal resources the key to ensuring effective police officers? – *Yvonne Brunetto; Matthew Xerri; Benjamin Farr-Wharton; Chiara Saccon; Paresh Wankhade* 160 - Understanding the maturing of place-based approaches to boost 'flourishing over time' – *Cathy Boorman* 247 - Towards Governance Renewal in Islamic School Boards: The Role of Professional Identity – *Ayda Succarie; Terri Mylett; Wayne Fallon* 279 - Enacted and thwarted public service motivation: A Latent Profile Analysis – *Esme Franken; Geoff Plimmer; Fleur Sharafizad; Evan Berman*	Katrina Radford
G16_1.11	WS-11	The art of developing interesting and impactful research *Jorgen Sandberg; Victoria Lister*	
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Morning Tea – 10:20 through 10:40 – Uni Bar - The Link (G07)

Session 6 – 10:40 through 12:10 – All delegates in G40_5.63

10:40	Keynote Address: Flex is not the new flex: Why Time is now everything in the workplace	A/Prof. David Pich
11:45	ANZAM AGM	Prof. Kerry Brown

Lunch – 12:20 through 13:20 – Uni Bar - The Link (G07)

Session 7 – 13:20 through 15:00 – Concurrent Breakout rooms

Location	Stream	Titles	Session Chair
G30_1.11	WS-12	Flourishing in leadership *Toby Newstead; Joey Crawford; Albert Amankwaa; Desmond Ayentimi; Melanie Bryant*	
G30_1.17	WS-13	Moderated Mediating Effects in Management Studies – Types and Best-Practice Analytical Procedures - Prior registration encouraged see conference website for details *Gordon W. Cheung; Helena D. Cooper-Thomas*	
G40_4.111	OB-INT	177 –Service Encounter Engagement Experiences in The Context of Covid-19: Evidence from Employees and Customers - *Jian Qi Chan; Patricia Lau* **(Virtual)** 223 – Work-family enrichment among nurses: A systematic review and research agenda - *Meghana Jalamangala; Rupashree Baral* **(Virtual)** 134 - Work passion transmission: Literature review and future research - *Velina Serafimova; Denise Jepsen; Laramie Tolentino* 32 - Organizational Perspective-taking Orientation: Conceptualization and Scale Development - *Gerson Francis; Tuazon Liang-Chih; Huang John Peikang Sun; Daniel Tisch; Rachel Wolfgramm* 44 - Investigate organizational identification's detrimental effects on the employee recovery process - *Wangxi Xu; Andrew Yu* 136 - Influence of Work Social Support on Women's Careers in Patriarchal Contexts - *Farzana Ashraf; Denise Jepsen; Raymond Trau*	Ashlea Troth

G40_4.112	OB-DEL	207 - Upward voice under felt uncertainty: Role of emotion regulation - *Nabila Khan; Lata Dyaram; S Lokeshwaran; M Manivannan* 254 - How and when do descriptive norms influence voice behaviour? A theory of normative social behaviour approach. - *Amrita Gautam; Senia Kalfa; Patrick Garcia; Hataya Sibunruang* 241 - Post-merger integration failure due to the depletion of self-regulatory resources- *Sandor Talas; Andre Pekerti; Neal Ashkanasy* 185 - How organizational support enhances professional skepticism: The role of organizational identification and firm type - *Aeson Luiz Dela Cruz; Chris Patel; Patrick Raymund James Garcia* 219 - Togetherness and the Maintenance of Communities of Practice - *Stefan Korber; Paul Hibbert; Lisa Callagher; Frank Siedlok; Ziad Elsahn* 214 - Financial Adviser Wellbeing in Australia and New Zealand: Accept Change or Accept Defeat - *John Molineux; Reihaneh Valizadeh; Adam Fraser; Tanya Heaney-Voogt*	Chao Ma
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G16_1.12	LGS-DEL	10 - Which Central Network Position Matters More for Knowledge Transfer? A Meta-Analytic Review – *Carolyn Ngowi; Steven Lui; Suzanne Chan-Serafin; Salih Zeki Ozdemir* 36 - Business Group Identity and Affiliate Performance - *Steven Lui; Chia-Ling (Eunice) Liu* 66 - An Overlooked Connection: Work Design Quality and Leadership Intention - *Eyup Ilker Camgoz; Zeynep Aycan* 82 - Does being a leader make them stay? Supervisory responsibility and turnover intentions - *Stephanie Funk* 115 - Creating Meaningful Work through Inclusive Leadership - *Azadeh Shafaei; Mehran Nejati* 329 - Joyful leadership and positive leader affect in the nonprofit sector: A systematic review of the literature - *Katie Mcintyre*	Kevin Lowe
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G16.1.15	*This room is available to those who need a quiet place to work*		

Afternoon Tea – 15:00 through 15:20 – Uni Bar - The Link (G07)

Session 8 – 15:20 through 17:00 – Concurrent Breakout rooms

Location	Stream	Titles	Session Chair
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G30_1.17	WS-16	How are universities, business schools and academics being managed? International ANZAM-IFSAM session *Greg Bamber, Kerry Brown, Nic Beech, Katy Mason, Silviya Svejenova, Sergio Wanderley*	
G40_4.111	OB-INT	270 – Developing a Muscle for Organizational Resilience: A Psychosocial Perspective - *Neelam Birthare; Shivganesh Bhargava* 114 - Creative writing as scholarly business research: the contribution of a literary literature - *Peter Sandiford; Ankit Agarwal; Nikki Cheesman-Dutton; Maria Neledva* 144 - Coping strategies and outcomes among expatriates during COVID-19 - *Alexei Koveshnikov; Miikka Lehtonen* 155 - Gig worker vs side hustlers in platform-based food delivery work: the impact of structural characteristics and differences on job satisfaction and lived experiences of work in the gig economy - *Nadia Kougiannou; Pedro Mendonca* 174 - Work Motivation and knowledge sharing: The roles of team-member exchange, justice perceptions, organizational rules, and climate for trust – *Paulina Wojciechowska-Dzięcielak; Neal M. Ashkanasy* *Vacant*	Sudong Shang
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10. Public Sector, NGOs and Not-for-Profit
Refereed Delivered Paper

Upskilling public sector leadership in the context of the new normal of public governance and public policies

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Upskilling public sector leadership in the context of the new normal of public governance and public policies

Abstract:

Building on complexity theory, on the epistemic nature of complex government institutions and on the emergence of service ecosystems addressed, for instance, in the 'wicked problems' literature, this paper maintains that crossing organisational boundaries and siloes within government calls for the upskilling of public sector leadership embracing meta-skills and collaborative governance. This upskilling is a prerequisite for different governance institutions to consolidate their actions supporting unified public policy interventions focusing on policy coherence and the governance capacity to deal with emergent societal phenomena.

Based on a case study from Finland, this paper maintains that investing in leadership meta-skills accelerates the shift from compartmentalised, reductionist, position-based and power-driven leadership to more future-driven, co-creational and renewal-oriented leadership. It also harnesses a leadership style that values a variety of human strengths and the ability for self-organising as the starting points rather than mistrust, command, and control.

Key words: public sector leadership, meta-skills, collaborative governance, leadership development, complexity

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1. Introduction

There are many ways to approach government and its functions. A widespread tendency is to examine government through power structures based on a legislative framework and hierarchical relationships driven by that (Virtanen & Tammeaid, 2020; Torfing et al., 2020; Fawcett, 2018; Bourgon, 2017). Another approach is to highlight the government first and foremost as a sphere of political and democratic decision-making (Torfing & Díaz-Gibson, 2016, p. 104; Dahl & Soss, 2014; Klijn & Skelcher, 2007). Both angles reveal some parts of the public governance functionality while omitting others, for example the role of civil servants and civil service leaders as active agents in ensuring that public governance fulfils its role in promoting the public good (Bozeman & Crowe, 2021). The dynamic leadership approach interested in how the public sector adapts to complex and constantly changing societal challenges, and plays its role as an enabler of human and societal flourishing in the complex world, leads us to pay attention to the tension between complexity throwing new challenges and intertwined societal changes to the desks of civil servants and the classic approach to bureaucracy characterized by hierarchical decision-making, fairly stable and predictable procedures and strict division of labour in any circumstances (Martela, 2019, p. 6-7).

This paper suggests that "the new normal" for the public sector is to strive for tackling the complexity challenge. The challenges the governance is facing have been labelled as wicked, i.e., full of intertwined social problems that are difficult to define, continuously altering, easily escalating, and involving different actors with conflicting values (Termeer & Dewulf, 2018). The cumulative effects of climate change, migration flows, shifting economic patterns and new health hazards on modern societies represent examples of ambiguous and wicked problems that cannot be dealt with using standard procedures or planning rationale conducted in separate parts of the public administration (Torfing & Díaz-Gibson, 2016). Wicked problems contain inherent and conflictual problem settings and cannot be erased or solved as such (Head 2022; Termeer et al., 2015). Therefore, they are also difficult to address by any single public sector body or institution alone. They call for collaborative governance at all governance levels, cross-sectoral joint goal setting and adopting a service dominant -logic rationale (e.g., collective use of siloed financial resources) in organising public policies and ensuring policy consolidation.

This paper asks what kind of mindset and leadership skills development is needed in tackling this challenge of collaborative and future-oriented governance and making wicked problems more 'manageable' within government. It highlights broadening the public sector intervention logic towards more dynamic, convening, and catalytic roles also taking a multiangled view on wicked issues and furthermore citizen, service users and relevant stakeholders better on-board in decision-making and policy formation. The paper argues that taming wicked problems – or even noticing the challenges they bring – is hardly possible without obtaining meta-skills. True reciprocal collaboration across governmental siloes and sectors does not happen on its own but requires perceiving the role of meta-skills and gearing the focus of public sector leadership development to improving meta-skills.

2. What are leadership meta-skills?

From a complexity point of view, it is important to look at the government (and more generally the public sector) as a systemic whole, where collaboration is the key to finding a balanced pathway between emerging wicked problems, long-term targets, political priorities, citizen's needs, and a variety of the permanent tasks the government must take care of in all circumstances (Head, 2022, p. 53-56; Virtanen & Tammeaid, 2020). For example, a pandemic like Covid-19 cannot be successfully handled by seeing it only as a hazard to physical health and thus the responsibility of health sector, since it also severely impacts, for example, education, mental health, social relations, business, and the ability to earn one's living in certain sectors as well as profoundly impacting working life more generally. Moreover, this boundary-crossing nature in respect of societal phenomena is not limited only to sudden and exceptional circumstances, but it also impacts the basic needs of human life. For example, the wellbeing of children and youth is not only derived from the policies and services specifically targeted at them but also from the wellbeing of their parents, their labour market status, and the quality of working life as well as the urban or environmental planning surrounding family life and communities. Despite that, the wellbeing services themselves tend to be organised (legislatively and administratively) along problem-focused reductionist lines, while human life at the same time is rich and organic (McAlister, 2022).

Situations where an organisation's established operating models are no longer sufficient to take advantage of the opportunities or to combat the threats that arise from the environment have been termed 'complexity gaps' (Casti, 2012). Two strategies have been suggested for bridging the gap: one focusing on

simplifying complexity (e.g., Collinson, 2014), while the other emphasises increasing organisational diversity for action (Kirton & Greene, 2017). Both strategies have their pros and cons in different situations, but simplifying complexity is more likely to lead in the direction of a dead-end. Simplification of complexity is not possible, because complexity is, by definition, a phenomenon involving ambiguity and conflicting views. Simplification strategy tends to offer sub-optimising solutions, at worst creating even more vicious challenges.

To combat the organisational tendency to respond to complexity through hierarchical, simplified, formal and top-down approaches (e.g., Uhl-Bien & Arena 2017), a focus on leadership meta-skills can play a role as a game-changer. Strengthening the public sector's capacity for increasing organisational diversity (cf. Ashby's 'the law of requisite variety', Gershenson, 2014) and policy consolidating collaborative governance are needed to gear the governance culture towards the acknowledgement of new opportunities and to use them for the benefit of the ultimate target of governance, namely, creating a better life for citizens. Tackling problematic phenomena with long-lasting and widespread effects – for example obesity or loneliness - requires approaching the multifaceted issues simultaneously from different administrative sectors and the weaving together of the horizontal networks of collaborative governance. Joining forces between different actors for a common goal is something that is particularly required when difficult challenges, different views, or divergent interests emerge in dealing with a phenomenon. Similarly, when activities or their effects are fragmented, they do not respond well to the needs of service users or citizens, thus there is a need to create new thinking and new solutions.

Cross-sectoral networks are important in consolidating public sector actions, in strengthening policy coherence and in raising governance capacity to better deal with emergent societal phenomena. To be successful, the networks have to be able to share and create meanings between different parties, manage asymmetric relations and appreciate diversity, build wider visions and new priorities in relation to social problems, create trust, win-win situations and new solutions, as well strengthening a shared commitment for action (Torfig & Días-Gibson, 2016). Success in these important and demanding horizontal tasks is hard to see without a new kind of leadership recognising, using, and consciously developing skills for bridge-building between different parties (Goldstein et al., 2017).

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Adaptive, networked, and collaborative governance can refer to broad involvement of different stakeholders, citizen or service-user dialogues or inter-governmental co-operation around a shared societal concern, and it can involve long and widespread change initiatives or be composed of short ad hoc cross-sectoral consultations (Ansell & Gash, 2008; Emerson et al., 2012) but in all cases, it involves curating social space favourable for multi-angled viewing of issues at hand (Goldstein et al., 2017). These crucial skills conducting fruitful mutual learning and problem-solving we have called meta-skills.

Public sector leadership meta-skills evolved as a concept when exploring the challenges the societies and public sector are facing in 2020's in different parts of the world and pondering of how to equip public sector leaders' with learning that builds capabilities to face the complex, ever changing challenges in a non-compartmentalized but a holistic and phenomena-based way (Virtanen & Tammeaid, 2020; Tammeaid et al., 2022; Virtanen et al., 2022). Meta-skills can be characterized as transferrable skills promoting flexibility and relational abilities (ibid.; also Gergen, 2013). They portray themselves in a future-oriented co-creative and facilitative style of leadership, paying attention to integrative thinking, participation, and empowerment, as well as in resource mobilisation and the creation of space for the change (Virtanen et al., forthcoming 2022; Tynjälä et al., 2020, p. 162-164; van Meerkerk & Edelenbos, 2018). As such, public sector leadership meta-skills can differ in time and place, since they are needed in different contexts and situations, but as skills and capabilities they are crucial in generating renewal and good results. Looking at this challenge for co-created renewal and upskilling of leadership abilities from the point of view of coaching psychology (Figure 1.) leads us to pay attention to meta-skills.

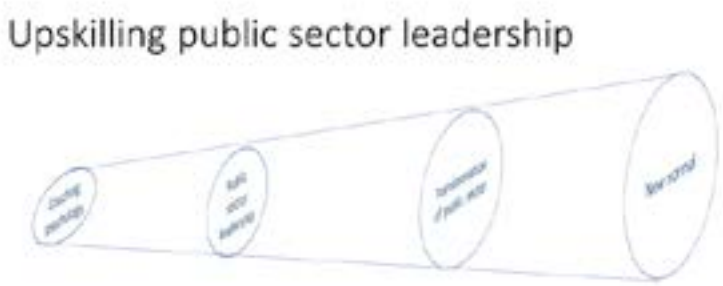

Figure 1.

Leadership meta-skills are **qualities of thought and action** that tend to shift the perception of leaders and their colleagues from restrictions and a narrow perspective (profession-specific, statutory, sector-

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specific) on the matter at hand to one which embraces possibilities, available resources (tangible, intangible, explicit, tacit) and the creation of longer term and joint goals with vertical and horizontal congruency (Grant, 2019). This shift is specifically required to render wicked problems more "manageable", i.e., enabling the co-creation of cross-sectoral solutions or mitigating the consequences of wicked hardships. Gearing the focus to joint goal formulation, pragmatic action, and the co-learning of small wins (Termeer & Dewulf, 2018) can make even the wickedest problems a little bit more "manageable" and divert attention away from the vastness of problems and onto available resources, possibilities for action and an orientation to the future (Virtanen & Tammeaid, 2020).

3. Empirical reflections from Finland

Last year, 22 high ranking civil service leaders working for central government in Finland were interviewed to explore how top civil service leaders (i.e., Secretaries-Of-State, Under-Secretaries-Of-State and Director Generals) from different ministries and other government functions identify and understand the role of meta-skills in their work. In the interviews they described how meta-skilfulness is portrayed in the thinking, leadership behaviour and performance of a top civil service leader (Virtanen et al., forthcoming 2023). The interview material gathered confirms that leadership meta-skills accelerate 1) the shift from compartmentalised, reductionist, position-based and power-driven leadership to more future-driven, co-creational and renewal-oriented leadership. At the same time meta-skills also 2) harness a leadership style that values a variety of human strengths and the ability for self-organisation as its starting points rather than the traditional tropes associated with mistrust, command, and control.

In the interviews we were especially interested in six meta-skills (Figure 2.) facilitating good trans-contextual interaction and promoting integrative change and renewal (Tammeaid et al., 2022; Virtanen & Tammeaid, 2020, 2021): 1) learning to learn - i.e. nurturing positive curiosity and the leader's own learning ability in the routine and bustle of everyday work, 2) taking systems approach – understanding the public sector as a web of societal interactors working for the benefit of the society and the citizen as a whole, 3) dialogical positioning – both a reciprocal and equal communication attitude and a skill of interaction, giving room for different views expanding everyone's understanding of the issue at hand, 4) thinking skills – the ability to break away from habitual thought patterns and look at things from versatile, surprising, and creative perspectives, 5)

enabling mindset – the ability to appreciate different abilities and to see opportunities and versatile action options even in difficult situations, to seize the opportunity and build the conditions for renewal, and 6) putting things into practice – trying new ways of working quickly and shaping the future through action.

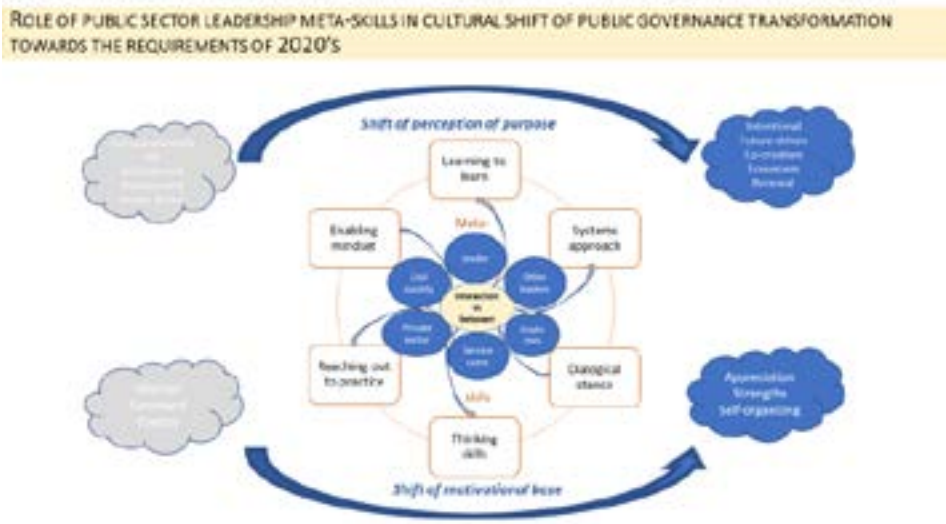

Figure 2.

According to the Finnish interview material gathered, this shift in the perceptions of the purpose of governance (Figure 2.) towards the helicopter view or "the whole" is portrayed in these public sector leaders' **thinking**, i.e., in the deepened understanding of everything new being born in the interfaces of different fields and that there is no "pure knowledge" for decision-making anywhere – also experts opinions differ according to and within the field. Furthermore, in understanding that dialogue is a prerequisite for knowledge creation and decision-making and in recognition that deep listening and showing appreciation does not mean agreeing with someone's opinions or interpretations. And finally, in the insight that any desired change is a timely process.

The future-driven, co-creational and renewal-oriented goal setting was portrayed in leaders' **relational orientation**, i.e., in being explicit in one's own behaviour so that others feel that they can express themselves without fear; finding that the essence of leadership is portrayed in attuning to developments in the world more than to management systems while focusing only on the issues of one's own sector is not enough and in developing one's own skills in relation to deep listening and dialogue, as well as personally holding an interest in issues beyond one's own field, and **view of good performance**, i.e., not just "performing in one's own

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expertise area" but helping the government as whole to achieve its societal goals, not working only here and now, but towards the future; investing time and effort in thorough discussions and in creating common targets (not rushing to conclusions) and highlighting that a good decision is not a partial result achieved via rational reasoning, but something that connects to the context and entirety in a purposeful way; also actively opening channels of communication and discussion with civil society and the private sector and not losing track of the every-day challenges in the field even at the highest cadre level.

Meta-skilful leadership can be viewed in opposition to the narrowing of leadership down to management processes and the misunderstanding that a decision-making process cannot be dialogic. It is also an antidote to turning a blind eye to hard unsolved matters and hoping that somebody else takes on the task of agency. Meta-skills also draw attention to the fact that decisions do not implement themselves, that leading strategy execution is necessary and also a part of decision-makers job description – and starts already in the way decisions are prepared.

Meta-skills, as defined above, also shift the motivational base of agency and action (Figure 2.) in the civil service. According to the interviews the shift is portrayed in adopting an **appreciative attitude** echoing a positive perception of human beings, renewing mindsets rather than computer systems, shifting the focus from control, order and prohibition to creating the circumstances for people to make their own choices and succeed. This also involves seeing the nature of people and organisations as becoming (instead of being) and also recognising the leader's own biases, perceptions and basic assumptions while also being ready to treat them critically.

This appreciative leadership orientation is primarily revealed in the leader's **every-day behaviour** of providing their own example in terms of dialogic leadership and thus in breaking ingrained expectations of 'the omniscient boss', harnessing one's own ability to be fully present in various situations and connecting to different realities. In practice, this is often about learning to ask better questions and in such a way that provokes positive curiosity and creativity, organising workshops alongside and as part of meeting-driven policy preparation processes, showing the way to understanding the big picture, future vision and strategic goals and making room for people to find different ways to reach them.

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The shift towards an appreciative and strengths-based, (i.e., enabling) leadership style (Virtanen & Tammeaid, 2020, p.107) described above does not happen with ossified perceptions of human development possibilities, micromanaging, keeping up the expectations of hierarchical all-knowing management and organisational defences or without learning to ask, 'what is well', 'what is working' and 'how do we co-create paths forward'.

4. Meta-skills and wicked public policy problems

The value of public sector leadership in dealing with complex challenges in public sector functions and policy-making meta-skills stems from three sources: **1)** meta-skilfulness helps to notice and identify occasions where proceeding along the established administrative pathways is not sufficient or enough from the perspective of the larger purpose or the viewpoint of the citizen/end-user and therefore more multi-angled coalitions are needed for policy or decision-making, **2)** it turns the complexity challenge that is already quite well described in research literature into actionable skills that can be learned, trained, developed, and harnessed, and **3)** point out that true reciprocal collaboration across governmental siloes and sectors does not happen on its own within the public sector characterized by strong inherited bureaucratic traditions of vertical and horizontal compartmentalization. It requires noticing the role of meta-skills and gearing the focus of public sector leadership development to improving meta-skills.

The first challenge mentioned above, noticing and identifying occasions where proceeding along the established administrative ways is not sufficient or enough, underlines the point that complexity informed governance capacity requires paying attention to perception and learning as an everyday duty and possibility in the civil service. A narrow understanding of effectiveness and productivity combined with a rapid multidirectional information flow, a highly politicised public decision-making environment, conflicting objectives, and the continual development over time of citizen's needs creates a bad mix easily dropping out thinking time and the need for copious cross-sectoral co-creation time in order to tackle challenging societal phenomena.

Thanks to tightly packed schedules and technology, it is not however uncommon for leaders and others to go through an entire working day without any opportunities for anything else than linear thought and

just responding to issues flowing in (Seppälä, 2022; Rosenhead et al, 2019). Such a situation takes us far from the ideal of enabling leadership creating platforms for success in renewal and broadening the width of the policy palette in terms of collaborative governance and people-orientation (Virtanen et al., forthcoming 2023). This situation is, moreover, particularly deleterious in the fast-paced and turbulent work of government leaders whose activity has long-lasting and widespread effects on society.

For **the second challenge mentioned above** meta-skills fill the gap of complexity and wicked problems challenge well described in research literature (Head 2022; Termeer & Dewulf, 2018; Termeer et al., 2015), but seldom translated to actionable skills or otherwise scrutinized from the point of view of upskilling needed. We suggest that, in the context of public sector leadership, there are benefits in applying the idea of upskilling along the lines paved by applied positive psychology, i.e., by placing the interface of skills and context at the centre of the process (Linley et al., 2007). Skills development is central in accelerating and deepening interaction (Basten & Haamann, 2018, p. 10) and meta-skills provide an important issue to recognise by leadership trainers and developers working to promote leadership improvement within government.

The third challenge mentioned above, the true reciprocal collaboration across governmental siloes and sectors, does not happen on its own within the public sector bearing robust bureaucratic traditions of vertical and horizontal compartmentalization. To develop in pace of the societies and global challenges public administrations have to pay attention in developing public sector leadership meta-skills with conscious dynamic and structural measures (Virtanen & Tammeaid, 2020). Meta-skills are important in preparing the ground for public governance that is constantly learning alongside its every-day work. There is no single appropriate way to organize public sector responses to wicked problems (Daviter, 2017, p. 581). Policy studies have a tendency to highlight importance of analyzing and comparing alternative strategies and seeking to match normative choices to different kind of challenges (Daviter, 2017, p. 584). From the point of view of open systems and learning approach that might not be the most fruitful way to approach complexity. It continues to uphold the idea that societies and organizations can be ruled and controlled. Approached from open systems angle, complexity is characterised by unpredictability and is not redactable to its components (Cilliers, 2000, p. 24). However, this does not mean that nothing can be done, and the governments are helpless when faced with complexity. Meta-skills approach suggests that consciously building individual and collective skills for facing

changing and unpredictable developments is an agile and sustainable way of raising public sector preparedness for cross-sectoral collaborative action, and now timelier than ever before.

5. Meta-skills in the context of collaborative leadership

Collaborative governance has been defined first and foremost as a governing arrangement where one or more public agencies directly engage with non-state stakeholders in a collective and deliberative decision-making process (Ansell & Gash, 2008). Subsequently, Emerson et al. (2012) developed a broader definition of collaborative governance which also including the work across the boundaries of public agencies and levels of government and fulfilling public purpose by that (Emerson, 2012). This is an important amendment, since compartmentalised government governing structures also demand an increased collaboration across different line ministries as well as sectors and levels of government, such that the whole becomes more than the sum of its parts (also Head, 2022, pp. 54-56). In order to find novel solutions to intertwined phenomena both are required: cross-sectoral collaboration and solution-building within government and the involvement of civil society, including citizens and service users.

Collaborative governance is not just networking but aims to produce a concrete outcome and strives to build broad ownership and a multilateral experimentation or implementation-base for advancement. According to Emerson et al. (2012) acknowledging the interdependence between fields as well as leadership play an important role in terms of driving collaborative governance (Emerson et al., 2012). The research literature of collaborative governance has introduced roles of a convener, facilitator, and catalyst (Torfing et al., 2020, p. 294; Torfing & Días-Gibson, 2017; Hartley et al., 2013) as an answer to developing capabilities for collaboration and public sector innovation. How these roles are adopted is however less addressed in the literature of collaborative governance.

Also, adaptive leadership bears kinship with public sector leadership meta-skills. Adaptive leadership has highlighted the role of informal leadership processes that generate adaptivity and new solutions, engage people across differences and facilitate recombination (Uhl-Bien, 2021, p. 151; Murphy et al., 2017, p. 695). Also, leadership capabilities like relationship building, open-mindedness, building interactive dynamics and social capital as important ingredients in successful adaptive governance can be found in research literature

(Wilson et al., 2020, p. 27; Galuska, 2014, p. 35). Partly the research literature of adaptive leadership focuses more on identifying structural and policy mechanisms increasing the adaptability of the governance (Garavaglia et al., 2021; Keys et al., 2014).

In general, the leader-centred approach on leadership seems to sneak into even the best pieces of collaborative governance and adaptive leadership literature repeating the 'leader sets the strategy', 'leader selects the "right" team for the issue', 'leader clarifies the roles' canon of official authority (for example Torfing & Días-Gibson, 2016, p. 107) or referring to charisma and personal traits as key success factors (Sharma-Wallace, 2017, p. 174, 180).

Characteristics for meta-skills approach is looking at leadership as truly shared, i.e., beginning from a collective and systemic framework (Virtanen & Tammeaid, 2021, p. 2). This makes it also suitable in terms of navigating the complex world and its intertwined issues. Gathering cross-sectoral and multi-angled human, financial and intellectual resources around solution-finding and decision-making, requires getting rid of the leader- and position-centric view of leadership. Conceiving leadership as a social process is platform building for collaborative action and gathering a wide pool of competences for solution-building around wicked problems. Instead of building a team according to the rationale of one leader, meta-skilful dialogical leadership uses 'we-language', makes proposals and is curious of other understandings. With this it, at the same time, builds reciprocity and trust, two crucial elements of collaboration (for example Liu et al., 2022). DeRue points out that the majority of leadership research is sticking to the idea of permanent roles of leadership and followership, though in shared leadership these appear in two-way and changing patters according to an issue at hand (DeRue, 2011, p.133-135).

6. Conclusions and further research agenda

In the complex world of wicked problems, the task of an effective leadership is to create the conditions for success and foster the emergence of shared learning spaces for the wider system and its parts (Nonaka & Takeuchi, 2021; Bateson, 2015; Nonaka, 1994). A transition needing attention, mindset change and updating is the way we see leadership. The world is full of (public and other) organisations that would like to see others embrace <u>their</u> mission and help them to achieve <u>their</u> goals more effectively. Meta-skilful leadership instead

gears the focus to the building of joint purpose, joint targets, and the viewpoint of the end-user/citizen. Embedded in meta-skills thinking lies the understanding that public sector leadership meta-skills are useful as applied in relation to the situation and environment, and that makes them especially useful in facing complex challenges (Tammeaid et al, 2022; Virtanen & Tammeaid, 2020).

It is fair then to say that the research on public leadership meta-skills is still far from fertile yet. Although meta-skills are a generic feature of human behaviour and skillsets all over the world, it is likely that cultural differences exist in terms of their prevalence and importance across different governance traditions. Based on our sample of top civil service leaders, we know only about the characteristics of government leadership meta-skills in Finland. It would be interesting and important for to extend the examination of meta-skills to other countries, different cultural, socio-economical contexts, and administrative traditions as well as regional and local governance levels.

Governments all over the world face similar types of challenges and have started to generate response to them via different type of action and movements like the reimagining government initiative in Australia and New Zealand (https://www.anzsog.edu.au/resource-library/resources-tlss/reimagining-government/reimagining-government-2021), the One-Team-Government movement, that has already spread to many countries (https://www.oneteamgov.uk/) and investment in the coaching and innovation skills of public sector leaders for example in Singapore (information obtained via interviews at Prime Minister's Office, Singapore in Summer 2018). It would be valuable to gain more scholarly attention to leadership meta-skills and gradually accumulate knowledge of meta-skills as an empirical phenomenon. Further research would be also required in relation to how the atypical and creative solutions of meta-skilful collaborative governance co-exist with rigid top-down approaches and what kinds of dynamics are created in such mixed and fluid situations.

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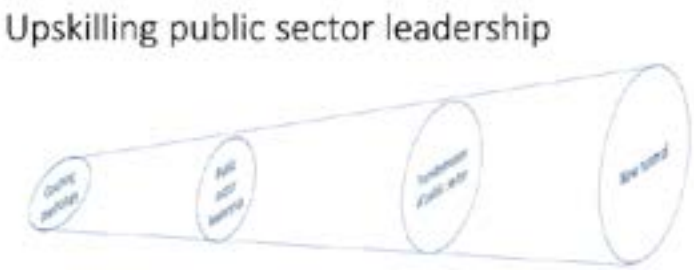

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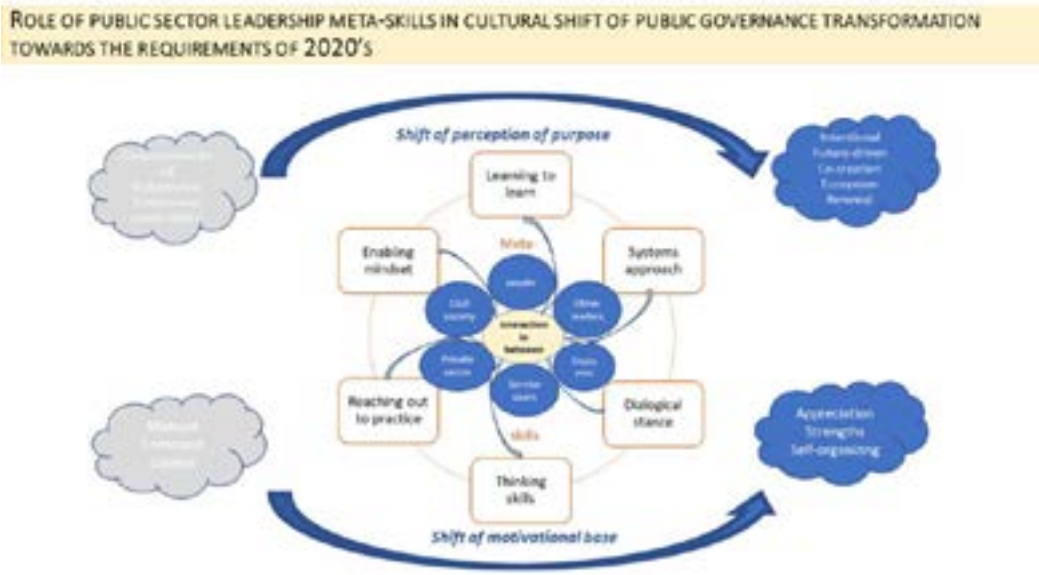

Figure 2.

Stream 2. Organisational Behaviour

How does Technology Destroy the Life? Understanding the Effect of Technology-Assisted Supplemental Work on Family Outcomes

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How does Technology Destroy the Life? Understanding the Effect of Technology-Assisted Supplemental Work on Family Outcomes

ABSTRACT:

Drawing from self-regulatory resource theories, our research examines how and why technology-assisted supplemental work (TASW) is related to employees' deviant behaviour toward their family member. To be specific, TAWS has a positive association with mental fatigue, which leads to increased deviant behaviour towards family member. In addition, an individual's preference for segmentation mitigates the negative effect of TASW on mental fatigue. We tested our hypotheses in a study using multiwaved data. The results indicated that TASW positively predicts employees' deviant behaviour toward family member through mental fatigue. Meanwhile, the positive relationship between TASW and mental fatigue is attenuated when the focal employee is high on segmentation preference. The theoretical and managerial implications are also discussed.

Keywords: Technology-assisted supplemental work, mental fatigue, segmentation preference, deviant behaviour toward family member

PAPER TEXT:

Employees' working patterns have been dramatically modified since the COVID-19 pandemic (Kramer & Kramer, 2020). One of the most observable changes as a result of COVID-19 challenge has been the shift of work from on-site to work-from-home. Some well-known corporations such as Twitter and Slack even give their employees the option to work from home permanently (Stoller, 2021). Such changes on work regime particularly highlight the use of information communication technology (e.g., personal computers, smartphones, and telecommunicating tools, etc.) which enables higher productivity and effective virtual connection. However, we have observed that the increasing use of technology for remote work brings notable impacts to employee attitudes and behaviours from at least two aspects. First, the use of technology blurs the boundary between work and life (Chen & Karahanna, 2018). With the help of smart devices and wireless networks, employees can maintain connections with superiors and colleagues without constraints of time and location. Thus, employees are likely to sacrifice their family time and sleep hours to fulfil work demands (Xiao, Becerik-Gerber, Lucas, & Roll, 2021). Second, portable devices and technology as necessities of life also facilitate organisational changes (Leonardi, 2007) such that organisations have higher performance expectations of employees maintaining connected to customers and colleagues (Fenner & Renn, 2010). That also means employees can receive and perform overload job tasks even during nonwork hours, increasing

challenges for them to manage work and nonwork time (van Zoonen, Sivunen, & Treem, 2021). In view of that, scholars have considered the impact of *technology-assisted supplemental work (TASW)*, defined as "distributed work practices performed after hours, often discretionary and not covered by a formal contract or compensation, and accomplished through [information and communication technologies (ICTs)] such as laptops or other mobile devices" (van Zoonen et al., 2021, p. 868), on employees' attitudes and behaviours. Given that TASW is often performed at the cost of employees' personal time, it has been studied to have a positive association with work-to-family conflict (WFC, e.g., Ashforth, Kreiner, & Fugate, 2000; Eichberger, Derks, & Zacher, 2021; Fenner & Renn, 2010). Nevertheless, what specific behavioural outcomes within family domain can be triggered by TASW, and through what mechanisms these behaviours manifest, are largely unknown. Answering such questions can be particularly meaningful to understanding and addressing the detrimental effects of TASW.

Therefore, in the present study, we draw from self-regulatory resource theories (Baumeister, Heatherton, & Tice, 1994; Baumeister & Heatherton, 1996; Baumeister & Vohs, 2003, 2007; Schmeichel & Baumeister, 2004) to propose a moderated mediation model, examining how and why employees engaging in TASW may think and react in a negative way. We first posit that TASW can lead to *mental fatigue* (i.e., a subjective wakefulness state in which an individual begins to feel mentally exhausted as a result of sustained concentration and focus on a cognitive or behavioural task, Tran, Craig, Craig, Chai, & Nguyen, 2020). To explain, we argue that employees who engage in TASW require extensive self-regulation resources to maintain focus and inhibit other issues at home – that said, TASW not only consumes cognitive resources itself, but also ties up the further allocation of cognitive resources to other tasks, which is then likely to produce the feeling of mental fatigue. Further, in line with self-regulatory resource theories, an individual often engages in deviant behaviour because of impairments in key self-regulatory abilities related to the control of behaviour and emotions (Christian & Ellis, 2011). Thus, we suggest that mental fatigue is likely to lead to increased deviant behaviour. Given that our study focuses on remote work rather than traditional workplace, we consider *deviant behaviour toward family member* (i.e., deviant actions that violate moral, social,

and/or family norms, and harm well-being of family members, Li et al., 2021) as the outcome of our research.

In addition, considering the individual differences in self-regulatory strength (Baumeister et al., 2006; Baumeister & Heatherton, 1996) and boundaries between work and nonwork influence resource transitions (Ashforth et al., 2000), we propose that *segmentation preference*, meaning an individual's preferences for segmenting aspects of work and home (Kreiner, 2006), as a key boundary condition moderating the TASW and mental fatigue relationship. Given that self-regulatory resources are limited, we suggest that employees who prefer to segment domains build physical, emotional, and cognitive barriers between work and family domains (Kreiner, 2006), keeping resources allocated in a more balanced manner, which tends to reduce the mental fatigue. In contrast, when employees remove the boundaries between work and nonwork domains, such preference interacting with TASW directs unbalanced resources to work domain, causing mental fatigue within family domain. Our conceptual model is depicted in Figure 1.

Insert Figure 1 about Here

Our research makes several important contributions. First, the present study adopting self-regulatory resource theories provides a more clarified explanation of resource depleting cycle underlying TASW, revealing mental fatigue as a key mechanism through which the negative effect of TASW manifests. Second, we add to TASW and work-family literature by identifying deviant behaviour toward family member as a new outcome of TASW. Third, considering segmentation preference as a theory-based moderator buffering the negative relationship between TASW and mental fatigue, we highlight individual differences which can shape psychology of employees engaging in TASW, emphasizing the importance of promoting segmentation rather than across-the-board integration when enacting human resource polities (Kreiner, 2006).

THEORY AND HYPOTHESES DEVELOPMENT

TASW and Mental Fatigue

It has been suggested that work can be integrated into nonwork domains (such as family and home

domain) in many ways (Capitano, McAlpine, & Greenhaus, 2019). Due to the challenge of the COVID-19 pandemic and with the development of ICTs, such integration becomes more prominent. Especially, TASW has been gradually and steadily on the rise and is expected to cause various negative effects (Eichberger et al., 2021). In present study, we draw from self-regulatory resource theories to argue that TASW is positively related to employees' mental fatigue for two reasons. First, we argue that TASW depletes the limited resources allocated to nonwork domains such as family, which cause more experienced mental fatigue. The self-regulatory resource theories highlight that "devoting one's self-regulatory efforts to one sphere will take away what is available for controlling oneself in other spheres" (Baumeister & Heatherton, 1996, p. 3). This is particularly useful to explain why employees engaging in TASW tend to experience mental fatigue. Specifically, employees engaging in TASW need to work extra hours at home and maintain continuous concentration on work (Fenner & Renn, 2010) as they receive more expectations in immediate response to job affairs, which consumes a large amount of physical and psychological resources. As a result, these employees are less likely to have time and energy to take care of necessary nonwork issues such as house chores, home schooling, and other social activities (van Zoonen et al., 2021). Because these employees are too depleting to fulfil needs and expectations of family members at home, greater work-to-family conflicts tends to manifest (Fenner & Renn, 2010), which further depletes their self-regulatory capabilities makes them feel stressed. Therefore, such employees tend to experience mental fatigue. This is also supported by previous study that negative spill-over caused by extra in-role behaviours produces negative moods and fatigue (Dierdorff & Ellington, 2008).

Second, TASW prevents employees from restoring and resuming self-regulatory resources, which contributes to mental fatigue. Engaging in TASW, employees tend to face increased challenges in managing work and non-work time (Allen et al., 2021). For example, to perform TASW and meet additional work demands, employees may choose to sacrifice their sleep hours and engage in unhealthy pressure-releasing lifestyles such as increased smoking, overeating, and abusing alcohol or other drugs, which undermines the restoration of resources (Baumeister & Heatherton, 1996). Similarly, previous research also indicates that people are more likely to be fatigued late in the

evening (Baumeister & Heatherton, 1996). Thus, employees who perform TASW and are forced to work late tend to have increased mental fatigue.

Hypothesis 1. TASW is positively related to mental fatigue.

Deviant behaviour toward family member as outcome

Mental fatigue occurs when employees feel mentally exhausted after continuous concentration and focus on behaviours that consume self-regulatory resources (Tran et al., 2020). TASW, by its nature, requires extensive regulatory resources to inhibit family relevant issues from interfering the job tasks employees are involved in. Thus, it is clear why TASW is regarded as a mentally fatigue behaviour. Considering this and according to self-regulatory resource theories that self-regulation failure undermines self-control capabilities and provokes deviant behaviour (Schmeichel & Baumeister, 2004), we argue that, in family and home domain, mental fatigue, as a reflection of self-regulation failure (Schmeichel & Baumeister, 2004), is likely to produce deviant behaviours targeting on family members. To be specific, we first suggest that a core reason why mental fatigue provokes deviant behaviour toward family member is that family members may have necessary needs and expectations from focal employees. To meet these needs and expectations employees also need resources. However, given that mentally fatigued employees have used up resources that should have been allocated to family domain, they are likely to become stressful and less self-regulatory, as a result, they are more likely to feel pressured to meet family needs and provoke deviant behaviour toward family member (Duxbury, Higgins, Smart, & Stevenson, 2014). Along the same vein, there is evidence indicating that fatigue increases alcohol consumption which impairs monitoring and cause deviance (Baumeister & Heatherton, 1996).

Second, we also argue that, having their regulatory resources temporarily depleted, employees who experience mental fatigue as a result of TASW is likely to stuck in work-related emotions. Given that focal employees continuously maintain concentration and focus on job tasks and consume intensive self-regulatory resources, they are less likely to be mentally and emotionally disengaged from work (Junker, Baumeister, Straub, & Greenhaus, 2020). That said, mental fatigue prevents focal employees from being mentally present and engaging in their family role. In this case, these employees are likely

to bring the preoccupied negative emotions from work to family members, and engage in deviant actions such as acting in an inappropriate manner to their parents, insulting their spouse, or hardly criticising their kids (Li et al., 2021). Supporting our view, previous study has demonstrated that cognitive preoccupation is positively related to work-family conflict. Therefore, we have the following hypotheses.

Hypothesis 2. Mental fatigue is positively related to deviant behaviour toward family member.

Hypothesis 3. Mental fatigue mediates the positive relationship between TASW and deviant behaviour toward family member.

The moderating role of segmentation preference

Self-regulatory resource theories can further hint boundary conditions that who may be more likely or less likely to feel mentally fatigue after performing TASW. Self-regulatory resource theorists stress that there are important individual differences in self-regulatory strength, which tends to be consistent across a variety of spheres (e.g., Baumeister & Heatherton, 1996; Kanfer & Ackerman, 1989), signalling that individual differences may play an important role in coping with resource depletion. Meanwhile, boundaries between work and nonwork domains can significantly influence the flow of resources (Ashforth et al., 2000). Following this notion, we suggest that an individual's segmentation preference can be a key coping response to moderate the relationship between TASW and mental fatigue. Indeed, by its nature, TASW reconfigures the boundaries between work and nonwork domains (van Zoonen et al., 2021). Therefore, segmentation preference, which describes an individual's desire for establishing boundaries between work and home (Liu, Kwan, Lee, & Hui, 2013), is particularly useful to explain how employees react to TASW.

Specifically, when employees are high on segmentation preferences, they tend to separate work and family roles by building up clear lines between work and family domains (Liu et al., 2013). To explain, these employees are likely to "suppress their work-related thoughts, feelings, and behaviour at home" (Liao, Yang, Wang, & Kwan, 2016, p. 674). This will attenuate resource flows between work and nonwork domains (Ilies, Wilson, & Wagner, 2009). In view of this, we expect that employees high on segmentation preferences tend to avoid getting involved in TASW and engage in job tasks at

home. Although they have to engage in TASW, they make attempt to prevent "stealing" resources that are supposed to be allocated to family domain. Therefore, they are likely to allocate self-regulatory resources in a balanced manner, and experience less mental fatigue. Indeed, consistent with our arguments, Liu et al. (2013) have proved that employees with a high level of segmentation preference are less likely to have spill-over effects from work to family domains, predicting less work-to-family conflict. In contrast, when employees prefer to integrate work and family, they maximize the flow of resources between the two domains (Liao et al., 2016). As a result, they may spend a majority of resources on work-related issues but have less capacity to handle family issues. In this case, once they engage in TASW and deplete the reserves of self-regulatory resources, they are more likely to feel exhausted when facing elevated family demands, and as a result, experience more mental fatigue.

Hypothesis 4. Segmentation preference moderates the positive relationship between TASW and mental fatigue such that the relationship becomes weaker when focal employees have a prefer for segmentation.

Hypothesis 5. The indirect effect of TASW on deviant behaviour toward family member via mental fatigue is moderated by segmentation preference such that the effect is weaker when focal employees have a prefer for segmentation.

METHOD

Sample and procedures

A study was conducted in 13 high-tech companies in East China. These companies were from biotechnology industry. A total of 500 employees were randomly selected to participate from the above companies. The survey was conducted in three waves and a one-month time lag between each survey was set to avoid common method variance. At Time 1, employees reported technology-assisted supplemental work, segmentation preference, demographic variables, and control variables. One month later at Time 2, participants' mental fatigue was rated. One month after the second survey, at Time 3, participants reported their deviant behaviour toward family member. Participants were assured of confidentiality. Finally, we obtained 420 completed questionnaires with a response rate of 84%. In these participants, 44.3% were female, and 87.4% had a college education or above. 52.4% were under

30 years old. Their average organisational tenure was 2.96 years (*SD* = 1.08).

Measures

We translated the original scales into Chinese following the back-translation process (Brislin, 1980). Unless otherwise specified, all items were measured using a five-point Likert-type scale ranging from 1(strongly disagree) to 5 (strongly agree). *Technology-assisted supplemental work* was measured with a 4-item scale from Fenner & Renn (2010). A sample item is "When I fall behind in my work during the day, I work hard at home at night or on weekends to get caught up by using my smartphone or computer" (α = .93). We measure participants' *mental fatigue* with a 3-item scale constructed by Watkins et al. (2014). A sample item is "I feel emotionally drained from my work" (α = .91). *Segmentation preference* was measured with a 4-item scale from Kreiner (2006). A sample item is "I don't like to have to think about work while I'm at home" (α = .91). We assessed *deviant behaviour toward family member* with a 5-item scale from Li, Liao, Shao, & Huang (2021). A sample item is "I acted in an unpleasant or angry manner toward my family" (α = .94).

Control variables. we controlled for participants' demographic variables (i.e., age, gender, educational level, and tenure). We also controlled for employees' collectivism because we collected data in Chinese context which is characterized with a culture high in collectivism (Hofstede, 2011). Collectivism was measured with a 6-item scale from Dorfman and Howell (1988) (α = .91). Role-breadth self-efficacy, work engagement, and relative deprivation were controlled because they represented important psychological mechanisms influencing employees' mental resources and their subsequent attitudes and behaviours (e.g., Ma et al., 2020; Parker, 1998). Role-breadth self-efficacy was measured with a four-item scale from Wu, Parker, Wu, & Lee (2017) (Cronbach's alpha =.89). Relative deprivation was measured with a five-item scale from Callan, Shead, & Olson (2011) (Cronbach's alpha =.93). Work engagement was measured with a nine-item scale from Rich, Lepine, & Crawford (2010) (Cronbach's alpha =.96). We also controlled for the effect of social acceptance on interpersonal behaviours because previous studies have shown that individuals may tend to deny socially undesirable behaviours (Zhang et al., 2022). Social acceptance was measured with an eight-item scale from Scott & Judge (2009) and its Cronbach's alpha was .97. Consistent with Study 1, we

tested the proposed relationships without above control variables, and the results indicated no changes.

*Confirmatory factor analysis***.** CFAs were conducted to ensure the distinct factor structure of our five key variables. The hypothesised four-factor model, including TASW, mental fatigue, deviant behaviour toward family, and segmentation preference, showed good fit to the data: $\chi 2 = 146.33$ ($df = 98$), $p < .001$, CFI = .99, TLI = .98, RMSEA = .03, SRMR = .03. Alternative model comparisons are shown in Table 1. These results suggest that the psychometric properties of our measurement scales were significantly better than the other alternative models.

Insert Table 1 about here

Results

The means, standard deviations, and correlations for the focal variables are presented in Table 2.

Insert Table 2 about here

We constructed SEM in Mplus Version 8 (Muthén & Muthén, 2017) to examine our hypothesises. Hypotheses testing results are presented in Table 3. As shown, TASW was associated positively with mental fatigue ($B = .49$, $SE = .10$, $p < .001$), which supported Hypotheses 1. Mental fatigue was associated positively with deviant behaviour toward family member ($B = .27$, $SE = .06$, $p < .001$). Hypotheses 2 was supported. Supporting Hypotheses 3, the results based on the Monte Carlo method revealed that mental fatigue mediates the effect of TASW and deviant behaviour toward family member (*Indirect effect* = .13, $SE = .04$, 95% CI = [.07, .20]), examined the mediation effect of mental fatigue. As shown in Table 3, the cross product of TASW and segmentation preference was negatively associated with mental fatigue ($B = -.16$, $SE = .05$, $p < .01$), supporting Hypotheses 4. Figure 2 illustrates the interaction effect. As predicted, the simple slope test results suggested that the TASW – mental fatigue relationship was positive and significant when segmentation preference was low ($B = .63$, $p < .001$) while this relationship was attenuated when segmentation preference was high ($B = .35$, $p < .001$). Therefore, Hypotheses 4 was supported. To examine the moderated mediation effect in Hypotheses 5, the results based on the Monte Carlo method showed that the indirect relationship

between TASW and deviant behaviour toward family member was attenuated (*Estimate* = .09, 95% CI = [.04, .16]) when segmentation preference was high, comparing with when segmentation preference was low (*Estimate* = .17, 95% CI = [.09, .26]). Thus, Hypothesis 5 was supported.

Insert Table 3 and Figure 2 about here

DISCUSSION

The current COVID-19 pandemic speeds up the change of work arrangement such that more people have started to work from home and highly depended on portable devices and technology to perform their job tasks (cf., Rudolph et al., 2020). Under such background, the present research examined the effect of TASW on employee reactions toward family members. Specifically, the findings of this research suggest that TASW is positively associated with employees' mental fatigue, which in turn, predicts increased deviant behaviour toward family member. Further, an individual's reference for segmentation can buffer the positive relationship between TASW and mental fatigue.

Theoretical implications

Our research has several theoretical implications. First, from a self-regulatory resource perspective, our findings that TASW indirectly induces deviant behaviour toward family member through the mediating mechanism of mental fatigue reveal that employees who engage in TASW are likely to not only deplete extensive self-regulation resources, but also "steal" resources which should have been allocated to family domain, leading to experienced mental fatigue. Consequently, these employees may lack critical self-regulatory abilities related to the control of behaviour and emotions (Christian & Ellis, 2011), increasing their participation in deviant behaviours toward family member. Therefore, using self-regulatory resource theories to guide our conceptual framework, our research not only extends the self-regulatory resource theories to work-family literature but also builds a link between the prevalent TASW and employee deviant behaviour.

Second, rather than understanding the well-being of focal employees themselves as the outcome of TASW (e.g., Büchler, ter Hoeven, & van Zoonen, 2020), the findings of present study indicate that family members can also be one of major victims as a result of employees engaging in TASW. This is

particularly meaningful because "individuals are embedded within a family system where they frequently engage in interactions with family members" (Li et al., 2021, p. 4). Given that the lack of fulfilment in one domain tends to be compensated by that in other domains (Hewett et al., 2017), work and family are expected to influence each other (Clark, 2000). Thus, it is necessary to know employee attitudes and behaviours in both domains in order to manage them effectively. Thus, our research findings add to work-family literature by identifying deviant behaviour toward family members as the outcome of TASW.

Third, our study has implications for TASW research by identifying a critical individual difference factor (i.e., personal preference for segmentation) as a contingent variable to buffer the negative effect of TASW. Given that TASW has become a prevalent form of work arrangement, it seems that its negative impact should be mitigated by various types of job-related factors. For example, previous research has revealed evidence that contextual factors such as social support can attenuate the negative relationship between TASW and personal wellbeing (e.g., Eichberger et al., 2021). To move a step forward, our research uncovers a new individual factor of personal preference for segmentation as a boundary condition, highlighting the individual effort to cope with negative consequences of TASW.

Practical implications

First, our research findings bring attention to the review of technology development and usage. Although organizations gain convenience and productivity through broad utilization of advanced technology, it is noticeable that technology can also induce negative psychology and behavioural reactions of employees. Therefore, organizations and managers should consider ethical issue when introducing technology to maintain productivity of employees. For example, previous research has emphasised the role played by organisation in clarifying expectations, and managers and employees should negotiate and reach collective agreement on constant communication (Becker, Belkin, & Tuskey, 2018; van Zoonen et al., 2021). By doing so, managers are less likely to take advantage of employees by forcing them to engage in TASW. Second, we suggest that organisations and mangers should implement interventions to restore employees' regulatory resources. Further, it is worth noting that organisations should maintain their ethical standing by reducing employees mental fatigue and

deviant behaviour, rather than trying to select individuals who are less likely to have such psychology and behaviours (Li et al., 2021). Third, the findings of present research highlight individual difference of preference for segmentation can mitigate the positive TASW – mental fatigue association. In view of this, managers, need to accept that there is a legitimacy for employees to choose to be segmenting, and adjust their expectations of employees by enact human resource policies such as work-home norms and policies and flexible talent management programs.

Limitations and future directions

As in any other studies, in our present research, several limitations need to be acknowledged. First, although we conducted multi-wave survey studies to test our hypotheses, we also note that the lack of longitudinal data can limited our ability to make strong cause-and-effect claims about our hypothesized relationships. Moreover, we acquired data sorely from focal employees themselves (i.e., self-reported), which may be influenced by common method bias. Thus, we encourage that future studies replicate our proposed relationships by improving research design and using longitudinal data. Second, we focus on mental fatigue as the psychological response to TASW. However, previous studies have also indicated that other factors may explain why employees actively engage in TASW. For example, Boswell and Olson-Buchanan (2007) suggest that the use of communication technology after work hours is positively related employees' affective commitment, job involvement, and ambition. Considering this, we expect that future studies should control for any alternative explanations in understanding the effect of TASW. Last, we conduct the present study and collect the data from Chinese companies. China is characterized with a culture of strong collectivism (Hofstede, 2011), wherein employees tend to feel more obligated to sacrifice individual interests for the greater good. Such cultural orientation may also contribute to explain variance in TASW – mental fatigue relationship. Thus, in other individualist cultures, the positive effect of TASW on mental fatigue may further manifest. Future studies may consider examining such relationship and other psychological detriments caused by TASW in other cultural backgrounds, expanding the generalizability of the model proposed in the present research.

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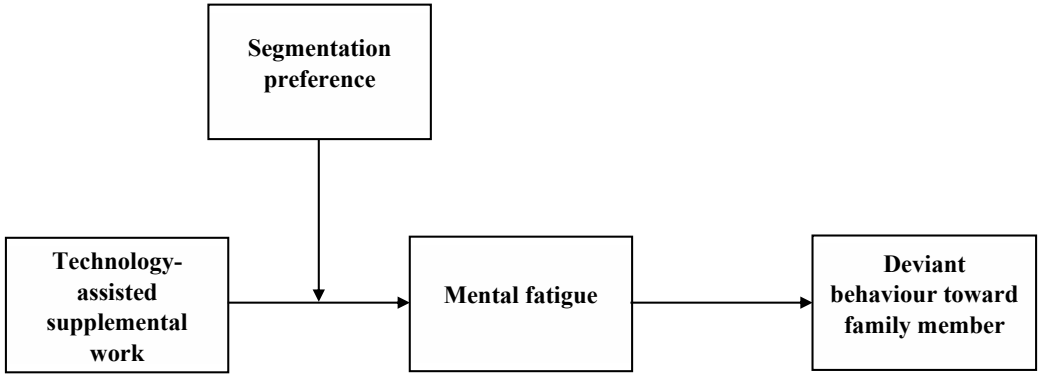

Figure 1 Conceptual Model

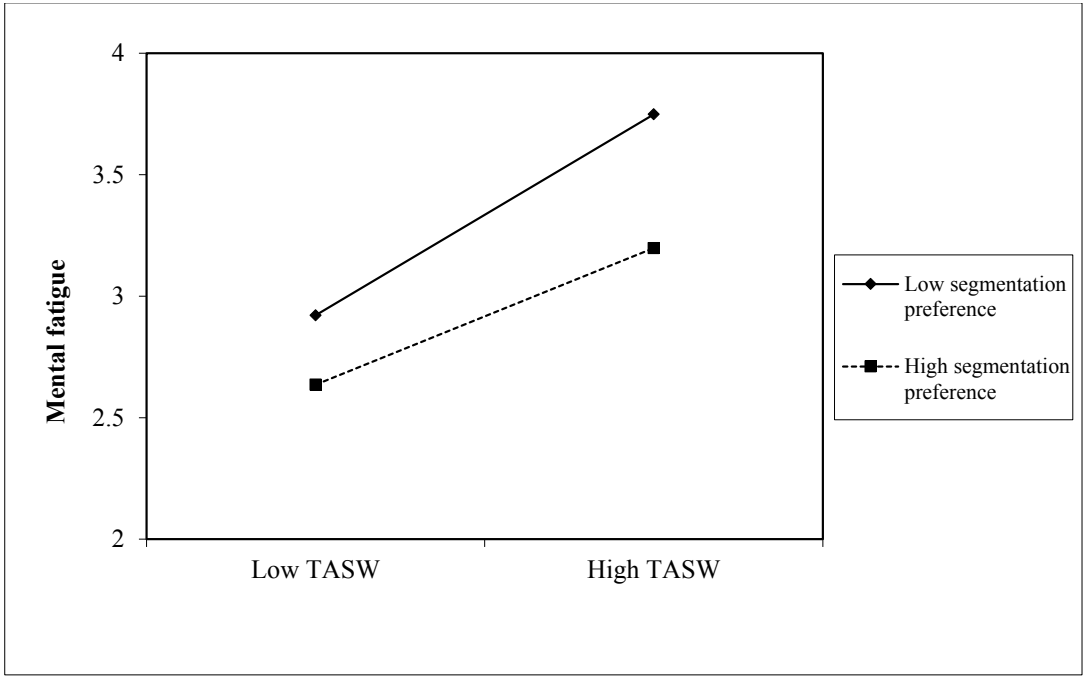

Figure 2 Moderating Effect of Segmentation Preference on the relationship between TASW and Mental Fatigue

Table 1 Measurement Model Comparisons

Model	*X2 (df)*	*RMSEA*	*CFI*	TLI	SRMR
1. Hypothesized four-factor model (TASW, MF, SP, and DBTF)	146.33***(98)	.03	.99	.98	.03
2. Three-factor model (TASW & MF, SP, and DBTF)	1008.69***(101)	.15	.83	.80	.14
3. Three-factor model (TASW, MF & SP, and DBTF)	1028.88***(101)	.15	.82	.79	.15
4. Three-factor model (TASW, SP, and MF & DBTF)	922.22***(101)	.14	.85	.82	.10
5. Two-factor model (TASW & SP, and MF & DBTF)	2196.65***(103)	.22	.60	.54	.19
6. Two-factor model (TASW & SP & MF, and DBTF)	1953.19***(103)	.21	.65	.59	.19

Note: All chi-square values are significant at $p < .001$. RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis Index; SRMR = standardized root mean square residual.

TASW = Technology-assisted supplemental work; MF = Mental fatigue; SP = Segmentation preference; DBTF = Deviant behaviour toward family member.

Table 2 Descriptive Statistics and Correlations

	Mean	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	2.56	.65	—												
2. Gender	1.44	.50	-.02	—											
3. Education	5.25	4.24	.05	.01	—										
4. Tenure	2.96	1.08	.16**	.04	-.02	—									
5. Collectivism	4.24	.65	-.10*	-.03	.01	-.10*	—								
6. Role-breadth self-efficacy	3.76	.73	.00	-.09	.00	.09	.03	—							
7. Social acceptance	2.98	1.17	-.05	-.04	-.09	-.02	.08	-.14**	—						
8. Relative Deprivation	3.09	1.04	.00	.02	.02	-.05	.05	-.03	-.03	—					
9. Work engagement	2.51	.94	.04	-.04	.01	.06	-.02	.14**	-.37**	.53**	—				
10. TASW	3.21	.86	.05	.01	-.02	.01	-.01	.10*	-.07	.03	.11*	—			
11. Mental fatigue	3.33	.71	-.05	.05	-.03	-.02	.00	.04	-.06	-.01	.00	.23**	—		
12. Segmentation preference	3.09	.96	.12*	.05	.02	.00	-.01	.03	-.02	.03	.10*	.58**	-.18**	—	
13. Deviant behaviour toward family member	3.77	.59	0.01	.04	-.07	.03	-.05	.08	-.01	-.08	-.05	.19**	.30**	-.20**	—

Note: $N = 420$. * $p < .05$, ** $p < .01$, two-tailed.

Table 3 Structural Equation Modelling Results

	Mental fatigue (T2)				Deviant behaviour toward family member (T3)			
	B	***SE***	***B***	***SE***	***B***	***SE***	***B***	***SE***
Age	-.06	.05	-.02	.04	.04	.04	.04	.04
Gender	.06	.06	.09	.05	.00	.05	-.01	.05
Education	-.01	.01	-.01	.01	-.01	.01	-.01	.01
Tenure	.00	.03	-.02	.03	.01	.02	.01	.02
Collectivism (T1)	.00	.05	.00	.04	-.01	.04	-.01	.04
Role-breadth self-efficacy	.02	.05	.01	.04	.03	.03	.03	.04
Social acceptance	-.04	.03	-.02	.03	.00	.02	.00	.02
Relative Deprivation	.02	.04	.00	.03	-.01	.03	-.01	.03
work engagement	-.04	.04	.00	.04	-.04	.04	-.03	.04
TASW (T1)	.22***	.05	.49***	.10	.08*	.04	.06	.04
Mental fatigue (T2)					.24***	.06	.27***	.06
Segmentation preference (T1)			-.42***	.06				
TASW × Segmentation preference			-.16**	.05				
Conditional indirect effects (Effect [95% CI])								
High segmentation preference (+1 *SD*)							.09 [.04, .16]	
Low segmentation preference (-1 *SD*)							.17 [.09, .26]	

Note: $N = 420$. The table shows unstandardized coefficients (*B*) and standard errors (*SE*) unless otherwise noted. CI= confidence interval.

$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Stream 7: Teaching and Learning

Developing and sustaining sustainability behaviors beyond university learning: A new approach using the theory of planned behavior

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Developing and sustaining sustainability behaviors beyond university learning: A new approach using the theory of planned behavior

ABSTRACT

Aligned growing sustainability efforts, universities have taken responsibility for educating sustainability-aware graduates. Hitherto sustainability education (SE) has successfully built students' knowledge and attitudes. But SE should also empower graduates to change their own and others' sustainability behaviours (SB) in their workplaces. In this conceptual paper, we employ the theory of planned behaviour to sensitise educators' attention for SE to change SB. From this, five principles for achieving SB outcomes emerge: a purposeful focus on (i) students' self-identity, (ii) actively sourcing and sharing sustainability norms, (iii) engaging with internally and externally facing activities, (iv) creating explicit behaviour plans, and (v) implementing behaviours and evaluating achievements in real contexts. The proposed activities and assessments include self-reflection, peer interaction, and industry-engaged learning, ensuring learners are ready to act on their sustainability knowledge.

Keywords: Sustainable behaviour, Higher education, Workplace sustainability, Sustainability attitudes, Sustainability intentions

This conceptual article proposes a new sustainability education (SE) approach to integrate education for sustainable development (ESD) into university students' curriculum (Arbuthnott, 2009). Aligning with ESD, universities integrate the United Nations (UN) sustainable development goals (SDGs) into modules (components of courses) and courses (degrees) (Leal Filho *et al.*, 2019). Butt *et al.* (2014) further argue that by adopting new SE approaches, universities can contribute by developing sustainability-aware change

agents. Shephard and Furnari (2013: 1583) found that most educators believe "sustainability should underpin everything" the university teaches. Students likewise desire the inclusion of sustainability in the curriculum, in part due to growing labor market demand and employability opportunities (Cotton and Alcock, 2013, Watson *et al.*, 2013).

The underlying assumption of ESD is that students will be more sustainable in workplaces and improve sustainable behavior (SB) after gaining sustainability knowledge, skill, and capability at university (Leal Filho *et al.*, 2019, Fiselier *et al.*, 2018). SB is the set of deliberate and practical actions that encompasses pro-ecological, frugal, altruistic, and equitable behaviors, resulting in conserving natural and social resources (Tapia-Fonllem *et al.*, 2017). Most of the extant studies on SE investigate the universities' roles in implementing SE in curriculum and the SE outcomes (Cotton and Alcock, 2013, Macheridis and Paulsson, 2021) and highlighted the gap between ESD and sustainability practice (Butt *et al.*, 2014, Montiel *et al.*, 2018).

We argue that the gap between ESD and SB demonstrates the compartmentalized nature of university education. The students should understand the legitimacy of sustainability and be prepared to implement sustainability actions upon graduation or even beforehand (Hesselbarth and Schaltegger, 2014) which needs a new SE approach (Rey-Garcia and Mato-Santiso, 2020), developing students' knowledge of sustainability ***and*** their capacity to influence practices (Holliday, 2010, Watson *et al.*, 2013). Building on the work of Sales de Aguiar and Paterson (2018), Chakraborty *et al.* (2021), and Kemp and Scoffham (2022), we argue that education and educators play a significant role in instilling sustainability action among future generations. Our SE approach aims to contribute by empowering students to change their own and others' behaviors to be more sustainable and build subject-specific, methodological, social, and personal competencies by combining class-based and real-world activities (Hesselbarth and Schaltegger, 2014, Sales de Aguiar and Paterson, 2018). We (1) adopt the theory of planned behavior (TPB) in conceptualizing the positive relationship between a targeted design and delivery of ESD and students' SB; (2) contribute to the development of an impact-focused model of ESD, and (3) explains how universities can drive broader SB among students.

First, we introduce the literature on ESD in universities. Second, we review existing ESD efforts and through TPB propose seven action areas to maximize SB change and sustain this change after graduation. Third, we present the design of a sustainability module that embeds our seven behavior change actions. Finally, we conclude by reflecting on the implications of our proposed module.

LITERATURE REVIEW

Sustainability Education (SE)

Aligning with UNESCO's call for education for sustainable development (Montiel *et al.*, 2018, UN, 2019), universities have responded by introducing sustainability modules or courses (Arbuthnott, 2009, Hueske *et al.*, 2022, Zutshi *et al.*, 2018). For example, the integration of sustainability into learning and assessment across modules in the United Kingdom and New Zealand (Leal Filho *et al.*, 2019), and the requirement of students to reflect upon their ethical positioning on sustainable development while learning SDGs in the Netherlands (Kopnina, 2018). These studies highlight exceptional and innovative examples of SE initiatives, rather than universal adoption. Nevertheless, there are a growing number of studies and related journals (e.g., *International Journal of Sustainability in Higher Education* and *Journal of Education for Sustainable Development*) evidencing a growing significance of SE. Our review of SE studies reveals four dominant focus areas, which we will briefly elaborate on. First, desired SE outcomes, second, the content of SE modules, third, the adopted learning approaches, and finally, demonstrated success.

First, the desired outcomes were ambitious. Three prominent outcomes emerged: awareness of sustainability, ability to communicate sustainability matters, and real-life SB change. The most prominent was building sustainability awareness and aligns well within the scope of standalone modules. For example, Sales de Aguiar and Paterson (2018) emphasise students' awareness of sustainability practices in their immediate context, including their university. In addition to practices, Zeegers and Francis (2014) note students' necessary awareness of the complex implications of sustainability on society, environment, and

economy, beyond environmental issues. Second, studies note the need to build persuasive and multi-stakeholder communication skills on sustainability issues, including beyond the classroom (Dlouhá and Burandt, 2015), and support students' 'think, act, and influence' competencies (Rey-Garcia and Mato-Santiso, 2020). The third desired SE outcome was real-life SB change (Arbuthnott, 2009). For example, Probst *et al.* (2019) emphasise the importance of building students' skills in facilitating others' behaviour change, and Rey-Garcia and Mato-Santiso (2020) underscore the value of real-world learning to shape individual's SB.

Second, even with the ambitious desired outcomes, most studies reported SE initiatives as standalone sustainability modules within an institution that could not rely on other modules to contribute content. As such, many also provided a relatively generic introduction to sustainability knowledge (Du *et al.*, 2013, Starik *et al.*, 2010). The introductory modules emphasise the environment and community (Leal Filho *et al.*, 2019, Azeiteiro *et al.*, 2015), or contrasts to current models of doing business (Lozano *et al.*, 2015, Seatter and Ceulemans, 2017), potentially excluding the complex interdependencies between environment, society, and business (Zeegers and Francis, 2014). Even so, to ensure these complexities are still engaged with, some use transdisciplinary and multi-level cases, regularly embedding students in culturally and politically sensitive challenges (Dlouhá and Burandt, 2015, Steiner and Posch, 2006).

Third, and understandably given the ambitious desired outcomes within largely standalone modules, there is a focus on learning approaches. Sánchez-Carracedo *et al.* (2021) note the diversity and nuance to approaches, dependent upon the educator. All the same, most SE initiatives demonstrate some degree of active learning (Dlouhá and Burandt, 2015, Seatter and Ceulemans, 2017), and affective or emotive perspectives (Shrivastava, 2010, Starik *et al.*, 2010). Common across approaches was an emphasis on scale and urgency of sustainability, often involving 'reality shocks'. These reality shocks were in two ways. One emphasising the scale of unsustainable practices, and the second, the potential lack of response and action by self and others when undertaking sustainability work. Robert Prentice suggests that reality shocks may prove to be very beneficial because students "already think they are good people, and they have confidence that, when they go out in the business world and face an ethical issue, they are just going to handle it the

right way because they were raised the right way. They've got overconfidence, and that is where good people start to do bad things" (cited in Gastón de los Reyes *et al.,* 2017: 319). Others implement authentic learning, including hands-on organization-partnered projects and site visits (Probst *et al.*, 2019, Seatter and Ceulemans, 2017). These authentic approaches extended to community-partnered learning and projects, working with rather than for the community (Rey-Garcia and Mato-Santiso, 2020). These authentic contexts are sometimes purposefully used to demonstrate the second reality shock, helping students understand that "getting sustainability right is much harder than what they originally expected" (Montiel *et al.*, 2018: 42).

Fourth, demonstrated success was generally evidenced by sustainability knowledge and competency gained (Collins and Kearins, 2010, Du *et al.*, 2013), demonstrated by a within-initiative assessment program (Dlouhá and Burandt, 2015), or by comparing students' sustainability knowledge or attitude levels before and after the module (Kopnina, 2018). Wiek *et al.* (2011) demonstrate the development of specific competencies among students to tackle sustainability challenges, in addition to generic competencies such as critical thinking and strong communication skills. The relationship between knowledge and attitude change, through to the desired outcomes, including SBs, was often assumed to be linear and causal (Kemp and Scoffham, 2022). Nevertheless, changing SB requires more than just theoretical training (Azeiteiro *et al.*, 2015); there is a need to develop individual SB change competencies.

Some studies demonstrate student success by measuring a change in their SB (Azeiteiro *et al.*, 2015), including implementation plans (Arbuthnott, 2009). Although students were found satisfied with their changes in attitude and behaviour (Azeiteiro *et al.*, 2015), they stressed the need for continuous monitoring of performances to ensure sustained behaviour change. Recognising the need for explicit efforts, a minority of studies adopted behaviour change initiatives at the content level. First, Pappas *et al.* (2013) help students identify unsustainable habits in their daily lives and facilitate designs to change these habits. Second, Lozano *et al.* (2015) guide students through a change management process to enhance sustainability in organizations. Third, Sroufe and Ramos (2011) support students' learning and behaviour change through live projects at various multinational organizations. Relatedly, Hesselbarth and Schaltegger (2014) and Probst *et al.* (2019) investigated whether students applied sustainability principles to their decision-making

and transfer them into organizational practices. For sustained behaviour change, they found students had to remain engaged with sustainability issues beyond the duration of their studies.

To summarise, there is a diverse and growing range of SE initiatives, which are too often isolated within larger courses. To achieve the ambitious outcomes within these constrained contexts active and authentically engaged learning approaches are adopted. These evidence success in knowledge demonstration, though there are ever presence challenges in translating these to SB without specific embedded approaches. Even then, the transference beyond the module is hard to assess (Lozano et al., 2015). Overall, SE is enhancing students' sustainability attitudes, we want more: We want behaviour change to accelerate the implementation of sustainability globally. Evidently, SE can change SB, though it requires specific design and implementation to do so. In the remainder of this paper, we propose to sensitise educators' attention to specific design principles for SB outcomes, using TPB.

Sustainability Behaviour Changes: Theory of Planned Behaviour (TPB)

To emphasise the importance of behaviour change and encourage this change among students, we adopt TPB since it 1) can explain and predict SB change in the university context, and 2) provides specific attention points to influence students' behaviour, reduce barriers, and build their capacity (Holdsworth *et al.*, 2020, Ajzen, 2002). TPB explains that an individual's behaviour change is determined by the interaction of influential social-cognition factors of 1) attitudes toward the behaviour, 2) subjective norms, and 3) perceived behavioural control (PBC) (Ajzen, 1991, Ajzen, 2002). These affect 4) behavioural intention, which in turn influences 5) the actual enactment of certain behaviours. In this research, our desired outcome is for students to be sustained sustainability change agents. As such, using TPB, we look to sensitise educators to the specific principles for their own module design. We anticipate that, for those with desired SB outcomes, the theoretical foundation will guide an approach to module design, which will be more effective to achieve and demonstrate the outcomes.

Following TPB, we focus attention to five specific areas for SE for SB outcomes:

1. Sustainability attitudes
2. Sustainability subjective norms

3. Perceived sustainability behavioural control
4. Sustainability behavioural intention
5. Sustainability behaviour

We will now elaborate on each of these attention areas, from which we derive module design principles, and provide an aligned example activity and assessment program. Importantly, two characteristics of workplaces will also be considered. First, the subjective norm group changes from peers studying sustainability to colleagues with varying attitudes toward sustainability. Second, graduates' PBC will depend on the extent of support for and constraints against SB imposed through workplace practices and policies (Holdsworth *et al.*, 2020, Probst *et al.*, 2019).

Sustainability attitude

Here, attitude refers to students' disposition toward engaging in SB (Ajzen, 2002, Hagger *et al.*, 2002). Attitude towards sustainability behaviour reflects students' positive or negative evaluations of performing SB. Traditionally, SE focuses on attitude change. Students' pro-sustainable attitude has been indicated by their demographic factors (Armitage *et al.*, 2002), values (Rickaby et al., 2020), specific cultural orientation (collectivism vs. individualism), and transformational leadership style (Ng and Burke, 2010). Prior sustainability knowledge/experience can also predict positive attitudes towards sustainability, which increases the likelihood that students will enrol in SE to learn more about their position within the debate and guide their practice (Chakraborty *et al.*, 2021). Comparatively, learners with no prior sustainability knowledge tend to initially hold a neutral attitude towards the topic. Eventually, they may become more confident in convincing others to embrace sustainability attitudes once they engage in SE (Hesselbarth and Schaltegger, 2014). While it appears that SE is 'preaching to the converted', it is also apparent that those on the margins are likely to be converted and can convert others.

When students are generally new to studying sustainability (recalling most modules are standalone), attitudes can be easier to influence since they are not embedded into students' self-identity, which could then be achieved during the module. To develop this sustainability identity, Shrivastava (2010) proposes using a range of examples and guests to stimulate cognitive and emotional/spiritual engagement with

sustainability. Reality shocks from site visits or videos that emphasise extreme cases are also instrumental in evoking students' sustainability attitudes (Swaim *et al.*, 2014). Gu and Neesham (2014) extend these external examples to prescribe a moral-identity-based teaching approach that focuses on individual values, norms, and self-concept in creating awareness about ethical and sustainability-led decisions in real-life contexts. Hence, we propose, as the first principle:

- SE has a purposeful focus on students' self-identity, actively connecting external examples to self-image.

Sustainability subjective norms

Subjective norms refer to perceived social pressure by students' important referent groups (e.g. educators and fellow students), and these groups' endorsements and shared beliefs to engage in SB (Ajzen, 1991, Ajzen and Fishbein, 2000). These are normative-based social-cognition pressures and represent students' assessment of whether significant others want them to engage in the targeted behaviour (Armitage and Conner, 2001, Hagger *et al.*, 2002).

Educators can shape students' behavioural intentions by engaging different sustainable challenges (through sustainability practices, projects, advocacy, research, and their lives) with their evidenced environmental orientation (Chakraborty *et al.*, 2021) and explain how these positive attitudes are perceived with high regard (Shrivastava, 2010). Probst *et al.* (2019) integrate institutional entrepreneurs and the subject experts in the course to develop discussions about sustainability issues and demonstrate educators' attitudes at the same time. Using a "dynamic learning culture" the sustainability module needs to provide targeted and even rigorous student interactions to enable understanding of peers' (and educators) perspectives and facilitate subjective norm influence (Dlouhá and Burandt, 2015: 256). For example, through team activities competing to create the longest list of justifications for sustainability or the class developing policy justifications for greater sustainability efforts. Peers' attitudes can be demonstrated through assessments, such as team projects, peer interviews, and peer reviews. For example, peer learning through peer tutoring is used in the Bachelor of Architectural Education at the University of Texas at San

Antonio, which improves students' knowledge, motivation and commitment to sustainable design through high peer-to-peer interaction (Núñez-Andrés *et al.*, 2022).

Nevertheless, at workplaces, for newly appointed graduates, TPB predicts that they will align their behaviour intentions with collegial norms, the norms purported by the team leaders, and suppress their intentions. Here, graduates conceal their original sustainability intentions and behave as per the group norm. To enhance students' appreciation of workplace norms and develop capabilities to address these, educators may engage industry and community guest speakers to discuss their sustainability activities (Hind, 2009). Through the involvement of practitioners, students can go beyond the perceptions provided by educators to understand the legitimacy of sustainability in organizations and practitioners' attitudes towards sustainability. Importantly, leaders from sustainability projects can work through their experiences of overcoming unsupportive sustainability attitudes in workplaces.

Accordingly, our second principle is:

- SE has a purposeful focus on educators, fellow students, and external partners to actively source and positively sharing sustainability norms.

Perceived sustainability behavioural control (PBC)

PBC refers to students' perceived efficacy to perform SB (Ajzen and Fishbein, 2000) and the potential constraints on the action (Armitage and Conner, 2001). Individuals are more likely to engage in SB, which they believe to be achievable (within their control), increasing students' willingness to exert additional effort (Armitage and Conner, 2001). However, Swaim *et al.* (2014) reveal that students with higher PBC may still encounter challenges when they attempt to implement sustainability plans. Therefore, attention should be given to exploring PBC at individual and organizational levels. If a student possesses a high perceived capability and personal agency over SB, together with less perceived constraints to act sustainably, they will have greater intention to perform SB.

The module could focus on developing capacity to effectively implement and assess the outcomes of a sustainability task (Aragon-Correa *et al.*, 2017), highlighting that the journey towards sustainability is challenging, and students need resilience and persistence to tackle these challenges. Collins and Kearins

(2007) suggest incorporating real-life scenarios and stakeholder negotiations into a module to let students develop sustainability capacity and solutions. Further, case studies (both successful and failed) present real-life sustainability issues to students, which will sensitise them to necessary capacity development areas to address sustainability challenges (Holliday, 2010).

After students graduate, organizational support for sustainability decisions plays a crucial role in shaping capability and control perceptions (Probst *et al.*, 2019). To cultivate sustainability PBC in future workplaces, an assessment may be designed for students to work with organizations and employees to enhance students' workplace confidence, especially in gaining insights to workplace decisions on sustainability issues (e.g., by focusing on the economic benefits of sustainability). Through organizational collaborations, students could gain hands-on experience addressing others' sustainability attitudes and learn how to incorporate these into workable solutions. Oonk *et al.* (2022) suggest using boundary-spanning workshops that foster collaboration across disciplines, cultures, universities and partners to develop five specific sustainability-related competencies (systems thinking, anticipatory, normative, strategic, and interpersonal competence). Similar projects can be undertaken with community members to create an impact beyond the university (Zutshi *et al.*, 2018). Through organizational and community engagement, students can create PBC to recommend and implement solutions to sustainability challenges within workplace decision-making (Aragon-Correa *et al.*, 2017).

Thus, we propose our third principle:

- SE has a purposeful focus on engaging students in internally and externally facing activities to develop, demonstrate, and achieve sustainability behaviours.

Sustainability behavioural intention

Collectively, the three social-cognitive factors (i.e., sustainability attitude, subjective norm, and PBC) influence students' intention to engage in SB and their adoption of SB (Ajzen and Fishbein, 2000). Hence, to encourage SB adoption, the module should support students in developing strong intentions toward sustainability. According to TPB, behavioural intention is the primary and most proximal antecedent of actual behaviour (Ajzen and Fishbein, 2000, Armitage and Conner, 2001). Hence, the module should

simultaneously shape students' sustainability attitude, subjective norms, and PBC to better influence students' SB intentions. Importantly, the sustainable behaviours intentions will need to be made explicit, such as through implementation plans (Arbuthnott, 2009), applying these to sustainability challenges. The challenges could emerge from self-assessments of sustainability behaviours, peer debate/discussions, case study analysis, site visits, or assessments of industry/community and campus partners' practices (Watson *et al.*, 2013).

Hence, our fourth principle:

- SE has a purposeful focus on students, based upon the three-positive social-cognition factors, creating explicit behaviour implementation plans to address sustainability challenges.

Sustainability behavioural adoption

Our focus is to translate students' sustainability intentions into SB. To facilitate this requires explicit application through real-life topics, at an individual level, household waste, food, recycling, and packaging. In these applications, students should evaluate how successfully they have achieved their intentions and identify strategies to overcome the challenges they faced along the journey.

While this will demonstrate SB at the individual level, within the confines of the module, we also want students to be sustainability change agents. Kopnina (2018) highlights that the extent to which graduates can apply sustainability concepts outside the module depends on several external factors (see also Swaim *et al.,* 2014). Since students will be exposed to varied workplace situations after graduation, it is important to expose them to work attitudes, norms, and behavioural controls. This is particularly pertinent since workplaces often perceive sustainability *or* financial performance as a dichotomous dilemma. Holdsworth *et al.* (2020) argue that SB can only be implemented if workplaces support such behaviours. SE should therefore provide graduates "who will be operating within the confines of established businesses, [with] the evidence and tools to make the business case for sustainability" (Aragon-Correa *et al.*, 2017: 473). Organizational projects, industry speakers, and site visits provide opportunities for students and industry practitioners to interact, and understand these complex environments and their constraints. Sroufe and Ramos (2011) suggest that students spend considerable time in organizations and immerse themselves

in daily routines and culture to develop an awareness of workplace SB. Swaim *et al.* (2014) suggest students undertake immersive organizational analysis and compare these with the latter's competitors to enable them to take concrete action on sustainability when they join the workforce. As such, the application of sustainability behavioural intentions, should also be implemented in external settings, again with the evaluation and identified strategies to overcome the achievement challenges.

Hence, we propose, the final principle:

- SE has a purposeful focus on students' implementing sustainability plans in real contexts including the evaluation of achievements.

By educators focusing their attention to these five areas, and subsequent principles, will make explicit the opportunities for theory-founded behaviour change. Through TPB, the module design, activities, and assessment will enhance the likelihood of students developing their sustainability attitudes, reinforcing positive subjective norms, and developing their PBC, which finally embed positive SB intentions, into actual demonstrated behaviour, including capacity to sustain the demonstration beyond the module. We present the summarised principles in Figure 1.

Insert Figure 1 here

To illustrate the sensitised focus areas and five principles, we provide an aligned example activity and assessment program (Table 1).

Insert Table 1 here

CONCLUSION AND IMPLICATIONS

Using TPB in a SE context, we contribute a theoretically-founded approach to achieve SB outcomes and sustain them beyond the module. We contribute to the SE conversation, demonstrating that we must attend to both the "why" and the "how" of teaching a sustainability module to elevate students' SB outcomes. While there are a number of studies describing SE approaches, the why and how behind the SE is scarce (Oonk *et al.*, 2022). Our attention to a theoretically-informed principle-based teaching approach provides both the justified why and a nuanced understanding of how SE influences attitude, intention, and finally, students' SB. Additionally, through our approach, through the collaboration and communication with external practitioners, graduates build capacity and confidence in influencing others, including their future workplace peers. Our approach supports students to overcome the limitations imposed by a workplace by using activities to share feelings, values, and ethics (Jickling, 2017; Weber *et al.,* 2021).

While recommend the integration of the approach to achieve sustainability behaviour outcomes, it is also important to highlight the challenges (Macheridis and Paulsson, 2021; Rey-Garcia and Mato-Santiso, 2020). Educators need to be prepared (or convinced) to transform the module and support 'real-world' learning (Fiselier *et al.*, 2018). Although the potential impact of real-world problem-solving in real-world settings on students' SB can be profound (Rey-Garcia and Mato-Santiso, 2020), finding suitable problems and settings can be challenging. It could also take time to convince industry mentors to partner, and about the potential benefits of these arrangements. In the light of the above challenges, future research should empirically investigate the impact of our proposed SE approach, showing if graduates develop and sustain their SB beyond their modules. In addition, future research should further investigate the constraints within university courses that might limit student sustainability attitudes, subjective norms, and PBC. A better understanding of other influencers on these social-cognitive factors would enable a further targeted effort to sustain SB.

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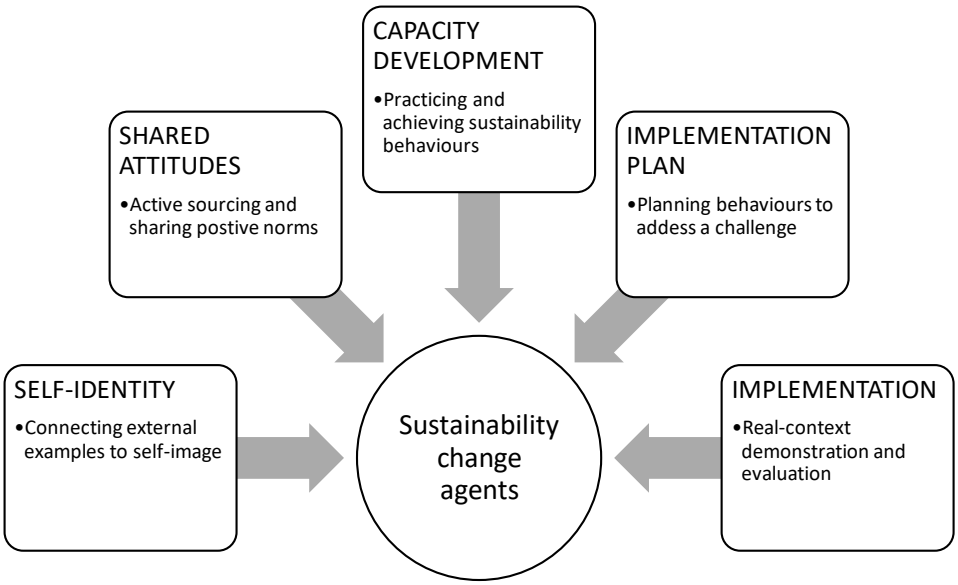

Figure 1: Principles for sustainability education desiring sustainability behaviour outcomes

Table 1: Sustainability education desiring sustainability behaviours activity and assessment program

Principle		Activity	Assessment 1	Assessment 2	Assessment 3
1	SE has a purposeful focus on students' self-identity, actively connecting external examples to self-image.	A personal reflection on self-identity and sustainability alignment (about good and bad sustainability examples).	Students, individually, need to compare their sustainability attitudes with their peers and educators. Next, students need to design and implement a plan to grow everyone's sustainability attitudes.	Students, individually, identify a personal sustainability challenge (such as household, food habits, electricity usage, packaging use/recycling etc.). They interrogate the potential solutions and barriers, and develop a plan to address the challenge. Across the semester, they monitor their implementation and addressing of the challenge. Partway through the semester, students must undertake a detailed reflection to identify and overcome persistent barriers and implement a revised plan to also get others (outside the module) to address the sustainability challenge with them (such as household members). Toward the end of the semester, students must evaluate the success of the implementation plan and present recommendations that would	Students, in a team, undertake an industry or community partnered sustainability project. The team needs to investigate the sustainability challenge, and the various stakeholders' attitudes to sustainability, for incorporation into the implementation plan. The team then designs and implements a solution for the sustainability challenge. The team needs to undertake an evaluated implementation process, in which there needs to be at least one evaluation and re-implementation, followed by a final evaluation. Based upon the first implementation evaluation, the student team should make changes (if necessary) to enhance the potential success of the implemented solution. Based upon the final evaluation, the team must
2a	SE has a purposeful focus on educators to actively source and positively sharing sustainability norms.	Students interrogate the educator for their sustainability attitudes and behaviours.			
2b	SE has a purposeful focus on fellow students to actively source and positively sharing sustainability norms.	Student team competition to create the longest list of sustainability justifications. Students create an instrument to identify and evaluate their peers' sustainability attitudes and behaviours. Participate in sustainability activities as a learning team.			
3a	SE has a purposeful focus on engaging students in internally facing activities to develop, demonstrate, and achieve sustainability behaviours.	Undertake self-focused sustainability planning exercises.			
4	SE has a purposeful focus on students, based upon the three-positive social-cognition factors, creating explicit behaviour implementation plans to address sustainability challenges.	Students propose and plan their intended sustainability behaviours.			
5	SE has a purposeful focus on students' implementing sustainability plans in real contexts including the evaluation of achievements.	Students keep a weekly diary evaluating the achievement of their intended sustainability behaviours.			
2c	SE has a purposeful focus on external partners to actively source and positively	Students engage with industry guest speakers, businesses, and communities to			

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	sharing sustainability norms.	understand sustainability subjective norms and how to address these.		enhance its success in the future.	present recommendations that would enhance the sustainability project's future success.
3b	SE has a purposeful focus on engaging students in externally facing activities to develop, demonstrate, and achieve sustainability behaviours.	Students hear from and collaborate with industry professionals to understand what behavioural constraints are presented and how to overcome them.			

03. Sustainability and Social Issues

Developing and sustaining sustainability behaviors beyond university learning: A new approach using the theory of planned behavior

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Hunger-relief organization's wellbeing service during a crisis: A transformative supply chain perspective

Abstract

This paper explains how the Hunger Relief Organisations (HROs) deliver three wellbeing (such as social, environmental and economic) services to the vulnerable population during a crisis. During the pandemic, the demand for food has increased manifolds along with challenges related to delivering the services which makes it hard for the HROs to balance the wellbeing. Through Transformative Supply Chain lens, the paper investigates food donation supply chain by including all relevant stakeholders from donors to beneficiaries and focuses on three wellbeing. The secondary data analysis of two global and four domestic HROs websites revealed that multi-stakeholder collaboration can support resilience and adaptability to improve HROs services. Further, the HROs are found to focus on social wellbeing over other two wellbeing.

Keywords: Food donation supply chain, hunger relief organisations, transformative supply chain, sustainable development goal, crisis management

World hunger is a serious challenge for the humanity. The 2020 report by the World Food Programme (WFP) and Food and Agricultural Organization (FAO) highlighted around 8.9% of the world population sleep empty stomach every night. Food insecurity is related to malnutrition of populations, especially among children and women (FAO, 2020) and found in Asia, Sub-Saharan Africa and the Caribbean (Reid, 2020, FAO, 2020). If not controlled efficiently, the hunger can surpass 840 million or 9.8% of the population by 2030. The United Nation's Sustainable Development Goal (SDG) 1 (No poverty), 2 (Zero Hunger) and 12 (Sustainable production and consumption) pledge to end hunger, achieve food security, improve nutrition and promote sustainable agriculture. The hunger challenge has been exacerbated during the COVID-19 pandemic due to increase in poverty. First time in thirty years since 1990 a higher percentage of population (around 10%) is living in extreme poverty (UN, 2021). The unprecedented nature of the pandemic has created two new food insecure groups: young casual workforce and international students (FoodBank, 2020b). Consequently, higher food assistance was required in the 2020 and 2021 than in 2019 to handle the hunger challenge (WorldFoodProgramme, 2020).

Distribution of excess food is a common pathway used by Hunger Relief Organization (HRO) to provide access to food and improve health and wellbeing of beneficiaries (Thyberg and Tonjes, 2016). During long-term crisis, such as Covid-19 pandemic, whilst the HROs service become indispensable, they also encountered several unique challenges to continue their operations and support beneficiaries. First, though a higher number of population relied on donated foods due to higher unemployment rate

(Sarkis *et al.*, 2020), the supply from regular donors had been either reduced or completely stopped. The retailers were out of stock due to consumer hoarding and shortage of staff; and/or food service businesses being closed due to government restrictions. Second, the HROs faced scarcity of manpower/volunteers and logistics to deliver the food. The migrant workers who worked as volunteers were unavailable due to border closure. Other workers were cautious due to the infectious nature of the disease. The transport/logistic system was disrupted with border closures, with many small logistics businesses going bankrupt. Consequently, the HROs required to cut some of their regular food donations to the existing food insecure areas/population to meet the unprecedented demand due to pandemic (WorldFoodProgramme, 2020).

Extant studies on food donation and HROs focus on logistics efficiency of food delivery (Phillips *et al.*, 2013, Davis *et al.*, 2014, Martins *et al.*, 2019, Fosso Wamba, 2020), economic benefits of food recovery from retailers (Phillips *et al.*, 2013, Giuseppe *et al.*, 2014), and donation as a way of managing food waste (Diaz-Ruiz *et al.*, 2019, Thyberg and Tonjes, 2016, Cristóbal *et al.*, 2018, Reynolds *et al.*, 2015, Mourad, 2016). However, the pandemic has illustrated a need to shift the focus from 'process' efficiency to broader 'wellbeing outcome' to beneficiaries without sacrificing workers' health/safety wellbeing. Furthermore, the pandemic has created the heightened need for interaction between different (both existing and new) stakeholders globally which requires wellbeing consideration of the whole ecosystem rather than one stakeholder. Nonetheless, the existing studies on HROs fail to capture the wellbeing outcome at the ecosystem level (Russell–Bennett *et al.*, 2020, Besiou and Wassenhove, 2020). This gap is addressed in this paper by examining the research question:

'How do the HRO's continue to provide food to the vulnerable population as part of their wellbeing service during a crisis'?

The paper incorporates Transformative Supply Chain (TSC) lens to respond to the above research question for three reasons. First, it seeks to balance different wellbeing outcomes akin to HROs services (Dolgui *et al.*, 2020, Dolgui and Ivanov, 2020, Mollenkopf *et al.*, 2021, Ivanov and Dolgui, 2021, Russell–Bennett *et al.*, 2020). Second, the paper aligns with the suggestions for examination of the HROs service ecosystem from the TSC lens (Dodds and Hess, 2021, Anderson and Ostrom, 2015, Anderson *et al.*, 2013). Specifically, by examining wellbeing outcomes at the (1) individual (for the

beneficiaries), (2) community and (3) planet level, the paper highlights the multidimensional nature of the HRO service and contributes towards a nuanced understanding about interplay of different wellbeing dimensions (Russell–Bennett *et al.*, 2020). Further, the paper aims to shed light on the complete ecosystem of food donation supply chain by including all the relevant stakeholders from donors to beneficiaries (end-to-end). Finally, secondary data from two global HROs' websites: World Food Program (WFP) and Global FoodBanking Network (GFN) supplemented by domestic HROs: Secondbite, Ozharvest, European Food Banks Federation (EFBF) and Feeding America are analysed in this paper. The use of both global and smaller HROs respond to suggestions of Besiou and Wassenhove (2020) that diverse nature of NGOs can provide knowledge about pressing crisis. The website content is supplemented with data from other grey literature such as the business reports and other publicly available information to capture any changes in services offered by HROs during the crisis.

LITERATURE REVIEW

Transformative Supply Chain (TSC)

Having originated initially from transformative consumer research and later transformative service research, TSC is a growing research movement that explores the role of supply chain/logistics in bringing and enhancing wellbeing outcomes of stakeholders (JBL, 2021). For years, supply chain only focused on economic and process efficiency ignoring the broad impact on society wellbeing. Wellbeing, defined as health, happiness and prosperity of stakeholders, can be delivered at the individual, organization, community/society and planet levels across societal, environmental, political, physical, emotional, spiritual and economic dimensions (Mick *et al.*, 2012). The wellbeing is not limited to one organization but should include an array of stakeholders including individuals, communities and organizations to form an ecosystem (Mollenkopf *et al.*, 2021). TSC supports long-term value co-creation by influencing uplifting changes within the community (Obaze, 2019). There is an increased demand of 'transformative movement' of supply chain due to emergence of digital technologies, higher awareness towards sustainability and unpredictability of crisis nature as evident by COVID-19 pandemic (Dolgui and Ivanov, 2020). TSC can help to build a stronger supply chain to withstand the

challenges of long-term crisis and supply critical products/services as per the demand (Ivanov and Dolgui, 2021, Singh *et al.*, 2021).

Hunger-Relief Organisation (HRO) and Food Donation Supply Chain

HROs deliver services to support vulnerable population in overcoming their social, environmental and economic challenges (Obaze, 2019). Being an important stakeholder in the food supply chain ecosystem, HROs act as aggregators of donated food from various sources or donors (grocery stores, farms, retailers, and restaurants) and distributors to other charitable organisations (food pantries, soup kitchens, schools and homeless shelters). Most of HROs are organized under Global Food Banking Network and operate at different places such as Columbia, Europe, Australia and USA. For example, Feeding America, the largest HRO, controls more than 200 foodbanks across 50 states in the USA and in Columbia and Puerto Rico (Schneider, 2013). Additionally, there are several domestic HROs such as SecondHarvest and SecondBite in Australia. Global or domestic, HROs basic premise lie on reducing hunger and improving wellbeing of the needy people wherever there is a demand/crisis. The most critical factors for HROs operation are the logistics and distribution system, location of the donation collection points, donors and recipients, infrastructure that include warehouse and technology, and the workers (Phillips *et al.*, 2013, Davis *et al.*, 2014, Solak *et al.*, 2014, Rancourt *et al.*, 2015, Martins *et al.*, 2019, Besiou and Wassenhove, 2020). The warehouses that act as both collection and distribution point can be of different sizes depending on HROs capacity. Some warehouses can have multiple zones for storing dry (canned products), frozen (meat/fish) and fresh (vegetables/fruits) products and others can store just one type of product. Regarding transport and distribution, HROs generally maintain their own transport systems for collection of donations, and charities use their own transport to collect donation from HROs (Martins *et al.*, 2019, Davis *et al.*, 2014). Some HROs deliver the donation to multiple drop points within their service areas for the charities to collect (Solak *et al.*, 2014).

HROs food donation supply chain depends on donor management. Food donation from retailers and restaurants is comparatively easy to manage since their donations consist of mostly ready to eat type of food (such as canned, dry produce and cooked food). Food can also be purchased by using funds

from monetary donations (Leib *et al.*, 2020). To support food donation and protect the donor from liability, multiple regulations exist such as the Good Samaritan food donation act in the USA, Public Liability Insurance in Australia, Good Samaritan Law in Italy (Giuseppe *et al.*, 2014, Schneider, 2013). However, still some business donors hesitate or do not participate in donation due to the fear of liability and lack of awareness about the legal protection. Overall HRO are volunteer driven, labour intensive and donation dependent (Reynolds *et al.*, 2015).

HROs face multiple unique challenges. First, most HROs operate a limited fleet of vehicles, for food collections and deliveries. Second, the supply of the food is characterized by high-volume collections from donors several times per week. Third, the perishability nature of the fresh produce requires HROs to operate quickly without sacrificing the food safety/quality. Fourth and finally, the dispersed nature of the charities makes it tricky for HROs to decide if the charities need assistance in delivery (Phillips *et al.*, 2013, Davis *et al.*, 2014), or need a refrigerated, delivery or a direct delivery from donors would be suitable. Hence, to manage all these challenges, the diverse wellbeing motive can be sacrificed. For example, Phillips *et al.* (2013) mentioned that more food is available for donation however HROs lack coordinated effort to increase the number of participating donors. Second, HROs need to balance operating costs with food safety, operator workday, collection frequency and fleet capacity. Martin *et al.* (2019) found trade-offs between economic, social and environmental sustainability related to food bank supply chain.

HRO's wellbeing at the ecosystem level

There are different types of *social wellbeing* delivered by HROs. First and the most important one is to reduce food hunger. For example, Foodbank supplied 210,000 meals per day to vulnerable population by distributing the food to 2,400 charities and delivering to 2,500 schools breakfast program across Australia in 2019 (FB report 2020). The meals provide variety, convenience, nutritional value and health benefits to the people that otherwise would not have been available. During Covid-19 28% Australians experienced food insecurity for the first time. For this cohort, level of anxiety, fear and stress was high (FoodBank, 2020b). By having access to food, self-confidence and mental wellbeing were improved (Schneider, 2013). This is similar to the USA where between March 2020-January 2021, 6 billion meals were delivered to the population (55% higher than previous years) (FeedingAmerica,

2021). Second, several foodbanks (such as The Capital Area Food Bank in Washington, DC) collaborated with other partners to develop 'food+' service mission to explore the root causes behind poverty and hunger in the community and tackle them. Some examples of other services include education, workforce development, health/wellbeing, financial coaching, and development of job skills (Hutzler *et al.*, 2021). Third, during the COVID-19, there has been a significant attention given towards the health and safety outcome of not only the beneficiaries but also the workers (Mollenkopf *et al.*, 2021).

There are several *environmental wellbeing* outcomes associated with HROs service. Food donation can reduce food waste and support SDG 12.3. By reducing food waste, more food can be available for the population. Furthermore, food waste reduction can improve environmental wellbeing. Diaz-Ruiz *et al.* (2019) highlight that freezing of surplus foods and compulsory donation by all retailers could ensure fresh food donation to charities and eventually food waste reduction. By rescuing these products from going to landfill, impact on environment (such as CO_2/SO_2 equivalents) can be reduced. This was behind the foundation of OzHarvest by Ronni Kahn AO to rescue food from going to landfill and reduce food waste by 2030 (OzHarvest, 2021b). Similar sentiment is found in the mission of the Portuguese Federation of Food Banks (Martins *et al.*, 2019).

Although food donation can have social and environmental wellbeing outcome, TSC does not undermine the importance of *economic wellbeing* outcome. There are multiple tangible and intangible costs involved related to donation. Some of the costs could be (but not limited to) due to temporary storage and management of surplus food and extra employee time to manage the donation and organising with HROs for regular pick up (Busetti 2019). Hence, business donors can be motivated if tax benefits/relief related to donation are more than the management costs related to donation. The economic wellbeing can depend on type of the donors. Food manufacturers donate long shelf-life products (canned goods) that are homogenous in nature. Hence, costs for the donors and HROs are low since these products need less maintenance. However, retailers and food service businesses donate highly perishable products with heterogenous nature (Besiou and Wassenhove, 2020).

RESEARCH METHOD

The supply chain/operation management researchers are encouraged to use archival and secondary data to examine the intricacies, nuances and insights of real-world experiences (Stevenson and Cole, 2018, Calantone and Vickery, 2010). To follow similar calls (Lariviere and Kandampully, 2019, Witell *et al.*, 2020), this paper focuses on secondary data that is already available in the public domain.

What, Why and How We Did

Once the global HROs and their main operational partners were identified, all information including news (including those referring to Covid-19), annual and/or sustainability (or similar) reports about HROs operations were collected from individual websites because HROs use websites to disseminate critical information about their activities to attract funding and satisfy donors. Two steps were undertaken to code the data. First, all the data was read and coded manually in several themes by one researcher (summarised in the Figure 1) and verified by the second researcher Next, the themes were organised into different categories (based on the similarities in the information collected) to identify the critical but so far loosely organised 'concepts' in the food donation supply chain literature. The second step involved using NVivo software to deductively auto-code all the available data. Themes were identified using word clouds (running query by using 'synonyms') (see Figure 2) as employed in previous research (Zutshi *et al.*, 2021, Carlson, 2020, MacCarthy and Fanning, 2020).

The data analysis from the websites and news illustrates the exceptional nature of pandemic which is due to its global scope, wide range of spillover effect and quick shifts in supply and demand (Craighead *et al.*, 2020). The following sections explain the concepts derived from the analysed data.

Recipients of the Donation: Inclusive Strategy for the Needy

The findings highlight presence of significant racial inequality in the society in relation to food insecurities before and during the pandemic in USA (food insecurity and poverty US report, 2021, March, Feeding America). For example, 22% of LGBTQ adults were living in poverty before the pandemic and 1.5 times more likely to face hunger than non-LGBTQ people during the pandemic (Morello, 2021). Likewise, 1 in 5 black individuals in the USA have faced hunger due to higher unemployment level (FeedingAmerica, 2022). Amidst this inequality, HROs inclusive strategy

attempted to support social equity and social wellbeing. The Feeding America reports that due to high employment and poverty level, food insecurity level in 2020 and 2021 has increased across the USA and population. People who worked in the hospitality and leisure industry mostly lost their jobs since these works are public facing (FeedingAmerica, 2020). Similarly in Brazil, Mesa Brasil Sesc (a national network of 91 food banks across 27 Brazilian states) invested $758,500 USD in the purchase of more than 70,000 basic food baskets, each containing 14.6 kilos of food and serve around 3.4 million people in 2020, a 150 percent increase over 2019 (FoodBank, 2020c). Columbian food bank has distributed food to 391% more people in 2020 than 2019, and food bank in Argentina has seen a rise of 228% in demand in food (FoodBank, 2021c). In addition to providing food, WFP works with selected retailers, in areas where beneficiaries are present, to map their end-to-end supply chain, removing inefficiencies and ultimately improving prices, quality, service and access for beneficiaries and the local population (WFP, 2019).

Donors: New and Extended Partnership Opportunity

Data showed collaboration with new private businesses was initiated and collaboration with existing businesses was strengthened. Since the donations from regular donors (food service business, factories and retailers) declined due to fluctuating restrictions and/or closures, quick adaptation to extend their existing network of donors has been fruitful. There have been new donors such as farmers and the government during the pandemic. Direct product sourcing from farms and ranches increased by 5%, from 6 to 11 percent, and a 13 percent increase from manufacturers and processors, from 23 to 36 percent in 2020 in Indonesia (FoodBank, 2021b). This also helped reduce food waste because farmers did not have workers required for harvesting and there was less demand from food service businesses (FoodBank, 2021a). In countries such as China, India and Ghana, food banks have partnered with commercial supply chain producers to acquire food boxes with surplus produce or prepared meals for charities. Likewise, McCain Foods supplied 9,000 tons of potatoes in Argentina and McDonald's provided cooked and uncooked foods in Thailand (FoodBank, 2021c). Governments of some countries (USA, Canada, Israel etc.) formally recognize HROs as provider of 'essential' services and regularly donate food and money to support HROs operations. It has been easy for HROs to operate in these countries during lockdown and other restrictions and provide uninterrupted services to the charities. For

example, food banks in Argentina, Bolivia and Chile have exemption from restrictions and allowed to collect and deliver foods to the charities or directly to the home if required. However, food banks in other countries that are not recognized by the governments face challenges during farm-rescue operations and daily operations due to curfew and restricted mobility of the workers.

Wellbeing: For the Complete Ecosystem

The communications presented within HROs websites elucidate a mixed focus on wellbeing. For example, GFN mentions that food banks provide economic (eg., enhancing economic status and job creation) and social wellbeing (eg., hunger/malnutrition reduction, individual empowerment to all population irrespective of race, gender and age) to the society/community and individuals. The analysis shows that the wellbeing is provided to the whole ecosystem than individual stakeholders (OzHarvest, 2021a, FoodBank, 2020a) by considering health and safety for workers (drivers), donors and charities. EFBF similarly provides wellbeing to end beneficiaries, charities, private businesses and communities. To do this, economic wellbeing of HROs may be compromised because higher demand leads to increase in the average number of vehicles used for collection and delivery which may lead to extra costs (Burgos and Ivanov, 2021). There are some discussions about environmental wellbeing during the pandemic with OzHarvest, GFN, EFBF and WFP mentioning reduction of food waste and raising awareness about food in its goal. It is apparent that the global HROs focus on multiple SDGs equally (such as SDG 2 and 12.3) before and during the crisis which may not be possible for the small and local HROs.

Internal Operations: Resilience and Adaptability

The Covid-19 pandemic created new challenges for HROs which forced them to focus on functional resilient food supply chain, long-term recovery and sophisticated operations (FoodBank, 2021d). Food banks such as Second Harvest Heartland have traditionally been supply-focused and distributing whatever food they receive from donors (Fiocco *et al.*, 2020). However, food procurement operated more strategically during the pandemic crisis with an overview about the types and quantities of foods required, how to source and store them before delivery (Grover *et al.*, 2020). For example, Food Depository in Chicago restructured and expanded its 268,000 square-foot warehouse to include cold storage to accommodate more fresh foods and dairy produces donated by the USA government (Grover *et al.*, 2020). The inventory management by segmenting the recipients and their needs and

mapping the demand patterns helped matching supply with demand and avoid buying duplicate foods. During the pandemic, EFBF continued to focus on raising awareness and reducing food waste through food donation/redistribution. Further, Food Bank Australia developed ''Collaborative Supply Program with manufacturers, suppliers, farmers, packaging suppliers and transport companies to produce staple foods that are of short supply (such as pasta, pasta sauce, breakfast cereal, canned produce, milk and rice) (FoodBank, 2022).

Infrastructure: Expanding the Scope of Support

The findings highlight the need for a stronger infrastructure during a crisis. To meet with higher demand during a crisis such as the Covid-19, HROs such as GFN expanded warehouse capacity and purchased additional equipment to support greater distribution. Food banks network in Latin America expanded their alliance of partners that not only donate food, but add packaging, logistics, vehicles and planes (FoodBank, 2021c). Several food banks collaborated with Uber Eats and DoorDash for donation delivery through the latter's logistics and volunteering system (McKinsey&Company, 2020). Food banks' operations have always depended on data to track how much food is donated, purchased and delivered. However, the historical data was based on past year's demand rather than based on real-time forecasting (Fiocco *et al.*, 2020). This type of data is found not suitable during the pandemic crisis where demand and supply may swing like a pendulum. Consequently, HROs opted for real time data analytics that helps them to understand the future demand based on different scenarios. For example, the food bank in Chicago and Feeding America in collaboration with Oxford Economics illustrate how the pandemic crisis could affect unemployment and poverty in the region. This allowed the team to come up with best-- and worst-case scenarios for how food demand could vary from May to December 2020 for each county in the USA within their service area (Fiocco *et al.*, 2020) and assisted in deciding their expected food demand versus food donations. To increase supply, HROs decided to collect the products beyond best before date (still okay to consume though may not have the best quality). However, manufacturers were reluctant to approve this option because their logo is on the product (Busetti, 2019). Likewise, charities were hesitant to accept the products beyond the best value date. The HROs had to bear the costs of disposal if they accept products with expired best value date. Some food banks such as Feeding South Florida received enormous emergency food relief from government (US

Department of Agriculture), however did not to manage them efficiently due to lack of infrastructure (Eduardo *et al.*, 2020) leading to expired food. Further, high waiting times at the border due to the requirements of border permits to travel between different locations, different quarantine requirements for the drivers and high infection rates at some locations make it difficult to supply in right time (Loske, 2020, Burgos and Ivanov, 2021).

DISCUSSION AND CONTRIBUTIONS

This paper uncovers how the HROs during a crisis deliver sustained wellbeing through food donation/delivery and provides recommendations for survival during the future crisis. Through TSC, HROs can recover as much edible food as possible and deliver to beneficiaries through a viable donation operation system. Consequently, the TSC can support HROs in achieving all three wellbeing: social, economic and environmental by reducing hunger and food waste. It was also identified that *resilience and adaptability* are the main strength of any HRO, especially during an unprecedented situation. Aligned with disaster resilience definition 'to prepare and plan for, recover from, and successfully adapt to the crisis' (Zobel *et al.*, 2021: 139), an uncertain situation demands permanent re-designing of the supply chain and development of new relationship beyond existing ones through adaptability. For example, OzHarvest for the first time bought food to supplement the donation and satisfy the higher demand. The findings support the notion of TSC that considers wellbeing of the *whole ecosystem* behind food donation supply chain to achieve multiple SDGs such as SDG 1, SDG 2 and SDG 12.

Theoretical Contribution

The main theoretical contribution of this paper is to examine the food donation supply chain and different wellbeing from TSC lens. Through shedding light on the multi-dimensional aspects of wellbeing, this paper shows that wellbeing trade-off and compromises are common during crisis to achieve overall wellbeing (Russell–Bennett *et al.*, 2020). This was also found by Russell-Bennett *et al.* (2020) that short term or immediate benefits are always prioritised over abstract/long-term benefits. Second, the findings receive support from the TSC argument that focus should be on the whole ecosystem, rather than on one stakeholder (Ivanov and Dolgui, 2021). This is a novel contribution of the paper to show how collaborating with all stakeholders make HROs resilient and adaptive to manage the excessive demand during a crisis. This paper can shed light on the under researched area and extend

understanding about TSC (and wellbeing) beyond the individual stakeholder level (Russell–Bennett *et al.*, 2020). Finally, this paper resolves the gap between practice and research by researching on pandemics and being informed by practice to make a timely and impactful contribution (Besiou and Wassenhove, 2020).

Managerial Contributions

The findings have several implications for the managers/workers handling the food collection and delivery. First, adaptability is the key for HROs both during non-crisis and crisis times (Ivanov, 2021, Ivanov and Dolgui, 2021). The managers need to extend their network of collaborators to other private businesses that already have resilient supply chains. This is aligned with Ivanov (2021) argument that cross-sectoral collaboration between commercial and non-commercial supply chains is important for developing resilience, especially during a crisis. Second, managers must understand that when the crisis has inherent uncertainty about present and future (Ivanov and Dolgui, 2020), long-term planning can be substituted with a situational reaction that is chaotic but at the same time productive and wellbeing-centric (Ivanov and Dolgui, 2021). Third, by following practices from commercial supply chain, robust data collection and analysis (through big data) can be used to develop a detailed understanding about how HROs operated during the crisis period and overcome the challenges they faced (Papadopoulos *et al.*, 2017). Finally, this Covid-19 crisis shows how important it is to support responsible consumption. Consequently, the managers working in HROs should increase the education and awareness about the link between food surplus/donation and environmental wellbeing and encourage during post-pandemic stage, not reverting to 'business-as-usual' mode (Sarkis *et al.*, 2020).

Limitations and Future Research

This paper has analysed data from secondary sources. Future research could collect primary data on how HROs operated during the crisis and if these operational practices are aligned with TSC. Second, since HROs operate globally, future studies could explore and compare the transformative nature between developing and developed countries. Third, this paper focuses on three wellbeing as deemed relevant for food supply chain. Future research could go beyond these wellbeing dimensions and explore other wellbeing dimensions such as emotional, psychological and political in HROs context.

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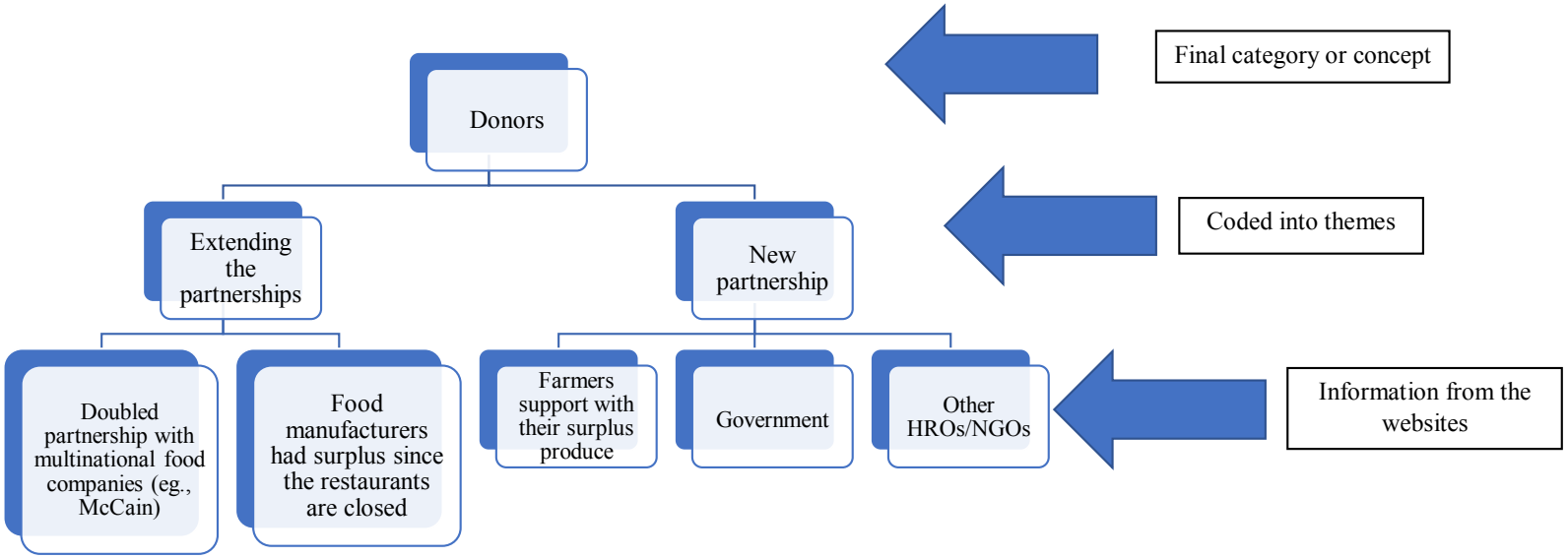

Figure 1: Data analysis from HRO websites (one example), adapted from Gioia et al. (2013)

Figure 2: Nvivo Word cloud

Stream 10. Public Sector, NGOs and Not-for-Profit

Institutionalization of Research Data Management in Higher Education Institutions – Linking the Micro, Meso, and Macro Levels

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Stream 10. Public Sector, NGOs and Not-for-Profit

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ABSTRACT

In our digitized world, data can be understood as a key resource, especially in the context of science. Hence, a professional management of research data is increasingly required. Higher education institutions (HEIs) must find technical and organizational solutions to ensure practicing research data management (RDM).

Based on the institutional logic perspective, this study investigated the role of junior researchers in implementing RDM. We pushed on the boundaries of institutional theory; demonstrated the interdependencies among the micro, meso, and macro levels; and underlined the relevance of RDM within HEIs. We designed a qualitative research approach to understand barriers and enablers for RDM. The following three key mechanisms for implementing RDM were identified: new requirements, resource allocation, and community acceptance.

Keywords FAIR principles; higher education institutions; institutional logics; institutional work; lower-status organizational members; research data management

Global challenges and current crises underline the importance of the scientific discovery process and the value of research data, as the decoding of coronavirus SARS-CoV-2 has proven (Cohen, 2020). Consequently, sustainable research data management (RDM) has become important (Organisation for Economic Co-operation and Development [OECD], 2021). The European Union estimates "the annual cost of not having FAIR data to a minimum of €10.2 billion per year" (2018, p. 26), in the academic sector only. Therefore, researchers need to understand the responsibilities of RDM and integrate it into their day-to-day actions.

Building on recent insights from institutional theory, we consider RDM in HEIs, such as curation, storage, and options to share data, as a new element of the institutional logic of science. Institutional logics are powerful mechanisms for perpetuating academic culture because they are interwoven with all other organizational practices, reinforcing, or mitigating their effects (Alvesson, 2013; Thornton, Ocasio, & Lounsbury, 2012). We expect that with increasing digitalization in all areas of life, new responsibilities, ways of working, and options for collaboration will develop. Considering the influence of growing digitalization on data handling, the interdependence of research and technology, as well as the development of data-intensive science (Borgman et al., 2012) underline the importance of RDM and the editing of data as *findable*, *accessible*, *interoperable*, and *reusable* (FAIR) (Wilkinson et al., 2016). Although researchers need to fulfill the requirements of RDM, the

implementation of an RDM-system (RDMS) by the HEI lays the foundation (Donner, 2022).

We aim to investigate the interdependencies among the micro, meso, and macro level within institutional logics. The behavior of researchers in light of the implementation of RDMS within HEIs serves as example to underline the influence of the different levels on each other. We followed Lounsbury, Steele, Wang, and Toubiana's (2021) call to enrich the insights into the development of institutional logics. In light of a neoliberal academia, the focus on junior researchers is particularly interesting, as they are most affected by the manifestations of the dominant market logic, such as a hyper-competitive labor market (e.g., Aguinis, Cummings, Ramani, & Cummings, 2020; Bristow, Robinson, & Ratle, 2017; Muller-Camen & Salzgeber, 2005; Waaijer et al., 2018) and, thus, have to reconcile changes within the logic of science. Therefore, our research is driven by the following questions*: How are the micro, meso, and macro levels related to each other when RDM as a new element of the logic of science appears in HEIs? When and how do junior researchers mobilize for or against RDM?* To answer these questions, we followed a qualitative research design. Furthermore, we triangulated our qualitative data with document analyses (Bowen, 2009) to enhance the quality and credibility of our qualitative analysis (Patton, 1999).

Our study makes the following main contributions: First, it contributes to institutional theory by advancing the micro level research within the institutional logic perspective (Thornton et al., 2012), focusing on lower-status organizational members in terms of implementing new elements of an institutional logic (Waeger & Weber, 2019), as well as highlighting the interdependencies between micro, meso, and macro levels within institutional logics. Second, we advance studies on implementing RDMS in HEIs by specifying three key mechanisms acknowledging both the agentic role of junior researchers and that of management in promoting RDM (Stieglitz et al., 2020).

THEORETICAL BACKGROUND

Institutional Logics and Institutional Work

With a focus on macro level perspectives, dynamics in organizational fields or organizational developments can be explained by institutional logics (DiMaggio & Powell, 1983). They are defined as "the socially constructed, historical patterns of cultural symbols and material practices, including

assumptions, values, and beliefs" (Thornton et al., 2012, p. 2) that stipulate and "provide organizational members with principles and templates that guide day-to-day action" (Waeger & Weber, 2019, p. 338). They are mainly addressed from macro or meso level perspectives, focusing on fields, organizations, or intra-organizational aspects (e.g., Berman, 2012; Kraatz & Block, 2008; Townley, 1997; Yan et al., 2021), which leaves the influence of the micro level on institutional change out (Zilber, 2016). The micro level is characterized by individuals or collective actors who represent and influence institutional logics through their behavior, reactions, and decisions (Lawrence, Suddaby, & Leca, 2011; McPherson & Sauder, 2013; van Wijk et al., 2019).

With the assumption that organizations are characterized by the assimilation of multiple logics or elements of different logics (Greenwood et al., 2011; Kraatz & Block, 2008), individuals need to be selective about the logic they adhere, as well as how they interpret it (Voronov, De Clercq, & Hinings, 2013). Not all institutional logics are compatible, but with a systematic adoption of particular elements, organizations, and individuals are able to manage incompatibilities between them (e.g., Pache & Santos, 2013; Reay & Hinings, 2009). Considering that individuals are embedded in organizations, they can influence organizational development and institutional change, but they can also be influenced by new requirements. External events such as the evolution of technical advances, financial crises, the entrance of new competitors, or political pressure can lead to the appearance of new institutional logics or change elements within logics that challenge organizations and individuals to respond to them (Battilana et al., 2009; Greenwood et al., 2011; Hinings et al., 2004; Kraatz & Block, 2008; Lok, 2010; Oertel, 2018; ten Dam & Waardenburg, 2020; Waeger & Weber, 2019; Zietsma & Toubiana, 2018). Studies have underlined the dependency of institutional logics on aspects such as emotions, identities, embedded agency, and personal interests of the actors (Binder, 2007; Delbridge & Edwards, 2013; Høiland & Klemsdal, 2022; Lok, 2010; Waeger & Weber, 2019). Thus, institutional logics are not only a rigid set of rules on the individual level; they "are tools that can be brought out to resolve conflicts, frame solutions to practical work problems, or legitimate calls for different courses of action" (McPherson & Sauder, 2013, p. 186).

Due to technical developments such as artificial intelligence and big data, researchers are confronted with new requirements to handle their research data. Hence, the influence of an

institutional change and the appearance of a new element within the institutional logic of science on organizational members within HEIs can be demonstrated. Regarding the micro level with focus on researchers, their actions seem to be determined by the logic of science, which follows the aim of increasing knowledge and seeking the truth (Berman, 2012; Friedland & Alford, 1991). In contrast, researchers are judged by their research output, which can be interpreted as market logic (Berman, 2012; Gumport, 2000). With the logic of science on the one hand and the market logic on the other, researchers need to counterbalance both competing logics in their daily routines. The emergence of new requirements can lead to changes in the interpretation and adaptation of these logics.

Considering that the non-professorial teaching and research staff and, accordingly, predocs and postdocs, represent the largest group within HEI research, we propose that junior researchers are fundamental in implementing RDM, especially in the future. Furthermore, these junior researchers do not have power as individual but are in a direct dependency to their supervisor/professor. Although they seem to have no switching costs in adopting RDM due to their status as early career researchers, they need to follow the instructions of their supervisor as well the requirements of neoliberal academia and its market logic. Hence, junior researchers on their career path are most affected by the excess of this prevailing market logic.

Research Data Management

Owing to technological developments within research in the previous years, the process of knowledge creation has changed. The increased amount of research data, as well as the technical advances in the creation, processing, and analysis of digital datasets, help to answer complex, interdisciplinary research questions and stimulate collaboration between scholars (Burgi et al., 2017). However, these developments have increased the requirements for sustainable data handling and transparency, which could be realized under the consideration of the FAIR principles (OECD, 2007; Wilkinson et al., 2016). To support researchers and motivate them, HEIs can implement an RDMS which needs to address solutions for technical, organizational, political, and economic issues (Cox, Pinfield, & Smith, 2016) to ensure that researchers integrate RDM in their day-to-day actions (e.g., Fecher et al., 2015; Kim & Stanton, 2016; Tenopir et al., 2020).

Keeping in mind that academics need to fulfill a range of tasks besides research, such as

teaching, administrative services, transfer activities, fundraising, or private roles (Defazio et al., 2020), a change in their behavior appears to be quite complex. Factors such as fear, lack of knowledge, high numbers of activities, and no definition of roles and responsibilities are just a few examples of barriers for RDM (Defazio et al., 2020; Fecher et al., 2015; Volk, Lucero, & Barnas, 2014). However, factors such as community norms, availability of repositories, support services, and perceived advantages can influence the individual behavior of researchers in a positive way (Kim & Yoon, 2017; Schmidt, Gemeinholzer, & Treloar, 2016; Stieglitz et al., 2020; Wilms et al., 2018; Zhu, 2019). Although the HEI management must decide on the configuration of RDMS, RDM will only come to life if researchers integrate it into their daily routines.

METHODOLOGY

Data Sources

To examine when and how junior researchers mobilize for or against RDM, we used an inductive study design. We conducted qualitative, semi-structured interviews with 41 researchers, research data managers, and executives at German universities and German research institute. We selected Germany as the German National Data Infrastructure (NFDI) was founded in October 2020. The organization's primary purpose "is to promote science and research through a national research data infrastructure that establishes and develops comprehensive research data management in Germany and increases the efficiency of the entire German science system" (German National Research Data Infrastructure, 2020). Developments of this kind are associated with great opportunities and, in the case of Germany, can actually lead to a cultural change in the way researchers deal with data. Table 1 provides an overview of the interviewees.

Insert Table 1 about here

Based on our basic assumption that the organizational world is socially constructed, we assumed that the interviewed researchers were knowledgeable agents (Gioia et al., 2012) in the field of applied RDM. Despite the fact that most of the interviewees are junior researchers, they may already have had contact with research data as part of their doctoral or post-doctoral work and can therefore

report on how they deal with this data and why. In contrast, research data managers were located in the RDM department. Thus, we supposed that these staff were knowledgeable agents in the field of theoretical RDM. The combination of applied and theoretical knowledgeable agents as well as an executive perspective enables us to provide a holistic view beyond research data handling in HEIs with its different communities.

We followed Brinkmann and Kvale's (2015) standard procedures for conducting qualitative semi-structured interviews. All interviews were conducted from March 2021 to June 2022 via video chat due to the COVID-19 pandemic. Interviews lasted between 30 and 90 minutes (totaling over 36 hours), languages used were German and English. Moreover, we enriched our qualitative interview data with accessible documents (Bowen, 2009) concerning RDM, such as webpages, training and lecture materials, policies, and field observations, to gain a better understanding of institutional logic features.

Data Analysis

Following Gioia et al. (2012), we did not force previous constructs or theories on the interviewees as an *a priori* explanation to understand or explain their experiences. Therefore, our data analysis started with an iterative open coding of the interview transcripts based on the suggested procedures for qualitative data analysis (Corbin & Strauss, 2015; Gioia et al., 2012; Miles et al., 2020) using MAXQDA, a qualitative research software. We created stepwise and iteratively first-order codes and second-order themes. After the theoretical saturation was reached, our last step of data analysis was to analyze the underlying theoretical dimensions of our second-order themes. We examined several conceptual models to learn how second-order themes were connected. Meanwhile, we considered the literature from the institutional logic perspective, as well as the RDM. Figure 1 summarizes our results and presents our set of first-order codes, second-order themes, and aggregate dimensions that show how RDM can be institutionalized in HEIs.

Insert Figure 1 about here

FINDINGS

Our analysis revealed that knowledge and the importance assessment of RDM varied.

Although RDM was not common to all interviewees, all of them were able to formulate a definition when thinking about it. Researchers who did not know the term RDM beforehand often referred to storage technology as the main aspect. In contrast, researchers who were familiar with RDM named the FAIR principles as the foundation.

New requirements

At the macro level, actors such as the government, funders, or journals require the integration of RDM in day-to-day actions and influence the meso and micro levels. In particular, a comprehensive data strategy of the government was named the promoter for RDM within HEI by the research data managers:

> The German government now has a data strategy, even if it is relatively vague. At least it exists. There is now also an open science strategy—at least there are beginnings. (Research Data Manager)

The German government also implemented the NFDI, which aims to support community approaches for RDM and to make them useable in the long term. In addition, researchers named journals as the potential driving force for RDM.

> Or rather, it's now the case that many journals also demand this. That the data are publicly accessible. (Research Associate, Natural Sciences)

However, our interviews also revealed that the practical realization of RDM partly deviated from the requirements.

> You write a DFG application because you want to get money from them, and 80% of the time it simply says, "that the research data will be taken care of independently," and that's it. (Predoc, Medicine)

The researchers acknowledged the existence of obligations and rules for integrating RDM within their day-to-day actions. However, they also suggested that not all of them were followed by the heart. The rules and requirements were discussed in different ways. While some researchers noted that particular recommendations miss the reality, others emphasized the need for a catalog with rules to orient on for RDM. In addition, the researchers described feeling alone with requirements and obligations.

> […] to be honest, we don't have a strategy to save data in our research group. Everyone is responsible for their own data. Of course, we were told that everyone should back up their data, but we don't really know and plan where the data should be stored. (Predoc, Natural Sciences)

Our qualitative data revealed that regulations, obligations, and recommendations for RDM on the

macro and meso level exist, which are known to researchers. Nevertheless, the realization reaches its limits due to the lack of a uniform idea of RDM among the research disciplines, missing control, or the lack of decision-making authority.

Resource allocation

The technical developments in previous years have influenced the production of research knowledge (Borgman et al., 2012). In particular, the increasing amount of research data can be interpreted as an opportunity and a challenge (European Union, 2010). As an actor at the meso level, HEIs can support RDM with the provision of resources. The increasing amount of data challenges the handling of primary data to find storage solutions and curate them. In addition, the increase in the amount of secondary data also urges researchers to change their data handling.

> The amount of data is much larger. The selection of data, that is, the data quality, has become more difficult. And yes, I would say that 15 years ago, the problem was always, where do I get data that I can do something with? Today, the question is, how can I select which data are good? (Postdoc, Social and Economic Sciences)

A main determinant of RDM is the technical infrastructure (Blask & Förster, 2019). The research data managers underlined the importance of creating a trustful infrastructure to store and archive research data.

> [...] trustworthy, secure infrastructure, IT infrastructures must be created. This means, first and foremost, storage and archiving on a sufficient scale. It is also believed that server capacities are always very important. Research support tools must be offered as centrally as possible throughout the life cycle. (Research Data Manager)

However, the pure focus on infrastructure will not lead to sufficient integration of RDM within the day-to-day actions of researchers. Background knowledge, further education, and clear communication of goals and responsibilities are supplements to the required infrastructure.

> I think it would have to be ensured that it is well organized, that everyone knows what research data management means and what has to be done. (Postdoc, Natural Sciences)

Moreover, a policy can translate the strategic goals for the RDM of the HEIs into responsibilities and comprehensible requirements. However, the implementation of policies was described with various difficulties, such as the differences between disciplines or academic freedom, which was emphasized by one research data manager:

> It’s difficult to establish fixed rules somehow. In other words, a policy that contains very clear attributions and fixed, rigid rules. Therefore, they [the researchers] want to have the freedom

> to decide for themselves. However, the implementation itself or the necessity of RDM is rarely questioned. (Research Data Manager)

Considering the limited budgets of HEIs, the implementation of an RDMS that combines technical and organizational solutions, as well as providing resources for changing requirements due to technological advances, is challenging.

Community acceptance

Researchers and research disciplines must comply with the requirements for RDM and represent the micro level. These scientific disciplines are distinguished by their own certain characteristics, which are most clearly manifested in the respective research. Accordingly, RDM also differs between communities: Requirements, implementation, and significance vary extremely in some cases, because awareness of the importance of the FAIR principles varies.

> Seismology is a global science, and we also work very frequently with global data and are dependent on the exchange of data. In the last 10 or 20 years, it has been established that data centers have become increasingly open. It is still difficult to obtain data from some countries, but at least in Europe, there is a lot of cooperation and effort. (Postdoc, Natural Sciences)

It has become clear that the dependence on external data has a major impact on the status quo regarding the handling of research data. Disciplines that rely on providing and sharing research data globally, as this enables high-quality research, acknowledges the added value of RDM, as the researchers themselves are affected by it.

> In meteorology, it is much more important to handle data sensibly. And I think if you come from a field where you work a lot with other people's data, you know how important RDM is. (Postdoc, Natural Sciences)

Because universities are characterized by a strongly hierarchical structure, supervisors also play a significant role in the implementation of RDM and its relevance within the team.

> So, we've engaged a lot with the leaders and on that level, because ultimately, they need to know what we're doing, and we focus a lot on them. What happened was they sent junior researchers to us. So, I get a request from saying: "Oh, I'm leaving the lab. My head of department asked me to come to you to say, to see what I can do when I am leaving and how can I handle my data." (Research Data Manager)

The power imbalance described illustrates that commitment by junior researchers can also be inhibited by this. However, even if leaders are willing to pursue RDM and encourage their predocs and postdocs to do so, their ideas and roadmaps, as well as their ability to access resources to make them happen, are embedded institutionally (Seo & Creed, 2002).

In addition to the RDM relevance, researchers have described the influence of pressure as an influencing factor. A large number of studies characterize academia as hyper-competitive (e.g., Bristow et al., 2017; Muller-Camen & Salzgeber, 2005; Waaijer et al., 2018), implying management by results, efficiency, activity evaluation, and performance targets. An "A-journal mindset" (Aguinis et al., 2020, p. 148) has been institutionalized, and this affects researchers' behavior (Shapiro, 2017; Willmott, 2011). Considering that researchers face neoliberal academia, it is not surprising that incentives need to be put in place to encourage additional work, such as RDM.

> You also need to think about how it is with competitors. Who can access the data? This is difficult, especially in a world where there is so much pressure to publish. If I store data centrally and use research data management, then I have to be aware of the danger that other people will publish with my data. And then I'm out of the game. (Predoc, Natural Sciences)

Unsurprisingly, academics have first-hand experiences in neoliberal academia. Considering the impact of researchers, the pressure to publish, as well as tight timescales, are at the forefront.

> You just need the time to do it. After all, it takes a significant amount of time to prepare data in a reusable way. And when you're working on your doctoral thesis, you have other things to worry about. In addition, you don't get any time to do it. If there was an extra time slot for this, where you could say, "Okay, here's the time to do it," then I would do it, too. (Predoc, Medicine)

Accordingly, it is even more important to create incentives, as the individual intrinsic motivation of researchers is not sufficient to conduct RDM adequately.

> Well, one option that we have already discussed in a meeting is the publication of research data, so to speak. As an alternative for a researcher, data publications are also recognized as research achievements. And I think that's one of the most important incentives, also for science itself in the sense of open science. (Executive)

This approach was also recommended by a researcher, showing that this path can lead to hoped-for success. Because an RDM ought to be practiced by HEI researchers, it is even more essential that incentives not only be dictated top-down, but also be recognized by the involved academics as meaningful and purposeful.

> You have to motivate people to really invest time in it. I sometimes have the impression that people would like to do this [RDM] but have the feeling that other things are valued more highly, I'll put it that way now. Then you just write another publication before you take care that the dataset is published. If something like that was recognized, it would increase the motivation to deal with it. Um, that the university shows that it is appreciated. (Postdoc, Natural Sciences)

Here, it becomes evident that the honoring of prepared datasets not only promotes RDM, but also open

science. Because researchers can hardly escape the publication pressure (i.e., market logic), this can be modified with the opportunity of a publication extension so that researchers meet the demand for publications and, in addition, are pushed to realize the FAIR principles in the context of their research.

DISCUSSION & CONCLUSION

Our findings imply that the relationship between the micro, meso, and macro levels influences the elements of institutional logics. We focused on technological advances, which led to the emergence of new requirements, such as the handling of research data according to FAIR principles. In line with previous research, our research context reveals that the emergence of a new element within the institutional logic of science is induced by the macro and meso levels because they provide the foundation for RDM. However, the RDM adaptation depends on the researchers who present the micro level. We assumed that researchers were mainly influenced by the two competing logics. They follow the logic of science, with the aim of increasing knowledge and seeking the truth (Berman, 2012; Friedland & Alford, 1991), which can be interpreted as legitimization of academic freedom. Furthermore, researchers are evaluated by their research output, which puts them under pressure to follow market logic (Berman, 2012; Gumport, 2000). Researchers need to counterbalance them in their day-to-day actions to prioritize their tasks, such as teaching, research, transfer activities, administrative services, or fundraising (Defazio et al., 2020). Thus, depending on the assigned importance of the two logics by the researchers, RDM can be promoted or hindered on the micro level.

Taken together, the formulation of new requirements at the macro level must be taken up by the meso level. Following this, the meso level needs to translate these requirements to the micro level and provide the foundation for the realization. Our findings demonstrate that collective action and role models can influence the meso and macro levels. Hence, the interaction within the micro level influences individuals to be more agentic (van Wijk et al., 2019). Figure 2 provides our process model for implementing RDM in HEI and highlights the fluent transitions between the levels, as well as their interdependencies.

Insert Figure 2 about here

Even if the emergence of a new element within an institutional logic appears to be initiated at the macro level, the dynamics among the micro, meso, and macro levels influence the development of this institutional logics. Overall, our findings indicate that focusing on the dynamics among the different levels within institutional logics deepens their understanding of complex phenomena (Lounsbury et al., 2021) and reveal new perspectives on how they are integrated.

We followed the call of Lounsbury et al. to "not only contribute to further theoretical development and refinement but also enrich our understanding of the nature of institutional logics as well as how they emerge, die, change, and are maintained" (2021, p. 267). We advanced the micro level research within the institutional logic perspective by focusing on lower-status organizational members regarding the implementation of a new institutional logic. So far, the impact of these members has received little attention in the literature, especially when they are (not) willing to adopt new institutional logics or new elements of it (Waeger & Weber, 2019). However, our study indicates that lower-status organizational members make an important contribution to the implementation as well as the stabilization of new elements within existing institutional logics. We demonstrated the interdependencies between micro, meso, and macro levels and developed a new process model (see Figure 2). In addition, we extend the studies on implementing RDMS in HEI by specifying three key mechanisms: *new requirements*, *resource allocation*, and *community acceptance*. These appreciate the agentic role of junior researchers, as well as management, in promoting sustainable RDM. Our study also contributes to supporting the practical implementation process of RDM, thereby facilitating responsible research as well as open science within academia.

HEI managers should interpret RDM not just as new requirements due to technical developments. Researchers need to know about their responsibilities, how to use new tools, as well as find incentives. The publication of data should become an essential quality criterion in future appointment procedures for professors. In this way, it is possible to partially mesh the two competing logics of market and science into a hybrid logic. Moreover, a strategy is needed to systematically train already employed researchers in RDM. Our study underlined that the extension of the institutional logic perspective on this topic, especially through the focus on lower-status organizational members.

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Table 1: Overview of the interviewees

Career Level	No. of Interviewees	Percentage
PhD	21	51 %
Postdoc	12	29 %
Professor	1	2 %
Research associate	1	2 %
Research data manager	4	10 %
Executive	2	5 %
Discipline of Researchers		
Social and economic sciences	21	60 %
Medicine	7	20 %
Natural sciences	6	17 %
Sport sciences	1	3 %
Sex		
Female	20	49 %
Male	21	51 %
Affiliation		
Universities	36	88 %
Research Institutes	5	12 %

Figure 1: Overview of data structure (adapted from Gioia et al., 2012)

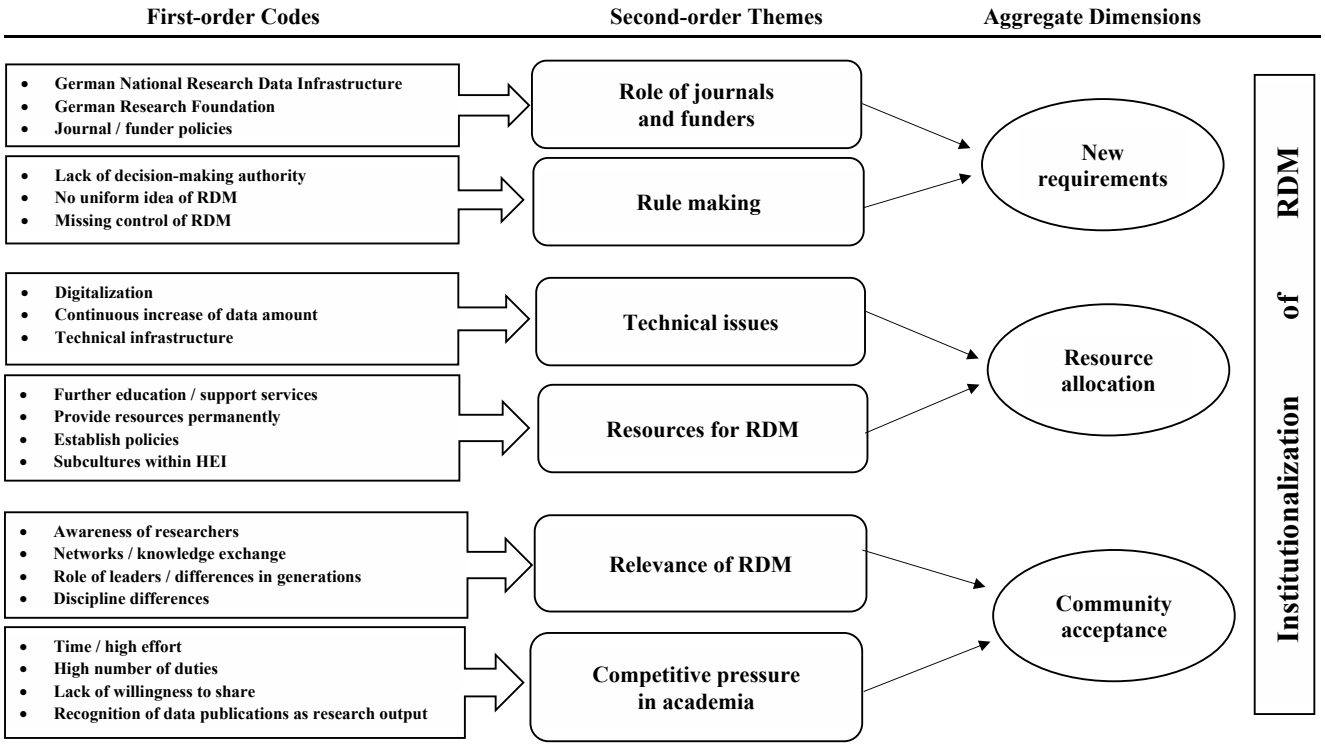

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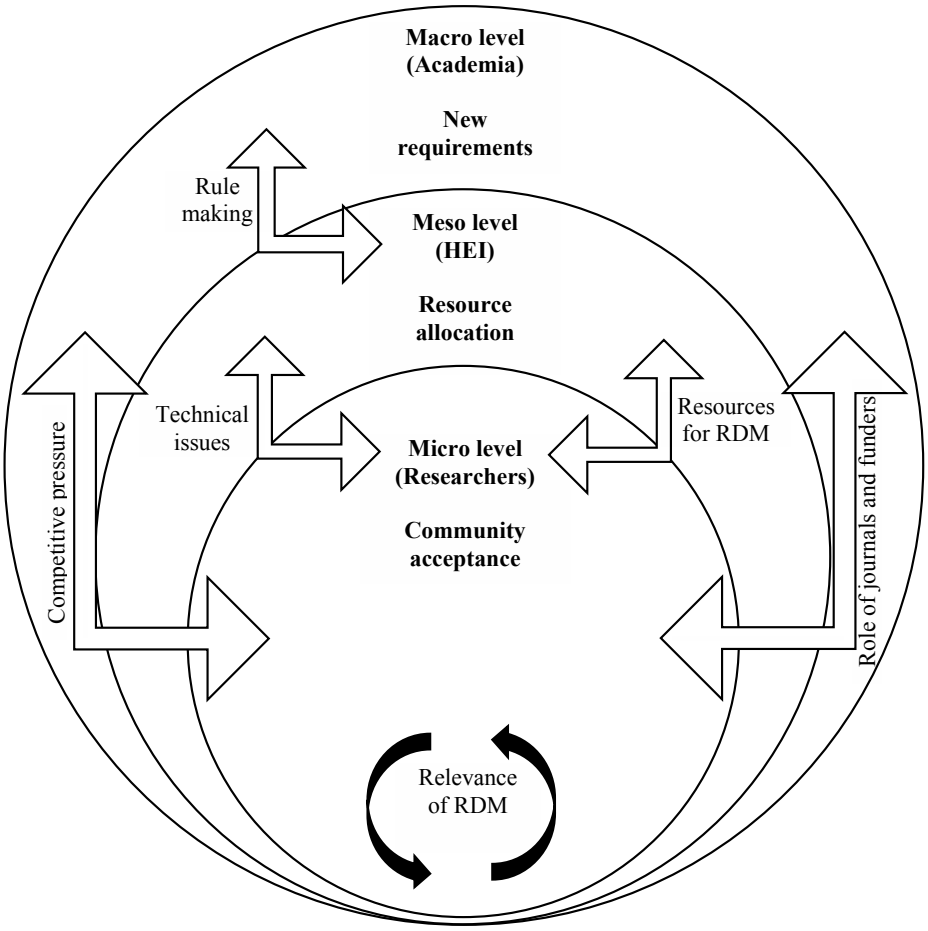
Figure 2: Process model of implementing RDM in HEI



Stream 8 Which attributes may affect the retrieval rate of your data? Evidence from an investigation into a large international data portal

Which attributes may affect the retrieval rate of your data? Evidence from an investigation into a large international data portal

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Which attributes may affect the retrieval rate of your data? Evidence from an investigation into a large international data portal

ABSTRACT: *Open science knowledge has significant value, yet this value can only be realised if the knowledge is accessible, findable and retrievable. Although it is well-documented that detailed metadata are important, the more critical point is what factors are more important and worth of more investments and managerial efforts. We collect data from a major Australian science repository and show that: compared to traditional factors, including metadata richness, contributor network and reputation, age, and fields of research, the topicality of datasets' keywords has a more significant power deciding whether the datasets become top-downloaded datasets. Among traditional factors, metadata completeness has the strongest positive effect. We thus provide theoretical and practical insights about how to increase retrievals, unlocking greater value for users.*

Keywords: Open science knowledge, knowledge transfer, open data accessibility, knowledge findability, user value of data

Open science knowledge has significant value because it can drives innovation (Hecker et al., 2018), enables the development of evidence-based policy (Olesk, Kaal, & Toom, 2019), and helps firms create opportunities (Cohen & Levinthal, 1990). Also, open science knowledge is needed for fostering sustainability (Pauliuk, 2020) and overcoming some biggest challenges that humankind is facing such as global climate change and environmental protection (Overpeck, Meehl, Bony, & Easterling, 2011). (Gans, Murray, & Stern, 2017) acclaim open science knowledge is the prerequisite to improve people's livelihoods, well-being and health because it makes innovation ecosystems more productive.

Access to open science knowledge provides users with evidence-based, rigorously tested, independent information, which also allows peer-reviews and verification, for interested individuals, institutional users and businesses and public organisations (Olesk et al., 2019). Researchers can maximise the overall value of their research for society when openly sharing knowledge and when such knowledge is retrieved and reused (Todd; Sanderson, Reeson, & Box, 2017).

Demand for accessing and retrieving scientific knowledge continues to grow particularly as new tools such as machine learning and artificial intelligence technologies increase its utility (Ylöstalo, 2020). On one hand, the users of open science knowledge require more access to quality scientific data to tackle global problems. On the other hand, the owners of open science knowledge, such as not-for profit public research organisations, need to efficiently prepare and manage their platforms, to increase usability – so that users can find and access their data. Making scientific knowledge easy to access, to read, and to retrieve by both human and machine is the basis of open science, and the underlying goal of open knowledge is to generate "transparency, democratizing access and accelerating global synthesis" of science (Spasojevic et al., 2020). Supporters of open scientific knowledge agree on the

importance of open research data as one of the pillars of open science. The main focus of the open data movement is on how to enhance the public accessibility and findability of research data (Sá & Grieco, 2016).

The development of digital technology allows organisations to build open science portals to transfer and distribute scientific data and knowledge to create more impactful research outputs, but the management of open science data is highly complex. For example, according to Bonn and Pinxten (2020), there are many managerial barriers which prevent knowledge holders from sharing their knowledge and data. Concrete examples of issues that the management literature has identified in open data and knowledge transfer are mostly related to operations in data management such as open portal management problems, problems with knowledge suppliers' lack of time and motivation to curate and update datasets, and problems with absorptive capacity (i.e. an ability to recognize the value of new, external knowledge, find, assimilate, and reuse it in their own settings) of users (Arzberger et al., 2004; Gans et al., 2017; Sá & Grieco, 2016).

This poses the question "How can managers of open science platforms enhance the value of their data and knowledge by making users better find and access them?" The literature suggests that to increase findability and accessibility (i.e., to increase the rate at which people retrieve data), managers of open science portals should follow good data-archiving policies. For instance, from an information technology perspective, common data-archiving approaches include ensuring meta-data richness and completeness (Lee, Strong, Kahn, & Wang, 2002), providing relevant documentation and information to potential retrievers and requiring mandated open access (Curty & Qin, 2014; Niu, 2009). However, as Dunning, Smaele, and Jasmin (2017) argue, the effectiveness of these approaches is often questioned for not being sufficient. Although it is well-documented that detailed metadata are important, the more critical point is what factors are more important and worth of more investments and managerial efforts. In this regard, we argue there is a lack of empirical insights into why certain open science data are generating higher impact than others.

Specifically, with this research we quantitatively examine the findability and accessibility of open science knowledge. We use an open science data portal from CSIRO, Australia's National Science Agency. We analyse how users access and retrieve data collections from the open data portal and examine metadata associated with each collection, over a 26-month period. Based on our results, we posit that, to increase research data collections' visibility and to better unlock research data's value, data sharers and portal administrators should prioritise the importance of keywords' topicality.

LITERATURE REVIEW

Knowledge transfer in open science knowledge

In the management literature, knowledge is the appropriate collection of data and information, and is often conceptualised as a transfer process, where knowledge is shared by a knowledge holder and absorbed by a knowledge recipient (Bellinger, Castro, & Mills, 2004; Davenport & Prusak, 1998; Zander & Kogut, 1995). Faems, Janssens, and Van Looy (2007) explain that in a research and development (R&D) sharing environment, science data, first needs to be disseminated and made available by the 'expert partner'. In a second step, scientific knowledge is then retrieved and assimilated by the receiver. With the growth of the Web, and the push for open access, science knowledge is increasingly disclosed and disseminated openly by knowledge holders via the Web, e.g., via their own websites or public sharing platforms. From an open science knowledge perspective, the receiver can either be another organisation (inter-organisational knowledge transfer) or the broader public (organisation-public knowledge transfer). Open data, as Molloy (2011) states, is a critical element of open science knowledge.

Although open science knowledge has brought numerous advantages, the transfer of knowledge and data is not without problems. Our literature review shows that reported problems of transfer of open science knowledge include issues with absorptive capacity of users (Gans et al., 2017), and operations in data management such as open portal management, meeting user demands or managing continued, dedicated, and budgetary planning and supports (Arzberger et al., 2004; Sá & Grieco, 2016). Bonn and Pinxten (2020) argue that scientists continue to withhold data, even in fields that are upheld as exemplars of openness, and this is because of a trade-off between advancing science and advancing careers: although researchers generally express their willingness to contribute to open science knowledge and data portals, they find hard to dedicate more time to improve the data. Kim (2017) also argues, although enhancing open data quality is important or even essential in advancing science – performance in this area remains rather low; as in practice, researchers often have little time for extra administrative duties. Extra role activities that are not performance related such as depositing, preparing and sharing data perceivably take a lot of effort and are often not performed and form the strongest barrier to share.

Findability and accessibility for open science knowledge

It is well-documented that detailed metadata are important relief for removing barriers for users to access this data. Wolfram (2015) conceptualises the typical knowledge transfer process from a user

perspective, explaining that users first *identify* the data needs and context; second, *find* possible data sources and adopt search strategies *to access* the data. Third, users then evaluate the *retrieved* datasets (Wolfram, 2015). During this process, data providers need to manage both the platform and the proper documentation of data so that users can retrieve the information (Niu, 2009). Given that researchers only have limited time and energy to achieve these goals, the more critical point is understanding what meta-data factors are more important than others and therefore are worth of more investments and managerial efforts. However, according to Gregory, Groth, Cousijn, Scharnhorst, and Wyatt (2019), this remains a nascent field.

Drawing on the information systems literature, a number of meta-data features have been identified which can improve data quality and optimise data platform management. ***Metadata-quality features and data retrieval rates*** are two of the most important predictors, and there is evidence that both highly influence findability and accessibility of open data, in turn affecting data retrieval tendencies and frequencies (Curty, Crowston, Specht, Grant, & Dalton, 2017; Gamble & Goble, 2011; Neumaier, Umbrich, & Polleres, 2016; Tenopir et al., 2011; Wallis, Rolando, & Borgman, 2013). Gregory, Cousijn, Groth, Scharnhorst, and Wyatt (2018)et al. (2019) emphasise the importance of ***meta-data completeness***, as it positively relates with data findability. Especially as users need to first discover and find a data collection before accessing and retrieving it. Simmhan, Plale, and Gannon (2005) stress the importance the ***data-provenance factor***, i.e., data lineage and pedigree. A dataset with good lineage information should have a comprehensive track of its historical information, such as sources, authors, creation, and alterations. In this regard, prior research proposes to include an information quality assessment instrument, to determine the organisation's data-quality management level at a given time: an information quality benchmark gaps analysis, could for example be used to assess the benchmark with another organisation (Lee et al., 2002). As Gregory et al. (2018)'s interview-based research demonstrated, the ***reputation and the network*** of the data providers can also factor into data users' retrieval and reuse decisions, but this factor's effect may not be deterministic. ***Age of data*** is another important predictor that is known to influence download number. Long-standing data collections have usually accumulated higher numbers of downloads than newer collections. To conclude, these components are necessary for effective platform management, essential to ensure data quality measurements and ultimately enablers for user value of open science knowledge transfer.

Further, contextual differences that influence findability and accessibility of information for users of open science knowledge transfer need to be considered, as data, data platforms and accessibility vary

with research groups and academic disciplines (Wallis et al., 2013). One contextual difference is the volume of data in research domains. For example, data sets in 'big-science' areas—i.e., disciplines that tend to have large research teams, long-term projects, and significant instrumentation, such as astronomy and high energy physics—tend to have high retrieval rates (Birney, 2012). In contrast, 'small-science' areas, i.e., the long tail of science, have lower retrieval rates, since individual researchers and small research groups typically generate datasets from data collection for specific projects (Birney, 2012; Heidorn, 2008). Data collections that are highly automatic, well-curated, and standardised tend to be highly visible to scientists worldwide; yet, as most research data collections exist in the long tail, and users rarely reuse them, a huge amount of hidden value from these data remains unshared (Heidorn, 2008).

Gregory et al. (2019) show that ***another contextual difference*** in open science knowledge transfer is related to the dataset-retrieval process and the dataset's field of research. They found that, for astronomy datasets, users tend to rely more on authors' reputation and contextual information. e.g., documentation, data descriptions, and collection methods. For earth and environmental sciences, researchers prefer data collections with richer contextual information about the data provenance and with more comprehensive metadata. For bio-medicine data collections, users tend to place importance on relevancy and, in order to determine it, tend to use textual background information, visual inspection, and mental comparison to imagined ideals. As Markonis et al. (2012) suggest, believable supporting documentation such as attached good-quality exams or biopsies help people trust datasets. For data collections in the social sciences, users, especially novice researchers, value contextual information the most, and they also rank metadata completeness high in terms of importance. In this research area, repository reputation plays a more important role in signalling data trustworthiness than author/journal reputation does (Curty, 2016; Faniel, Kansa, Whitcher Kansa, Barrera-Gomez, & Yakel, 2013).

In summary, our literature review shows that despite the need to better understand how users can better find and access open data, the extant knowledge management literature and literature review offers few insights how organisations can help to add value. Hence, organisations may underinvest in data sharing practices and not provide appropriate incentives for individuals researchers. Although, we acknowledge that it may not be able to entirely resolve restrictions regarding time and assessment systems, yet we may find a cost-efficient way to mitigate the problem. We now proceed with a case study on open science data with the aim to identify metadata features which may increase the retrieval rate of datasets without imposing significant workloads on data uploaders.

THE OPEN SCIENCE KNOWLEDGE TRANSFER PORTAL OF CSIRO

This research presents a case study and evaluates data from Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO) Data Access Portal (DAP). CSIRO's DAP is a major platform that provides open scientific data to researchers from CSIRO and external users, who either collaborate with CSIRO staff or strategically align with CSIRO's mandates. The platform allows users to share their data collections and digital publications (CSIRO, 2019). The purpose for choosing this particular open science data case is motivated by four reasons:

1. High diversity of available data, as CSIRO carries out a wide range of pure and applied scientific research across most science disciplines and domains, which is shared through the DAP.
2. Large data volume; by the end of 2019, the portal had accumulated more than 4,000 data collections from more than 400 individual data contributors and reached 146 terabytes in size.
3. Open access of scientific data, as CSIRO researchers work on a large number of publicly funded projects. CSIRO is focussed on disseminating data publicly in order to achieve impact from its research.
4. High value of data sharing, with a recent study conservatively estimating the benefits of sharing CSIRO's data at around AU$67m per year (Todd; Sanderson et al., 2017). This figure indicates the value that one could generate from increasing the rate at which people reuse data.

CSIRO uses Google Analytics to monitor DAP users' activities, such as viewing and downloading datasets and their geolocation. CSIRO also allows public users to access the data collections via webpage interactions and via an application programming interface (API). For direct webpage interactions, each data collection in DAP has a publicly accessible webpage on which users can find meta-data information such as discipline, publishing year, and data descriptions. Per the API method, the DAP uses a Web Service Interface (WSI) for accessing public data collections, which supports Cross Origin Resource Sharing (CORS). However, CSIRO cannot distinguish these two types of access when monitoring users' activities.

RESEARCH APPROACH

The aim of this research is to examine how users find and access open science knowledge. To achieve this aim, we use the dataset from CSIRO's information management & technology team that recorded DAP dataset's retrieval numbers over a period of 26 months (from 1 January, 2017, to 28 February,

2019). This dataset contains data collections that accumulated at least one retrieval as of the final record-keeping day. Each data collection contained a unique name and the number of times it was retrieved during the period (where collections are split into multiple files, a value of one was recorded for each user whether they downloaded some or all the files). As such, we had an opportunity to test for associations between a dataset's documentation attributes and the rate at which people retrieved it.

After performing a preliminary analysis, we found a highly skewed retrieval rate: a small number of data collections had hundreds of downloads, while most had only one download ----or none at all. Our research design includes two stages. *First,* we test and measure the effectiveness of six metadata quality factors with our DAP dataset. *Second,* we test for the impact of the topicality that a data collection's keywords had in determining whether the data collection would become a top-downloaded data collection. Crawling data through an API is our primary data collecting method, and SPSS 24.0 is our tool for performing statistical analysis.

Study 1: Examine five metadata factors

Initially, we test five metadata factors with our DAP dataset. The narrative table (Table 1) and data flow diagram (DFD) (Figure 1) illustrate the procedures. We summarised our metadata factors in Table 2.

Insert Table1, Figure 1, and Table 2 about here

Note that we retrieved the data collections' research fields that were originally labelled by DAP data uploaders. Because several research fields only had one or two data collections, we aggregated them using two methods. *First,* we aggregated our data collections into top-level disciplinary domains based on their specific research fields that was labelled in each collection. *Second,* we aggregated the disciplines using Gregory et al. (2019)'s classification scheme. Two variables, "ANSRC fields of research" and "Gregory's aggregated field of research", contained the aggregation result--both in the form of two dummy matrices.

We performed a generalised linear model (GLM) in this study. When running the model, we chose to exclude 27 cases with missing leader's reputation values. Since our dependent variable is a count variable, we cannot use the traditional ordinary least square model as the assumptions of homoscedasticity and normal distribution of the errors are violated. A common model to account for the discrete and nonnegative nature of the count data is the Poisson model (Shen, Hu, & Ulmer, 2015). An equidispersed Poisson distribution assumes the variance has the same value as the mean, but we found

that our data have an overdispersion problem, and in this case, we should use a negative binomial distribution model which allows for overdispersion of the count variable (Hausman, 1978). We use log for link function as many other scientometric studies did (Wagner, Prester, & Schryen, 2017). We followed Ford (2016)'s guidance to determine the dispersion parameter for running the negative binomial regressions.

We summarised the results from the stage 1 analysis in Table 3. Initially, we tested the main effects of the traditional meta-data factors (Model A), showing that all traditional factors (except for description richness, $p = 0.262$) identified in our literature review show a statistically significant positive correlation with the data-retrieval rates for the DAP datasets (except for description richness, $p = 0.262$). Particularly, meta-data completeness has the strongest correlation ($\beta = 2.492$, 95% CI, 2.195 to 2.788, $p < 0.001$).

We wonder if this was due to the diverse research represented in our dataset, as certain fields tend to accumulate larger download numbers than other fields (e.g., big science) (Birney, 2012). Therefore, we build the second model (Model B) in which we put the big-science factor into consideration. After we added this dummy variable in our model, we found that big science can bring a significantly positive effect on data collections' download rate. However, this factor also makes four meta-data factors' effect less significant, including lineage richness, description richness, contributors' reputation and network, and lead researchers' reputation. Next, in Model C, we tested the field of research dummies. We found data collections that belong to fields including Maths and Physics, Earth Sciences, Computer Sciences and Engineering are expected to have significantly higher number of downloads. Lastly, in Model D, we tested those interaction effects that Gregory et al. (2019)'s conceptual study suggests (e.g., Earth and Environmental Sciences with lineage richness; Math, Physics, and Chemistry with metadata description richness; and Biomedicine with description richness). The results suggested that the lineage and description richness are significantly positive for datasets that belonged to Biomedicine subjects, but given the small coefficient numbers, the scale of effect is relatively small. One exception is metadata completeness: it is significant for datasets that belonged to Earth and environmental studies, and the scale of effect is reasonably high. However, note that, with this model, goodness of fit factors are not as good as previous models, implying a lower quality of that model, compared to Model A, B, and C.

Insert Table 3 about here

Stage 2: Assessment of the impact of the topicality on downloads

Stage 2 of our research design aims to test the impact of the topicality of keyword selection on frequency of downloads. To investigate other possible factors that might explain the large differences in the download event numbers, we hypothesise the download number might relate to a data collection's topicality. That is, does a data collection attract more downloads if it used a more popular keyword at the time a user retrieved it compared to those that did not? Inspired by the fact that Google refers users to access the DAP more than any other source (Lawrence, 2018), in this study, we assume those data collections with keywords that had higher trending scores on average may receive a higher number of downloads. According to (Vaughan & Romero-Frías, 2014), Google Trends provides a qualified proxy for researchers to estimate a term's topicality. A Google trend score, as Ginsberg et al. (2009) argue, represents a useful way to monitor social phenomena and provide more timely information than traditional data do. It has been used in surveiling disease trends (Carneiro & Mylonakis, 2009), predicting academic fame (Vaughan & Romero-Frías, 2014), and correlating to stock market falls in financial markets (Preis, Moat, & Stanley, 2013). We have not found any studies that have investigated the possible relationship between keywords' trending scores and data-retrieval rates. Table 4 summarises our activities, the data flow diagram (Figure 2) explains the procedures used to collect the data for Study 2.

Insert Table 4 and Figure 2 about here

To avoid topicality changes reducing the robustness of our result, we calculated the fitted slope of the trend scores and dispersion (measured by standard error) for each keyword's topicality. We added these two variables to our analysis model to make sure that the fluctuation of the keywords' topicality (either upward or downward changes) would have no significant effect on our result. Before our ANCOVA test, we tested whether the data violated any assumptions. Figure 3 shows that the frequency distributions of the trending scores were normal. We also tested homogeneity of variance based on Levene's test ($p > 0.01$); after doing a log transformation, we found no major concerns. We describe the key variables that we used and summarise the descriptive data in and Table 6 and Table 7, respectively. We performed a two-way ANCOVA to test if the keywords' trending scores significantly differed among data collections that had different download numbers. At the same time, we wanted to control for the trend slope and the trend dispersion. Therefore, in this case, we used keywords' trending scores as the dependent variable. We used group as the independent variable, and we controlled for trend slope

and dispersion.

Insert Table 5, 6 and 7 and Figure 2 about here

Results (see Table 7 and Table 8) showed that the Top-60 group's topicality scores were significantly higher (18.4%) than the Bottom-60 group's scores, and this effect was robust as our results showed the potential moderating factor (e.g., trend slope) or the confounding factor (e.g., trend dispersion) did not influence this effect.

Insert Table 7 and 8 about here

Subsequently, we decided to add the new factor, the trend score, into the original models that proposed previously. We expected the trend score factor not only has a significantly positive effect on retrieval rate, but also causes an improvement on the models' effectiveness in explaining the variance in retrieval rates. As expected, the result shows that trend score factor positively predicted retrieval rate, and adding this factor also resulted in a statistically significant improvement in all model measurements (including Akaike Information Criterion (AIC), Bayesian's Information Criterion (BIC) Log-Likelihood, and R^2). for all the four models that we introduced previously. We summarised the result in Table 9.

Insert Table 9 about here

CONCLUSIONS AND LIMITATIONS

The aim of this research was to examine findability and accessibility of open science data. Large public research organisations play a critical role in transferring open data, and they should reduce the transaction costs of knowledge and data transfer (Gans et al., 2017). In terms of this, data documentation and meta-data maintenance are important in establishing and enabling the knowledge transfer process between data producers and their secondary users and in ensuring the findability and availability of open science data (Niu, 2009). Thus, we focussed on finding answers to the question on how administrators of open science knowledge can enhance the value of their data platforms, so that users can better find and access data.

We reviewed prior research that used several traditional meta-data quality indicators, including metadata richness and completeness, contributor network and reputation, age, and fields of research, and set up generalised linear models to find a relationship between the indicators and the download numbers. Then, inspired by (Lawrence, 2018)'s report which states that most of the data collections

have a landing page from Google search, we hypothesised and tested those data collections with keywords that had higher topicality scores on average may receive a higher number of downloads. To the best of our knowledge, we have not found any studies that have investigated the possible relationship between keywords' topicality scores and data-retrieval rates.

In summary, we show that, positive correlations can be found between most of the identified metadata indicators and download numbers, and metadata completeness shows the strongest impact. Interestingly, we found that metadata completeness outweighs metadata richness. It appears that populating more fields is more important than giving one or two fields too many details. Further, we find that the topicality of a data collection's keywords can play a significant role to determine whether a dataset becomes a top-downloaded dataset or not. Importantly our results indicate that top-downloaded data collections include keywords that have higher search volumes on Google than the ones that have only one or even zero downloads after the portal publishes them. This difference remains robust when we take the slope of and the dispersion of the data topicality into consideration. Henceforth, we added the trend score factor into our original model and verified that trending keywords can significantly increase data collections' retrieval rates. Also, after adding the trend score factor, the overall fitness and validity of the models can be improved significantly. With these results our study makes important contributions to the knowledge management literature; we offer ways to enhance data retrieval rate, and to optimise data platform management for better accessibility and findability and higher user value. Especially as the demand for scientific knowledge grows, and users demand increases to retrieve quality data to tackle the enormous global problems (e.g., Ylöstalo, 2020) these findings have high significance to foster the transfer of open science knowledge.

We expect that this empirical study provides useful and timely insights to researchers and practitioners in data publishing communities of open science data. First, this study illustrates ways for practitioners (e.g., research data sharers and research data portal managers) to better publicise their data and, thus, to help them unlock its value. With this study, we propose a new robust factor (i.e., keyword topicality) that our results show to be highly useful in explaining why datasets have skewed retrieval distributions. We then tested and confirmed the factor's effectiveness by adding it into the original models. Based on our results, we suggest data sharers and data portal administrators should use and update topical, relevant keywords and terms if they want other users to find their datasets.

Furthermore, our results also show that, for an established research institution, traditional factors that were proposed in previous interview- and survey-based conceptual studies, such as metadata richness,

contributors' reputation, and fields of study, can bring significant positive effect on data collections' retrieval rates, but those factors may not sufficiently explain why different data collections have hugely uneven downloads and why some data collections attract significantly more downloads than others. Metadata completeness, however, is an outstandingly important factor.

According to Todd Sanderson, Reeson, and Box (2019), to increase visibility and facilitate retrieval data sharers and portal administrators need to help users draw insights from data when users making decisions, such as by giving more detailed and comprehensive metadata, highlighting the most salient information, and identifying patterns or trends. However, providing additional information would also incur additional costs (e.g., codification costs, which occurs when data sharers need to convert the required information into a store-able and decode-able format (Cowan, David, & Foray, 2000)). Given limited resources, one should prioritise those factors. Our study suggests the following policy recommendations. First, we recommend data contributors and administrators in the DAP, as well as people in other similar data portals, to recognise the importance of metadata completeness and keyword topicality. Particularly, we recommend using more accessible keywords, given the number of interdisciplinary scientists and researchers is increasing and they must be able to find data in the disciplines that they are less familiar with. *Second,* data administrators shall do regular reviews on keywords' topicality and update them, if necessary. A data collection's keywords that were trending when the collection got published might subsequently become obsolete (e.g., 'Grid computing' should have been replaced by 'Cloud Computing'). Therefore, knowing what are trending and obsolete keywords and reacting accordingly is an important task for data portal administrators. *Third,* search engine optimisation is important for DAP and similar institutional repositories that support scientific data sharing and publishing, given that there is an increasing number of people landing on these online repositories from Google. In this regard, as Brickley, Burgess, and Noy (2019) also suggest, data managers and uploaders should recognise the importance of using and updating keywords that are agreed upon vocabularies in semantics and knowledge graph (e.g. Schema.org standard).

As with any study, ours has several limitations. For instance, we included eight state-of-the-art independent variables for predicting data-retrieval rates and tested how usefully they explained highly skewed retrieval rates in datasets. However, given the sheer number of established measurements for estimating meta-data quality that we found in our literature review, eight variables represented a small selection of the potential independent variables. It is of course possible that other variables which we were not able to measure in this study could have a significant effect on downloads.

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Table 1: Narrative table for procedures of study 1

#	Activity
1	We extract details from a dataset that was provided by the CSIRO DAP admin team
2	We use the data-titles as search terms to retrieve the metadata details (i.e. identifiers, published dates, lineages, descriptions, contributors' details, lead researchers' names, and fields of research) through the DAP API.
3	We use the names of the lead researchers and the contributors to retrieve their h-indexes which were used to estimate researchers' reputation. We use Scopus as the source of the h-indexes, and the process was automatically accomplished through the Scopus Interactive API.
4	For cases where multiple people share the same name, we select the one labelled with a CSIRO affiliation. Since some of the researchers changed their names or used a different name internally from the ones they use in Scopus, we cooperate with an internal CSIRO staff member to determine the identity of the person manually.
5	If we still cannot find a person through the above-mentioned approach, we search people in Scopus labelled with an Australia location. This is due to the fact that CSIRO primarily collaborates with Australian partners, so if there is an external data contributor, then the possibility of the contributor being affiliated with an Australian organisation at the time of creating the dataset is high.
6	We then retrieve the research field classification details from the Australian and New Zealand Standard Research Classification Scheme (FoR) and categorise the DAP data collections based on that scheme.
7	We create a dummy variable matrix based on the retrieved FoR information.
8	We aggregate the fields of study to their top-level-domains. This step increases the group size of each disciplinary group. For example, for data collections who had integrable systems (Classical and Quantum) as their research field, a very specific discipline, we aggregated it to mathematical sciences, its top-level domain according to the FoR scheme.
9	We merge all the data we collected (i.e. reputation and field of research information) together using “dataset title” as the key.
10	We clean and analyse the data using SPSS 24.0. Detailed cleaning procedures are introduced in the next section.

Figure 1: Research dataflow diagram of study 1

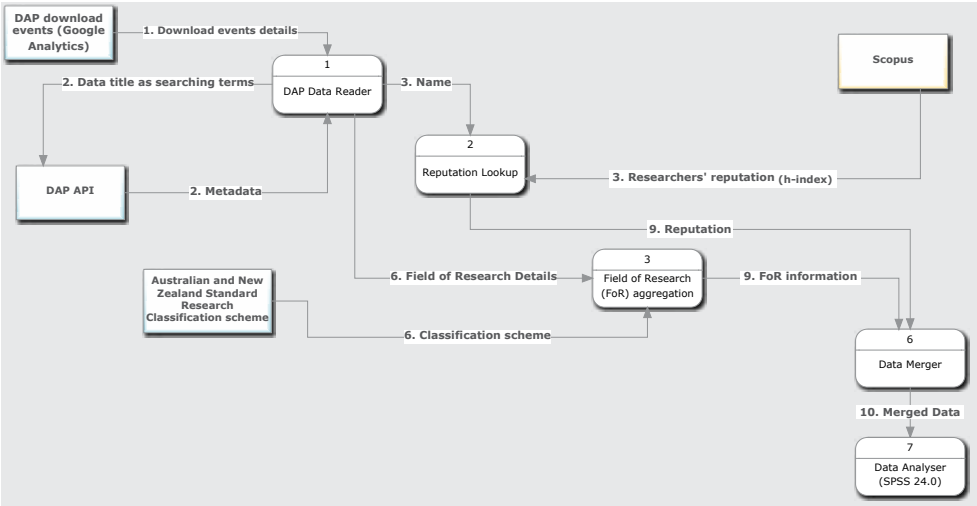

Table 2: Variable definitions and descriptions

Factor	Variable	Definition	Description	Measure	Mean	SD	Range
Metadata richness	Lineage richness	The length of the lineage field (an optional field). Long lineage usually means informative provenance details, rich versions information, clear history, etc.	We use the length (in characters) as a proxy to measure a data collection's contextual quality (i.e., the richness of the lineage data and the description data). Granted, one may argue using the length of the fields to measure richness can be misleading. However, we found length has been used in many previous researches as an objective proxy variable to measure richness and quality of data and information. For example, as Adamic, Zhang, Bakshy, and Ackerman (2008) report, if they used content length to determine an information's quality, they could achieve a 62% determination accuracy. A previous empirical research also indicates that, in a certain range, an information piece's length positively correlates with its quality Jeon and Rieh (2013). Also, by browsing the metadata we collected, we did not find any verbose descriptions, though that may be due to the fact that we lack expertise in information from academic disciplines other than Information Systems and Computer Sciences. Also, due to resource limitations, we could not find and hire enough experts from the various academic fields to judge the quality of each individual metadata description.	The number of characters in the lineage field, if exists.	776.49	1055.0	4007
	Description richness	The length of the description field (a required field). Long description field often means richer contextual information, such as research backgrounds, coverages, potential relevance, etc.		The number of characters in the data description field, if exists.	865.23	744.1	3895
Reputation and network	Lead researcher's reputation	The reputation of the lead researcher (typically the supervisor or the leader of a research group who published the data collection)	We assume a higher overall contributor reputation would imply more researchers with high prestige or a bigger network, or both, which could positively correlate with the unique download value. H-index scores were used to estimate the lead researchers', as well as the contributors', reputation. We assigned a "none" value to denote people who did not have a findable h-index. Our list contains 1,207 individual contributors, and 1,099 (91%) have a non-zero h-index. We acknowledge that measuring scholarly structural impact and reputation is a complex task, but, as Wagner et al. (2017) stated, h-index is the most prominent measurement for author reputation and impact, so in this research we use it as a proxy.	H-index	21.02	14.0	59
	Contributors' reputation	The total reputation scores of the contributors of a research data collection		H-index	66.83	80.4	611
Metadata completeness	Optional fields completeness	The proportion of optional fields that is not null against the total number (14) of optional fields	We calculated an optional-field-completeness by dividing the number of the optional fields filled by the total number of optional fields, and we estimated that data collections with high optional-field-completeness would have higher download values.	Ratio of the optional fields filled in divided by the total number of optional fields	0.84	0.1	1.00
Age	Years	Number of years since the data collection gets published	We calculated the age (measured by years) of a data collection since its publishing date. We assume the age of a data collection plays an important role in accumulating downloads over time. A data collection's accessibility is higher when the collection exists longer. Therefore, we keep this factor in our research model as a control.	The year number	3.46	3.3	7.52
Field of rese	Big science	The disciplines that tend to have large research	Prior research shows that certain fields tend to accumulate larger download numbers than other fields (e.g., big	1 = is a big	N/A	N/A	N/A

arch (Fo R)		teams, long-term projects, and significant instrumentation, including Astronomy and Physics, Chemistry, Earth Sciences, Computer and Engineering, and Biomedicines.	science) (Birney, 2012). Field of research are categorized by three standards: a. big science, ANSRC field of research, and Gregory's aggregated field of research	science discipline 0 = is not a big science discipline			
	ANSRC field of research	The discipline(s) of the dataset, classified according to the Australian and New Zealand Standard Research Classification (Statistics, 2008)		1 = in the discipline 0 = not in the discipline	N/A	N/A	N/A
	Gregory's aggregate d field of research	Disciplinary domains that were aggregated using Gregory et al. (2019)'s classification scheme. We combined math and physics, computer and engineering, medical and biology, economics commerce and social sciences because of low case number.		1 = in the domain 0 = not in the domain	N/A	N/A	N/A
Retr ieval rate	Unique download event value	Data retrieval is operationalised by data download number (i.e., the unique event value).	We calculated the retrieval by the number of times a data collection is downloaded. Similar to previous research, we also find that the retrieval rate of data collections to be highly skewed (skewness = 11.75).	Number of events that a user retrieves a data collection	15.5	43.0	805.00

Table 3: Estimations of parameters in Model A (pure meta-data factors), B (metadata factors plus academic field of research dummies), and C (metadata factors plus Gregory-inspired dummies). *p < 0.05. ** p < 0.01.

Variable	**Model**			
	A (N=574)	**B (N=574)**	**C (N=574)**	**D (N=574)**
	Beta (std. e.) Sig.	**Beta (std. e.) Sig.**	**Beta (std. e.) Sig.**	**Beta (std. e.) Sig.**
Lineage richness	<0.001**(<0.0001) <0.001	<0.001 (<0.0001) 0.186	<0.001 (<0.0001) 0.190	0.001** (0.0004) 0.004
Description richness	<0.001 (<0.0001) 0.262	<0.001 (<0.0001) 0.862	<0.001 (<0.0001) 0.496	<0.001 (0.0004) 0.947
Contributors reputation & network	0.001 (<0.0001) 0.083	0.001 (0.0005) 0.265	0.002** (0.0006) 0.005	0.001 (0.0012) 0.556
Lead researcher's reputation	0.007* (0.0031) 0.027	0.003 (0.0031) 0.381	0.009** (0.0031) 0.007	-0.007 (0.0135) 0.581
Metadata completeness	2.492** (0.1515) <0.001	0.747** (0.2729) 0.006	0.809** (0.2980) 0.007	1.730** (0.1714) <0.001
Age	0.127** (0.0256)	0.094** (0.0264)	0.105** (0.0264)	0.089** (0.0262)

	<0.001	<0.001	<0.001	0.001
Big science		1.727** (0.2250) <0.001		
Maths and Physics			8.172** (1.7353) <0.001	
Chemistry			0.120 (0.3454) 0.727	
Earth sciences			0.765* (0.3011) 0.011	
Environmental studies			0.578 (0.3003) 0.054	
Agriculture			0.123 (0.3190) 0.669	
Computer science and engineering			1.647** (0.3121) <0.001	
Biomedicine			0.023 (0.3797) 0.951	
Humantarian studies			0.584 (0.4428) 0.187	
Aggr. Math, physics and chemistry (including astronomy) * contributors' reputation				-0.001 (0.0014) 0.406
Aggr. Math, physics, and chemistry (including astronomy) * lead researcher's reputation				-0.019 (0.0134) 0.167
Aggr. Math, physics, and chemistry (including astronomy) * description richness				0.0004 (0.0004) 0.229
Aggr. Biomedicine * description richness				0.0003** (0.0001) 0.001
Aggr. Earth and environmental studies * lineage richness				0.001** (<0.0001) <0.001
Aggr. Earth and environmental studies * Metadata completeness				1.280** (0.1485) <0.001
Aggr. Social science and economics * lineage richness				0.001** (0.0004) 0.003
Aggr. Social science and economics * description richness				-0.0002 (0.0002) 0.226
Pearson Chi-Square	4044.61	3410.85	2947.06	3138.74
Omnibus test (Sig level)	<0.001	<0.001	<0.001	<0.001

Table 4: Narrative table for study 2

#	Activity
1	We retrieved all "keywords" and "published date" metadata via the DAP API (each data collection in the DAP had a set of keywords that its contributors defined and a published date that the system automatically created when contributors uploaded it).
2	We stored the keywords in a temporary data store.

3	We used Pytrends[1] to lookup the keywords' trend scores over a certain period (i.e., from the day that the data collection got published till the day we finalised our research; that is, 29 July, 2019).
4	If a data collection had multiple keywords, we calculated the average score of all keywords and used that score to represent the data collection's topicality. For keywords that we could not search on Google Trends, we assigned the score 0.
5	We randomly choose 100 keywords from the temporary keywords data store and used them as the search terms to retrieve some random data collections
6	We deleted keywords that our original dataset already included. In doing so, we obtained a dataset that comprised data collections that had not yet accumulated downloads (recall that our original dataset comprised collections that had accumulated at least one download). In the unique download event value column (i.e. the column we selected as the retrieval rate), we labelled these data collections as "0", which means that these data collections did not accumulate any downloads during our download-monitoring period. Step 5 and 6 are used to eliminate the pre-selection effect. That is, we wanted not only to include the data that had accumulated some downloads but also to contain the collections that had accrued no downloads.
7	We then merged all the data that we had collected into one file. We selected the top 60 data collections (in terms of the download numbers) with their keywords' trending scores (time range = from the data publish date to the date we started our research). Then, we randomly chose 60 data collections from the datasets with no or one download and extracted their keywords. Then we analysed the data using SPSS 24.0 for an ANCOVA test.

[1] For detailed information about Pytrends API, see: www.github.com/GeneralMills/pytrends

Figure 2: Research procedures of study 2, a dataflow diagram

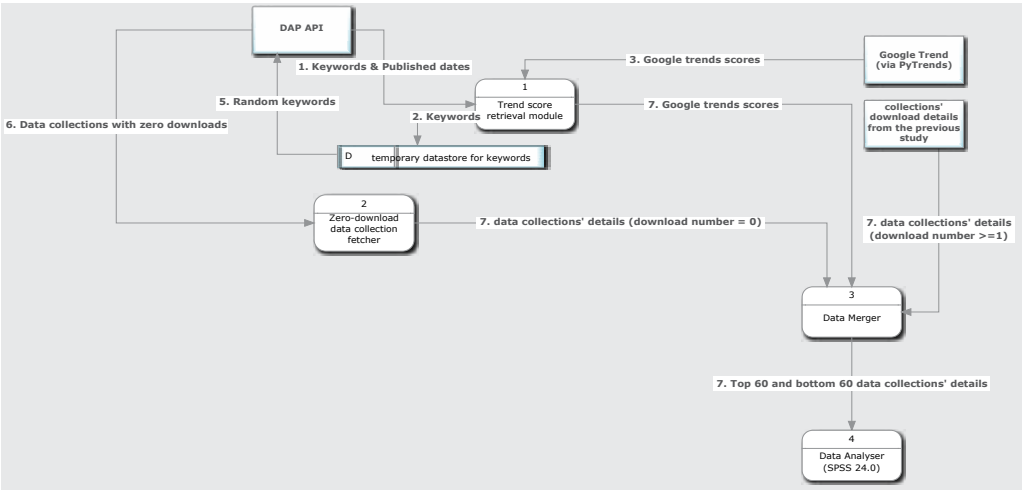

Table 5: Trend variables definition

Variable name	Definition	Range
Keywords' trending scores (topicality)	Google trend scores (a particular term relative to the total number of searches done over time)	[3.347, 47.306]
Group	Whether a dataset belongs to the Top 60 group (= 1) or the Bottom 60 group (= 0)	[0,1]
Trend slope	Positive slope = 1, Negative slope = 0	[0,1]
Trend dispersion	The standard error of the daily trend scores since the dataset got published	[0.6216, 7.2489]

Table 6: Descriptive Statistics for keyword trend score slope, mean, standard deviation, and number of cases

Group	Trend Slope	Keyword topicality Mean	Keyword topicality Std. Deviation	Cases
Bottom 60	Negative	16.510	5.773	19
	Positive	15.729	3.913	41
Top 60	Negative	20.959	7.097	27
	Positive	20.485	10.367	30
Total	Negative	19.121	6.880	46

	Positive	17.738	7.673	71

Table 7: Two-way ANCOVA test result for log(trend), group (top v. bottom 60), and trend slope, log(trend dispersion), DV= log(keywords' trending score). *p < 0.05. ** p < 0.01.

Variables	Type III SS	df	F	Sig.
Model	39795.88	5	158.71**	0.00
Group (Reference = Bottom 60)	526.142	1	10.416**	0.00
Trend slope (Reference = negative sloping)	9.205	1	0.184	0.66
Log(trend dispersion)	22.67	1	0.452	0.50
Group * Trend slope	0.78	1	0.016	0.90
Error	5616.43	112	50.14	
Total	45412.31	117		

Table 8: Parameter estimation for group, trend slope, log(trend dispersion), and interaction between group and slope, DV = log(keywords' trending score) *p < 0.05. ** p < 0.01.

Dependent Variable	Beta	std. e.	t	Sig.
Group (Bottom 60)	2.724**	0.079	34.641	0.000
Group (Top 60)	2.908**	0.090	32.278	0.000
Trend slope (Reference = negative sloping)	0.064	0.107	0.596	0.553
log(Trend dispersion)	-0.003	0.174	-0.017	0.986
Group * Trend slope	-0.059	0.155	-0.381	0.704

Table 9: A comparison between the old model (introduced in Study 1) and the new model (with the trend score factor)

	Model A		Model B		Model C		Model D	
	Old	New	Old	New	Old	New	Old	New
Independent variables	See Table 3	Model A factors + Trend score	See Table 3	Model B factors + Trend score	See Table 3	Model C factors + Trend score	See Table 3	Model D factors + Trend score
Trend Score	N/A	β = 0.025 t =11.015 p < 0.001	N/A	β = 0.020 t = 8.683 p < 0.001	N/A	β = 0.024 t =10.574 p < 0.001	N/A	β = 0.026 t =11.334 p < 0.001
| Log-Likelihood |	3134.7	2489.6	3089.5	3048.9	2974.2	2919.1	3051.3	2169.9
AIC	6281.41	6159.89	6193.01	6113.81	5974.47	5866.24	6130.60	6009.67
BIC	6308.12	6191.04	6224.15	6149.41	6032.33	5928.54	6192.91	6076.43

Omnibus test (Sig level)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Pseudo R-squ. (CS)	0.0301	0.1525	0.0980	0.2068	0.3796	0.4788	0.2086	0.3482

Note: the models did not include intercepts; N/A = Not Applicable

APPENDIX

Figure 3: Google Trends Scores Frequency Distributions: Top 60 vs. Bottom 60

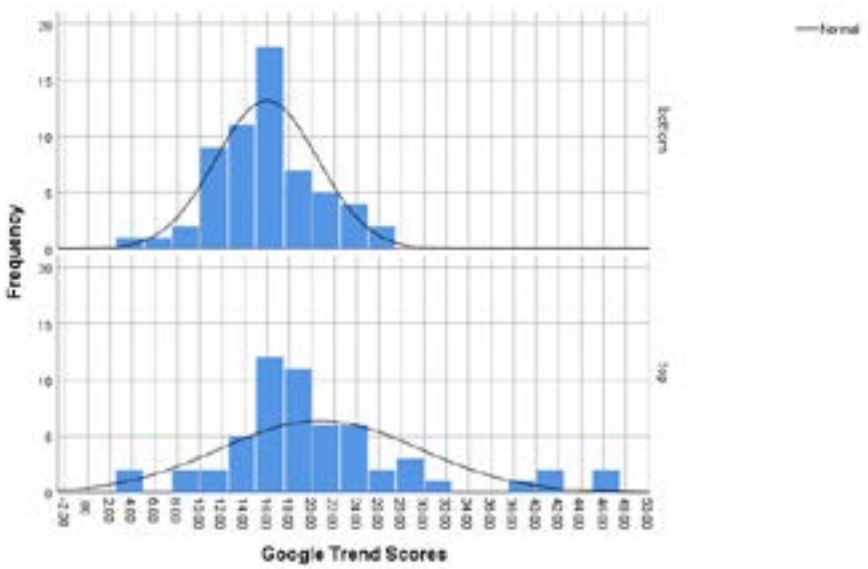

Table 10: A summary of the disciplinary dummies

Variables	Cases
Big science	560
Maths and Physics	32
Chemistry	15
Earth science	134
Environmental science	168
Biomedicine	75
Agriculture	97
Computer science and engineering	60
Humanities	20
Aggr. Math, physics and chemistry (including astronomy) * contributors' average reputation	47

Aggr. Math, physics, and chemistry (including astronomy) * lead researcher's reputation	47
Aggr. Math, physics, and chemistry (including astronomy) * description richness	47
Aggr. Biomedicine * description richness	75
Aggr. Earth and environmental studies * lineage richness	302
Aggr. Earth and environmental studies * Optional fields completeness	302
Aggr. Social science and economics * lineage richness	20
Aggr. Social science and economics * description richness	20

Stream 6 - Leadership, Governance and Strategy

The Focus Advantage: Evaluating the Impact of Focus versus Diversification

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Stream 6 - Leadership, Governance and Strategy

The Focus Advantage: Evaluating the Performance Impact of Focus versus Diversification

ABSTRACT: Understanding the key drivers of firm performance is a central task for strategy scholars. For decades, the relative merits of focused versus diversified entities have been debated and tested, with little agreement on the likely effects. Using unique Australian and New Zealand data, and applying a series of bespoke algorithms, we find compelling evidence for the positive impact of firms remaining focused within a narrow market space. We also engage with an unresolved issue regarding the relative performance of focused firms versus segments of conglomerates in the same industry and find contradictory outcomes.

Keywords: firm performance; diversification; focus

A key strategic decision facing any firm is the extent of its market reach – namely, how focused or diversified its mix of markets should be. The relationship between diversification and firm performance is one of the most heavily researched areas in the strategy literature. Unrelated diversification – becoming a *conglomerate* – is consistently dismissed as a poor strategic choice. But, at the other end of the spectrum, the benefits of focus have not been repeatedly established. Partially this reflects the complexity of empirically distinguishing the extent of a firm's focus. We take advantage of the unusually detailed data available for Australian and New Zealand firms. We utilise this provision of four-digit ANZSIC industry codes (i.e., industry class codes) to apply a series of bespoke algorithms to categorise firms more accurately than previous studies. We can also distinguish differing types of relatedness reflective of very different strategic decisions. For example, we are able to account for vertical integration decisions as distinguished from horizontal diversification. In more accurately delineating *pure* focus firms, and differing levels of relatedness, we can offer more definitive findings on the performance relationship. Focused firms are found to outperform their more diversified counterparts. We test this finding further by scrutinising the performance of a subsample of matched instances comparing focused firms with rival divisions housed within conglomerate firms. Surprisingly, we find that the focus advantage does not hold with this subsample.

THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

Industrial or horizontal diversification is characterised by 'a change in the characteristics of the company's product line and/or market' (Ansoff, 1957, p. 113). An addition of a product line to a

company's business portfolio – through organic growth or mergers and acquisitions – is thus considered as *diversifying* when the new product line is different in its characteristics from the company's existing product lines. Diversification is categorised as either *related* or *unrelated*. A firm that choses to remain within a single industry class is thus *focused*.

This propensity of firms to explore opportunities beyond their initial domain of activity has been observed and theorised by strategy scholars since the field's emergence early in the twentieth century (Penrose, 1959), and by economists in the preceding centuries. Indeed, the tensions in this space can be portrayed by reference to two fundamental economic concepts. On one hand, Smith (1776) argued for the benefits of *specialisation* in terms of learning and efficiency gains. In turn, Peters and Waterman (1982) exhorted firms (and managers) to *stick to the knitting* – to stay with the business they know, to focus. On the other hand, diversification is argued to tap into *economies of scope* – spreading costs over highly related tasks that utilise similar core skills, share facilities, or exploit common factors of production (Rumelt, 1982). Companies with *related* business units may exploit the interrelationships among these units and achieve competitive advantages over focused firms (Rumelt, 1982).

In light of these contrasting claims, much of the literature has searched for a focus-to-performance relationship. The least controversial claim and finding in this extensive literature is that unrelated diversification is hardest to justify as a strategic choice. Related diversification may help create unique strategic assets, and thus competitive advantage, which cannot be imitated or quickly accessed by focused companies (Markides & Williamson, 1994). But unrelated diversification tends to involve much less justifiable expansion efforts and often leads to administrative bloat and rising coordination costs (Chen, Kaul, & Wu, 2019; Hashai, 2015; Hoskisson, & Turk, 1990; Rawley, 2010).

More than four decades of empirical studies of these relationships, has, not surprisingly, seen ever more complex findings. A consistent early finding in this research stream was that firms diversifying into related industries or areas that draw on some common core skill/resource have higher growth in assets and profitability when compared to unrelated diversification efforts (Christensen & Montgomery, 1981; Jacquemin & Berry, 1979; Palepu, 1985; Rumelt, 1974, 1982). The tentative evidence pointed to an inverted U-relationship (see Figure 1), where there are some possible performance gains from related diversification but a clear drop-off from unrelated diversification. More recent research has challenged

this view. For example, Hashai (2015) provides evidence that although a moderate level of related diversification lifts firm performance, coordination costs at high levels of related diversification may outweigh the benefits from synergies, leading to a decline in performance. Using meta-analysis on 267 studies, Schommer, Richter, and Karna (2019) find that the relationship between unrelated diversification and performance has also improved over time. This is likely the result of investor pressure on managers to more carefully consider their diversification strategies following the wave of value-destroying conglomerations from the 1960s to early 1980s. Specifically, as managers were more heavily penalised for their value-destroying unrelated diversification efforts, firms that tended to conglomerate in later periods were generally more capable of managing diversification than an average diversifying firm in the 1970s and early 1980s.

Insert Figure 1 about here

What is less clear is whether there are strong gains to remaining focused. There was some early work on this using Australian data, which found that industrial diversification had a negative impact on Australian firms' performance (measured by the ratio of profits to sales), and that specialisation (defined as the percentage of revenue from core activity) was positively related to average profit margin (Bosworth, Dawkins, Harris & Kells, 1999; Feeny & Rogers, 2000). We seek to build upon this finding and the logic of specialisation gains. Hence, our first hypothesis is:

Hypothesis 1. Focused firms will outperform diversified firms.

Consistent with the prior literature we also expect more related diversified firms to outperform their unrelated counterparts:

Hypothesis 2. Related diversified firms will outperform unrelated diversified firms.

Due to the impracticality of subjectively assessing the commonalities between an organisation's product lines for a large number of firms, most prior studies using large samples have used industry codes to classify firms as focused or diversified. These studies typically define focus as operating in a single four-digit industry, related diversification as operating in multiple four-digit industries within a single two-digit industry, and unrelated diversification as operating in multiple two-digit industries. A concern we have with the typical firm classification process is that there is often a conflation of a

different strategic decision with the diversification decision, namely vertical integration (Davis & Duhaime, 1992). The latter often reflects transaction cost and risk mitigation considerations rather than an attempt to expand market reach and the size of the business (Ketokivi & Mahoney, 2020; Whinston, 2003). As such, we contend that a portion of the firms typically identified as diversified are focused once vertical integration is accounted for. Furthermore, this alters the performance findings:

Hypothesis 3. Once vertical integration is accounted for, the performance difference between focused and diversified firms will become larger.

Finally, we see an unresolved question in this space, namely, to what extent diversified firms, with their multidivisional structures, are potentially *hiding* high performing business units and divisions, which are being missed by the aggregated firm-level data. Our data allows us to identify some instances where division-level performance data can be compared to focused firm equivalents. We have no a priori assumption as to the likely relationships here. On the one hand, a slow growing, mature diversified firm may acquire a well-performing focused firm to boost its growth and explore attractive new opportunities (Gomes & Livdan, 2004). If the acquired company is well-supported and allowed to continue its operations as before, its profitability may remain comparable to its independent peers. Similarly, the average performance of an organically growing company can benefit from focused business units if they are allowed to operate as separate businesses. On the other hand, various inefficiencies often attributed to conglomerates may negatively affect the performance of even the focused businesses and undo any potential benefits that a conglomerate could reap from having them. Thus, we express H4 in null form:

Hypothesis 4. There is no performance difference between the divisions within diversified firms and comparable focused firms.

DATA AND METHODS

Data and Sample

All of our data is provided by IBISWorld (IW) and the Ruthven Institute (RI). The strength of the IW data is that, in addition to reporting the segment data disclosed by companies, IW assigns one or multiple industries – the vast majority of which at the four-digit level - to each business segment based on the products offered by the segment. This allows us to partition firms into various groups

based on the level of diversification of their operations by applying the conventional definitions of focus, related diversification, and unrelated diversification. The richness of the IW data comes at the cost of some inconsistencies, such as over- or under-assignment of industries to some firms, incorrect industry class codes, and occasionally incorrect main industry codes. The steps we took to resolve these issues are explained in the next subsection.

We applied several filters to obtain our final sample. From all Australian and New Zealand firms for which there was data available at the IW database, we first dropped financial services and real-estate firms (industry divisions K and L) given their different nature. From this sample, we retained only the publicly listed firms, partnerships, and proprietary firms that were not labelled as government entities. We also manually checked the accuracy of the company type data and eliminated the remaining financial services/insurance companies whose main industries were not recorded as such, state-owned entities, not-for-profit organisations, and ports and airports. We also collected information on whether a company was a subsidiary of another entity. We dropped all subsidiaries as such firms are unlikely to have control over their diversification strategy.

Our sample period extends from 2015 through to 2019. We exclude 2020 and 2021 due to the differential impact of COVID-19 pandemic on industries, which might confound results. Although IW data extends as far back as the late 1990s for some firms, we use 2015 as the first sample year because we lack historical main industry data. Although we believe this does not significantly bias our results (main industries are used only as control variables in our main tests), we nevertheless use, as a precautionary step, only the data from 2015 onward since firms rarely change their main industry of operations over relatively short time horizons.

Data Transformation and The Diversification Measure

As in most other industrial diversification studies, in this study the degree of diversification is determined based on a firm's activity across product markets as defined by SIC classes, groups, and subdivisions. A firm is assumed to operate in a specific industry class, group, or subdivision if the *cleaned* and *transformed* operating segments data includes that industry entry. Our focus and diversification measures are similar to the conventional measures used in prior research in that focus is

defined as operating in a single four-digit industry; related diversification is defined as operating in multiple three- or four-digit industries within a single two-digit industry; and unrelated diversification is defined as operating in multiple two-digit industries.[1] However, unlike the commonly used entropy measures, our diversification measure is not continuous since we do not have data on the percentage contribution of a given industry/product to a firm's overall revenue.

Data Cleaning

Our data processing consisted of two stages. In both stages, our guiding principle was to minimise the number of firms being misclassified as conglomerates (as the over-assignment of industries leads to misclassification of focused firms). In the data cleaning stage, we eliminated industry entries that we thought introduced noise into the data and reduced its consistency. To identify ways through which we could achieve these tasks in a systematic manner, we searched about each firm to identify its major operations and whether IW industry entries correctly represented those operations. We spent more time on firms to which unusual industry codes had been assigned.

Our investigation of such entries revealed several patterns that could be applied to data to (at least partially) automate the data cleaning process. For example, for a significant number of firms/segments whose main industry is not retail or wholesale (divisions G and F, respectively), IW lists the firm's distribution channel as an industry in which its business segments operate. Similarly, likely as an indicator of a firm's offering of financing options for its products, for many firms IW lists industry division K as one of the firm's industry of operations. For some firms that are not in the logistics and transportation business, IW also includes division I as one of the entries, but the reason for these entries is not entirely clear. We removed such entries to prevent them from leading to misclassification. This was done for all segments that had at least two industry entries, at least one of which did not match the said patterns so that we did not unintentionally delete a whole segment. As part

[1] In some prior studies a firm is still considered focused if 10%-15% of its revenue comes from other industries. Our measures, however, apply a smaller threshold because a segment with 10%-15% of total revenue could still take a considerable effort and time to manage, thus leading to lower performance. We let our data guide us in our choice of this threshold. We ended up with 3% as our threshold of choice as it appears to be the lowest threshold that minimises the percentage of focused firms (as per our subjective judgement upon the close investigation of sample firms) being misclassified as diversified and vice-versa.

of this process, we also removed retail entries for wholesale firms and wholesale entries for retail firms unless it failed the above condition. For a little over than 5% of the sample firms, we had to manually remove data errors and industry entries that did not match a firm's portfolio based on our search. As part of the data cleaning process, we also took steps to correct the incorrect industry codes for main industries as well as industry classes assigned to segments. The bulk of this process was automated.

Further Reducing Misclassification Through Industry Linkages

Many firms in the IW database have additional entries for industries that are closely associated with the firms' core industries and which represent a legitimate activity the firm is involved in. In most cases, these additional industries belong to different industry groups, subdivisions, or divisions. Therefore, they have to be taken into account when creating the focus/diversification measures to avoid misclassification. To give some examples of common patterns in data, many construction companies whose core activities belong to industry subdivision 30 or 31 also have entries for industry subdivision 32 (various construction services), and many professional services companies have also been assigned entries for management and related consulting services. Such pairings are very common in the real world as certain auxiliary services are naturally a part or an extension of many firms' main businesses. It can be argued that in some instances they are more representative of related diversification than of focus, but certainly not of unrelated diversification. In the remainder of this article, we refer to industries whose services are also commonly offered by other (and often bigger) industries as auxiliary service industries.

A related issue is the case of vertically integrated firms. For many firms in our sample, the products of one industry assigned to a firm are often used as an input for the products of another industry assigned to the same firm. For the sake of brevity, we refer to the former type of industries as input industries. Like auxiliary service industries, input industries very often have different three-digit or two-digit industry codes (compared to focal industries). It is not clear how consistently the practice of listing the input industries for each firm has been followed by IW, as some firms that identified themselves *integrated* in various reports did not have input industries listed in the IW database.

To overcome these two issues, we separately linked *official* ANZSIC industry classes along two dimensions. For each ANZSIC industry class we prepared two lists of industries (to the extent that was possible), one comprising auxiliary service industries and the other comprising input industries. In our preparation of the auxiliary service industries list, we were guided by not only the linkages commonly observed in the real world, but also the industry entries that appear together quite often in our sample though they may not be commonly observed in the real world. When preparing the list of input industries, we consulted the official industry descriptions to confirm the industry products and did additional research to identify major inputs for the focal industry in more complex cases.

The process through which we transformed the cleaned data by using industry linkages is best explained through an example. Suppose the cleaned data has three industry entries for firm X: *A*, *B*, and *C*. Of these, industry *C* is listed as an auxiliary service industry for industry *A* in our industry linkages file. Consequently, only industries *A* and *B* are included in the transformed data. Further assume that *B* is listed as an input industry for *A* in our industry linkages file. Our original diversification measure, which does not incorporate vertical integration, would classify this firm as diversified because the transformed data includes both *A* and *B* (assuming the two do not have the same four-digit industry code). Our alternative diversification measure, which incorporates vertical integration, however, would classify this firm as focused because the further processed data would include only industry *A*.

FINDINGS

Variable Definitions and Descriptive Statistics

Table 1 provides the descriptive statistics for major firm characteristics across the different levels of diversification. The last column provides the p-values from ANOVA tests. The variables are calculated as follows. *Assets (log)* and *Sales (log)* are the natural logarithms of total assets and total sales, respectively. *CapExp* stands for capital expenditures, and is calculated as the change in PP&E (property, plant, and equipment) from previous year plus depreciation and amortisation minus gains on sale of non-current assets (if available), scaled by average total assets. *Intangibles* equals intangible assets divided by total assets. *Leverage* is total liabilities divided by total assets. *NC Investments* equals

non-current investments divided by total assets. *Net WC* equals current assets minus current liabilities, scaled by total assets. *R&D* is calculated as research and development expenses divided by total assets.

Insert Table 1 about here

The remaining four performance measures represent our dependent variables. *ROE* is calculated as NPAT (net profit after tax) less the extraordinary items and profits from discontinued operations, divided by average total equity. *ROA* is calculated as EBIT (earnings before interest and taxes) less the extraordinary items and profits from discontinued operations before taxes, divided by average total assets. *Sales Growth* is the (natural) logarithmic change in total sales from previous to current year. *Operating Prof* is operating cash flows before taxes, divided by average total assets. Since IW does not collect data on cash flow statement items, we estimate operating cash flows using balance sheet items. Operating cash flows is calculated as NPAT plus interest paid, minus interest received, plus depreciation and amortisation, minus gains on sale of non-current assets, minus (plus) increase (decrease) in current assets from the previous year, plus (minus) increase (decrease) in current liabilities from the previous year. The number of observations for the dependent variables is slightly smaller than that for the other variables due to truncation at the extremes at both tails.

As the table shows, there are systematic differences across the diversification levels in all firm characteristics except for the capital expenditures. Consistent with prior research, diversified firms are larger in terms of both assets and sales, more liquid, and less leveraged. Lower leverage ratio for conglomerates is consistent with the argument that unrelated diversification provides firms with a larger internal capital pool and hence, reduced need for outside capital. Diversified firms also have lower intangibles and R&D expenditures, but larger investments. More importantly, conglomerates have lower performance than focused firms across all our performance measures except for operating profitability. This initial evidence is consistent with the general findings from prior literature and suggests our focus and diversification measures are performing well in capturing the diversification status of our sample firms.

Multivariate Analyses

Firm-level Analysis

This subsection provides a discussion of our main findings from firm-level regressions. All equations are estimated using OLS, and additionally include industry and year dummies. Standard errors are based on heteroskedasticity-adjusted covariance matrices. Most of the explanatory variables are calculated in the same way as described in the previous section but with some small adjustments. Specifically, variables based on balance sheet items are lagged one year (i.e., they are calculated using beginning balances). *CapExp* is also lagged one year, while *R&D* is lagged two years due to the delayed impact of innovation spending on profitability.

The regressions additionally include three variables not described earlier. *Public Firm* takes the value of one if the firm is listed on Australian or New Zealand stock exchanges, and zero otherwise. *Inventory %* is calculated as inventories divided by current assets. We control for this variable because prior literature suggests that lean inventory management can improve firm performance. *Net Debt Coverage* is a version of one of the major ratios used by credit rating agencies, and is calculated as EBITDA divided by non-current liabilities net of cash and short-term investments. EBITDA is EBIT (see the numerator for *ROA* in the previous section) plus depreciation and amortisation.

Tables 2 and 3, where each panel corresponds to a different model, present the results from our main tests. All table 2 and 3 regressions include the same explanatory variables. The difference between the two tables is that in table 3 we account for vertical integration when creating the diversification variables. Results from Model 1 (table 2, panel A) confirm the initial findings from table 1 that conglomerates have lower ROA and sales growth (significant at 5% and 1%, respectively). Once the firm characteristics are controlled for, unlike in table 1, operating profitability (column 4) also becomes significantly different between the two groups, while the difference in ROE becomes insignificant. These results generally support H1.

Insert Tables 2 and 3 about here

Unlike in many prior studies, we do not find a significant performance difference between related diversified firms and focused firms. This result could be driven by a variety of factors, including country-specific factors, prior findings not being generalisable to all industries, or noise in our related diversification measure. Alternatively, it is supportive of the findings from Hashai (2015). Regardless

of this result, however, we find that the coefficient on *Related (conventional)* is significantly different from the coefficient on *Unrelated* in all regressions except ROE, which is consistent with H2.

In Model 2, we disaggregate *Related Div (conventional)* into two and test whether the *degree* of related diversification matters for firm performance. *Related Div (lvl 1)* equals one if the firm operates in multiple four-digit industries within a single three-digit industry, and zero otherwise. *Related Div (lvl 2)* equals one if the firm operates in multiple three-digit industries within a single two-digit industry, and zero otherwise. Employing these more fine-tuned measures of related diversification reveals that the findings supporting H2 is driven by *Related Div (lvl 1)* firms: that is, the coefficient on *Related Div (lvl 1)*, but not on *Related Div (lvl 2)*, is significantly different from that on *Unrelated*.

Comparing the results from Models 3 and 4 (where vertical integration is accounted for) to those from Model 2, we see that consistent with H3, the coefficient on *Unrelated* is generally larger in absolute value and more significant in three of the regressions (ROE, ROA, and operating profitability). This finding also suggests that ignoring input industries when creating the diversification variables likely improves the precision of our original measures. The results concerning related diversification firms are similar to those from earlier models. In Model 5 (panel C), we also separately control for vertical integration. *Integrated* takes the value of one if, for a given firm, at least one of the industries assigned to the firm is an input industry for another industry assigned to the same firm. We observe a highly significant coefficient on *Integrated* in all regressions except in the case of operating profitability. To the best of our knowledge, our study is the first to provide empirical evidence on the performance implications of vertical integration using a country-wide cross-industry panel dataset.

Segment-level Analysis

Although the inconsistencies in the recording of segment-level profit, revenue, and assets data by IW prevented us from performing tests on the whole sample, we were able to compare the performance of the focused divisions of conglomerates with that of focused firms. After manually confirming that the focused divisions identified by our algorithm was not misclassified and ensuring that segment EBIT and assets data was available to calculate segment ROA, we were left with 61 unique segments belonging to 29 conglomerates over several years and 128 focused firms spread across 43

industry classes (only industry classes where at least one focused firm and one focused division operated were retained). The first column of table 4 (Model 6) presents the results from comparing the ROA of focused divisions with that of focused firms, while the second column (Model 7) presents the results from comparing the ROA of the same focused firms with that of the parents of focused segments.

Insert Table 4 about here

The results from Model 6 indicate that the focused divisions within conglomerates perform *better* than focused firms in the same industry. This is a rather surprising finding, and it is not clear what drives this result. Potential drivers include firm-specific factors, i.e., conglomerates with the structures necessary to be included in this sample are "better" than other diversified firms, perhaps due to better support or internal capital allocation; industry-specific factors, i.e., the diversification-performance relationship is different in the industries represented in this sample compared to other industries; other selection biases. This finding should also be interpreted in light of the results from Model 7. That the coefficient on our variable of interest in Model 7 is insignificant has two implications. First, the conglomerates and/or focused firms included in this sample are different from those in our full sample, suggesting that the findings from Model 6 could at least partially be driven by sample selection bias. Second, even with better performing focused divisions, these conglomerates do not outperform focused firms. One potential explanation is that the ROAs of the non-focused divisions of these conglomerates are low, offsetting the positive performance of focused divisions. If that is the case, further investigation should be conducted to test the possibility that the performance gap between segments in these firms is driven by firms' strategic disclosure choices (lumping bad performing business lines into one segment).

CONCLUSION

Our study presents strong evidence for the positive performance impact of a focus strategy. Unlike previous work on this topic, we see little support for the notion that a *little bit of related diversification helps*. Firms who stick to serving the needs of a single industry class, presumably honing their resources and capabilities in that domain, look to outperform counterpart who venture further afield. This is a challenging finding, especially in the Australia and New Zealand setting where markets are relatively

small. It begs additional questions about further pathways to growth for such firms. It may be that international expansion leveraging the firm's expertise may be the more promising strategic choice. On the other hand, our finding around the scope of some divisions within a diversified firm to outperform matched focused rivals, may point to lessons about how diversification can be successfully navigated.

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TABLES AND FIGURES

Figure 1: The Inverted U view of the Diversification-Performance Relationship

Table 1: Descriptive statistics - All firms (vertical integration *not* incorporated)

Diversification Levels	*Focused (N=1185)*	*Related (N=526)*	*Unrelated (N=1038)*	*ANOVA p-values*
Assets (log)	12.397 (1.561)	12.402 (1.465)	13.362 (1.753)	< 0.01
CapExp	0.049 (0.088)	0.051 (0.098)	0.057 (0.097)	0.13
Intangibles	0.177 (0.238)	0.126 (0.195)	0.150 (0.188)	< 0.01
Leverage	0.577 (0.237)	0.573 (0.282)	0.495 (0.210)	< 0.01
NC Investments	0.027 (0.097)	0.022 (0.058)	0.040 (0.096)	< 0.01
Net WC	0.122 (0.217)	0.162 (0.206)	0.135 (0.191)	< 0.01
Operating Prof	0.107 (0.153)	0.110 (0.131)	0.098 (0.135)	0.18
R&D	0.004 (0.023)	0.003 (0.018)	0.002 (0.010)	0.04
ROA	0.079 (0.125)	0.083 (0.112)	0.065 (0.114)	< 0.01
ROE	0.142 (0.304)	0.143 (0.301)	0.083 (0.233)	< 0.01
Sales (log)	12.557 (1.063)	12.835 (1.133)	13.299 (1.533)	< 0.01
Sales Growth	0.072 (0.222)	0.072 (0.214)	0.044 (0.226)	0.01

Table 2: Diversification and Firm Performance - vertical integration *not* taken into account

Panel A: Model 1 - Conventional diversification classification

	M1: ROE	M1: ROA	M1: SG	M1: OP
Related Div (conventional)	-0.004	0.001	-0.000	-0.001
	(-0.260)	(0.133)	(-0.040)	(-0.079)
Unrelated Div	-0.023	-0.016 **	-0.034 ***	-0.012 *
	(-1.625)	(-2.499)	(-2.913)	(-1.715)
Assets (log)	-0.100 ***	-0.054 ***	-0.100 ***	-0.044 ***
	(-9.535)	(-12.630)	(-10.054)	(-8.381)
Sales (log)	0.108 ***	0.062 ***	0.118 ***	0.052 ***
	(10.359)	(13.745)	(10.499)	(9.289)
R&D (t-2)	1.261 ***	0.682 ***	0.276 *	0.745 ***
	(4.737)	(6.788)	(1.659)	(4.808)
CapExp (t-1)	0.090	0.089 ***	0.336 ***	0.171 ***
	(1.510)	(3.228)	(5.085)	(4.452)
NC Investments	0.295 ***	0.133 ***	0.205 ***	0.027
	(4.355)	(4.567)	(3.738)	(0.716)
Intangibles	-0.014	0.015	0.200 ***	0.018
	(-0.381)	(0.928)	(6.602)	(0.927)
Public Firm	0.003	0.005	0.033 ***	0.005
	(0.198)	(0.792)	(2.764)	(0.679)
Leverage	0.275 ***	-0.025	-0.026	0.009
	(5.942)	(-1.638)	(-1.118)	(0.466)
Net WC	0.117 **	0.032 *	0.009	0.148 ***
	(2.382)	(1.954)	(0.310)	(5.911)
Inventory %	-0.082 **	-0.025	-0.015	-0.032 *
	(-2.483)	(-1.599)	(-0.511)	(-1.822)
Net Debt Coverage	0.000 ***	0.000 ***	-0.000	0.000
	(3.869)	(2.865)	(-1.024)	(0.648)
N	2502	2529	2532	2526
Adj R2	0.152	0.150	0.111	0.133

Panel B: Model 2 - Related diversification disaggregated into two levels

	M2: ROE	**M2: ROA**	**M2: SG**	**M2: OP**
Related Div (lvl 1)	-0.011	0.004	0.005	0.005
	(-0.547)	(0.496)	(0.369)	(0.503)
Related Div (lvl 2)	0.004	-0.003	-0.008	-0.008
	(0.186)	(-0.351)	(-0.475)	(-0.757)
Unrelated Div	-0.023	-0.016 **	-0.034 ***	-0.012 *
	(-1.623)	(-2.500)	(-2.913)	(-1.715)
N	2502	2529	2532	2526
Adj R2	0.152	0.150	0.111	0.133
Firm-Level Controls	Yes	Yes	Yes	Yes

Standard errors are based on a heteroskedasticity-adjusted covariance matrix (t-values in the brackets). Regressions additionally include year and industry dummies. ROE is calculated as net profit less the extraordinary items and profit from discontinued operations, divided by average total shareholder's equity. ROA is calculated as EBIT less the extraordinary items and profit from discontinued operations, divided by average total assets. SG (sales growth) is the log change in sales from previous year. OP (operating profitability) is operating cash flows (excludes interest and taxes) scaled by average total assets. *Related Div (lvl 1)* equals one if the firm operates in multiple industry classes within a single industry group, and zero otherwise. *Related Div (lvl 2)* equals one if the firm operates in multiple industry groups within a single industry subdivision, and zero otherwise. *Related* takes the value of one for both the *Related Div (lvl 1)* and *Related Div (lvl 2)* firm-years. *Unrelated Div* equals one if the firm operates in multiple industry subdivisions, and zero otherwise.

Table 3: Diversification and Firm Performance - vertical integration taken into account

Panel A: Model 3 - Conventional diversification classification, VI factored in but not separately controlled for

	M3: ROE	M3: ROA	M3: SG	M3: OP
Related Div	-0.003	-0.001	-0.002	0.005
	(-0.166)	(-0.132)	(-0.163)	(0.649)
Unrelated Div	-0.029 **	-0.018 ***	-0.031 ***	-0.015 **
	(-2.049)	(-2.867)	(-2.720)	(-2.142)
N	2502	2529	2532	2526
Adj R2	0.152	0.150	0.110	0.134
Firm-Level Controls	Yes	Yes	Yes	Yes

Panel B: Model 4 - Related diversification disaggregated, VI factored in but not separately controlled for

	M4: ROE	M4: ROA	M4: SG	M4: OP
Related Div (lvl 1)	-0.005	0.002	-0.001	0.014
	(-0.254)	(0.295)	(-0.039)	(1.553)
Related Div (lvl 2)	0.001	-0.006	-0.004	-0.010
	(0.031)	(-0.612)	(-0.239)	(-0.876)
Unrelated Div	-0.029 **	-0.018 ***	-0.031 ***	-0.015 **
	(-2.039)	(-2.881)	(-2.722)	(-2.180)
N	2502	2529	2532	2526
Adj R2	0.152	0.150	0.109	0.135
Firm-Level Controls	Yes	Yes	Yes	Yes

Panel C: Model 5 - Related diversification disaggregated, VI factored in and separately controlled for

	M5: ROE	**M5: ROA**	**M5: SG**	**M5: OP**
Related Div (lvl 1)	-0.001	0.004	0.002	0.015
	(-0.076)	(0.503)	(0.159)	(1.628)
Related Div (lvl 2)	0.001	-0.006	-0.004	-0.010
	(0.041)	(-0.602)	(-0.225)	(-0.866)
Unrelated Div	-0.024 *	-0.016 **	-0.027 **	-0.014 **
	(-1.722)	(-2.486)	(-2.340)	(-1.988)
Integrated	-0.048 ***	-0.026 ***	-0.045 ***	-0.013
	(-2.908)	(-3.535)	(-3.035)	(-1.540)
N	2502	2529	2532	2526
Adj R2	0.155	0.154	0.113	0.135
Firm-Level Controls	Yes	Yes	Yes	Yes

Standard errors are based on a heteroskedasticity-adjusted covariance matrix (t-values in the brackets). Regressions additionally include year and industry dummies. ROE is calculated as net profit less the extraordinary items and profit from discontinued operations, divided by average total shareholder's equity. ROA is calculated as EBIT less the extraordinary items and profit from discontinued operations, divided by average total assets. SG (sales growth) is the log change in sales from previous year. OP (operating profitability) is operating cash flows (excludes interest and taxes) scaled by average total assets. Diversification variables are defined as in Table 2 but with an adjustment for vertical integration: industries whose products are potential inputs for other industries assigned to the firm by IW are ignored when determining the industries wherein the firm operates. *Integrated* equals one if at least two industries the firm operates in are parts of a vertical integration chain, and zero otherwise.

Table 4: Focused firm performance versus the performance of individual segments and their parents

	M6: ROA	M7: ROA
Focused Seg	0.037 ***	
	(3.040)	
Congl. Parent of Focused Seg		-0.004
		(-0.227)
Integrated	0.012	-0.026
	(0.710)	(-1.218)
Assets (log)	-0.040 ***	-0.064 ***
	(-4.228)	(-5.719)
Sales (log)	0.059 ***	0.074 ***
	(5.843)	(7.434)
N	660	594
Adj R2	0.177	0.188
Industry Dummies	Yes	Yes
Other Firm-Level Controls	No	Yes

Standard errors are based on a heteroskedasticity-adjusted covariance matrix (t-values in the brackets). Regressions additionally include year dummies. M6 tests the performance difference between the focused segments of conglomerates and the focused firms, while M7 compares the performance of the same focused firms with that of the parents of those segments. In both models, focused firms are the benchmark. All classifications take vertical integration into account. Only the focused firms operating in the same industry class as the focused segments are used as the comparison group. In M6, segment ROA is calculated as segment EBIT (which is generally reported before extraordinary items) divided by segment assets, and focused firm ROA is calculated as firm EBIT before extraordinary items and discontinued operations divided by total assets. In M7, ROA is calculated in a similar way as in earlier models (i.e., denominator is the average assets). Similarly, *Assets (log)*, *Sales (log)*, and *Integrated* are based on segment-level data for segments and firm-level data for firms. M6 does not include other controls due to lack of segment-level data.

Stream 6 - Leadership, Governance and Strategy

Did COVID Kill the Focus Advantage?

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Stream 6 - Leadership, Governance and Strategy

Did COVID Kill the Focus Advantage?

ABSTRACT: The COVID-19 pandemic sent shockwaves through businesses and economies around the world. While all businesses and industries were exposed to this massive disruption, some were more imperilled. In this paper we explore the relative performance impacts on two groups of Australasian firms – (a) those who have a focused business strategy, and (b) those with a diversified approach. We find that the status quo in pre-COVID-19 days, where focused firms outperformed their diversified counterparts, was flipped during 2020-21. We argue this points to the risk mitigation effects, and resilience, of diversified firms. We also explore to what extent this resilience comes from greater supply chain control by examining the impact of vertical integration on this relationship.

Keywords: COVID-19**;** firm performance; diversification; focus; risk mitigation; organizational resilience

INTRODUCTION

The COVID-19 pandemic sent shockwaves through businesses and economies around the world. Suddenly all aspects of a firm's value chain faced possible disruption. Supplies of key inputs were held up, often on foreign ports. Paths to market were uncertain with closures and restrictions on many of the typical channels. Workplace and organisational configurations were upset as waves of lockdowns prevented typical engagement practices. The high level of uncertainty and changes shifted consumer sentiment and behaviour, and labour markets were highly disrupted with considerable slack removed by a collapse in migration. Policy makers quickly responded with efforts to preserve businesses and household incomes through subsidies and job protection schemes (Andrew, Baker, & Guthrie, 2021; Borland & Hunt, 2022).

This *black swan event* challenged firms to act quickly and resolutely to sure up their positions (Taleb, 2007). We argue that the subsequent performance of firms during this crisis may have less to do with *organisational resilience* (Duchek, 2020; Linnenluecke, 2017; Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017), and more to do with their pre-existing corporate strategy decisions around the extent of their market reach. We explore the simple question: *Who fared better during COVID-19 pandemic – focused or diversified firms?*

BRIEF LITERATURE REVIEW

Decisions about a firm's market scope and reach are central to corporate strategy (Penrose, 1959; Ramanujam & Varadarajan, 1989; Wan, Hoskisson, Short, & You, 2011). Firms have the choice to maintain a narrow focus on serving a singular product market – to be *focused* – or to expand into a wider range of markets, which may be more or less related (utilising common skills, facilities and/or resources) – to be *diversified* (Rumelt, 1982).

The performance impacts of these choices have been examined by hundreds of studies over the last six decades. For example, a meta-analysis by Schommer, Richter, and Karna (2019) captured 267 studies and over 150,000 firm-level observations over 60 years of research. The orthodox view of the relationship is of a likely inverted U, whereby incrementally and closely related diversification may induce some performance gains over pure focus (Markides & Williamson, 1994), but such gains quickly dissipate with greater and less related diversification (Hashai, 2015, Zhou, 2011). The rationale for these findings is that closely related diversified firms may be tapping into impactful *economies of scope* – spreading costs over highly related tasks. In contrast, more unrelated diversification may reflect poor choices induced by agency problems, and result in rising coordination costs (Chen, Kaul, & Wu, 2019; Hashai, 2015; Hoskisson, & Turk, 1990; Rawley, 2010).

The strength of these claims is limited, however, and possibly attributable to significant empirical challenges with accurately coding a firm's range of activities. Early work on this topic using Australian data found that diversification had a negative impact on Australian firms' performance (measured by the ratio of profits to sales), and that specialisation (defined as the percentage of revenue from core activity) was positively related to average profit margin (Bosworth, Dawkins, Harris & Kells, 1999; Feeny & Rogers, 2000). Our own work (under review) using cross-industry Australian and New Zealand data for 2015-2019 and innovative algorithms to code a firm's level of focus/diversification found focused firms to perform significantly better than their diversified counterparts, and only the narrow related diversification to produce better performance than unrelated diversification. These findings are even more robust once a firm's vertical integration is accounted for.

There are grounds to question whether these results would persist in a highly tumultuous setting such as the COVID-19 pandemic, however. The disruptions were not universally experienced by each

industry class. Some supply chains were much more affected by shortages and delays. Trade in some goods and services were curtailed more dramatically by regulations and shifting consumer behaviours, while a smaller range of products and delivery channels benefitted from new demands. Operating in a single industry class exposes firms to a greater possibility that their class is one of the negatively affected. In contrast, firms with operations in multiple classes may *weather the storm* more readily, with a greater chance of also being in a beneficiary class. Thus, we explore the initial research question: *Who fared better during COVID-19 pandemic – focused or diversified firms?*

An additional consideration with examining COVID-19's effects is understanding any differential impacts experienced by firms with known levels of vertical integration. As noted, the COVID-19 shock exposed the supply chains of most firms (Ketchen & Craighead, 2020) as their suppliers and distributors, both domestic and foreign, scrambled to adjust to their own disruptions. It may be the case that firms who have retained a greater portion of this chain in-house may have been insulated somewhat by these shocks. This is consistent with the arguments that vertical integration can be a means to attenuate transaction costs and mitigate risks (Ketokivi & Mahoney, 2020; Whinston, 2003). Our bespoke algorithms allow us to distinguish such vertically integrated firms. We can, therefore, explore the ancillary research question: *How did vertical integration affect the impact of COVID-19 on the focus-performance relationship?*

DATA AND METHODS

Data and Sample

All of our data is provided by IBISWorld (IW) and the Ruthven Institute (RI). The strength of the IW data is that, in addition to reporting the segment data disclosed by companies, IW assigns one or multiple industries - vast majority of which at the four-digit level - to each business segment based on the products offered by the segment. This allows us to partition firms into various groups based on the level of diversification of their operations by applying the conventional definitions of focus, related diversification, and unrelated diversification. The richness of the IW data comes at the cost of some inconsistencies, such as over- or under-assignment of industries to some firms, incorrect industry class codes, and occasionally incorrect main industry codes. The steps we took to resolve these issues are explained in the next subsection.

We applied several filters to obtain our final sample. From all Australian and New Zealand firms for which there was data available at the IW database, we first dropped financial services and real-estate firms (industry divisions K and L) given their different nature. From this sample, we retained only the publicly listed firms, partnerships, and proprietary firms that were not labelled as government entities. We also manually checked the accuracy of the company type data and eliminated the remaining financial services/insurance companies whose main industries were not recorded as such, state-owned entities, not-for-profit organisations, and ports and airports. We also collected information on whether a company was a subsidiary of another entity. We dropped all subsidiaries because such firms are unlikely to have control over their diversification strategy.

Our sample period covers the years 2020 and 2021, since COVID-19 was declared a pandemic in early 2020. The number of observations is smaller for 2021 as IW was still collecting data for the 2021 financial year when we conducted our study.

Data Transformation and The Diversification Measure

As in most other industrial diversification studies, in this study the degree of diversification is determined based on a firm's activity across product markets as defined by SIC classes, groups, and subdivisions. A firm is assumed to operate in a specific industry class, group, or subdivision if the *cleaned* and *transformed* operating segments data includes that industry entry. Our focus and diversification measures are similar to the conventional measures used in prior research in that focus is defined as operating in a single four-digit industry; related diversification is defined as operating in multiple three- or four-digit industries within a single two-digit industry; and unrelated diversification is defined as operating in multiple two-digit industries.[1] However, unlike the commonly used entropy measures, our diversification measure is not continuous since we do not have data on the percentage contribution of a given industry/product to a firm's overall revenue.

[1] In some prior studies a firm is still considered focused if 10%-15% of its revenue comes from other industries. Our measures, however, apply a smaller threshold because a segment with 10%-15% of total revenue could still take a considerable effort and time to manage, thus leading to lower performance. We let our data guide us in our choice of this threshold. We ended up with 3% as our threshold of choice as it appears to be the lowest threshold that minimises the percentage of focused firms (as per our subjective judgement upon the close investigation of sample firms) being misclassified as diversified and vice-versa.

Data Cleaning

Our data processing consisted of two stages. In both stages, our guiding principle was to minimise the number of firms being misclassified as conglomerates (as the over-assignment of industries leads to misclassification of focused firms). In the data cleaning stage, we eliminated industry entries that we thought introduced noise into the data and reduced its consistency. To identify ways through which we could achieve these tasks in a systematic manner, we searched about each firm to identify its major operations and whether IW industry entries correctly represented those operations. We spent more time on firms to which unusual industry codes had been assigned.

Our investigation of such entries revealed several patterns that could be applied to data to (at least partially) automate the data cleaning process. For example, for a significant number of firms/segments whose main industry is not retail or wholesale (divisions G and F, respectively), IW lists the firm's distribution channel as an industry in which its business segments operate. Similarly, likely as an indicator of a firm's offering of financing options for its products, for many firms IW lists industry division K as one of the firm's industry of operations. For some firms that are not in the logistics and transportation business, IW also includes division I as one of the entries, but the reason for these entries is not entirely clear. We removed such entries to prevent them from leading to misclassification. This was done for all segments that had at least two industry entries, at least one of which did not match the said patterns so that we did not unintentionally delete a whole segment. As part of this process, we also removed retail entries for wholesale firms and wholesale entries for retail firms unless it failed the above condition. For a little over than 5% of the sample firms, we had to manually remove data errors and industry entries that did not match a firm's portfolio based on our search. As part of the data cleaning process, we also took steps to correct the incorrect industry codes for main industries as well as industry classes assigned to segments. The bulk of this process was automated.

Further Reducing Misclassification Through Industry Linkages

Many firms in the IW database have additional entries for industries that are closely associated with the firms' core industries and which represent a legitimate activity the firm is involved in. In the majority of cases, these additional industries belong to different industry groups, subdivisions, or

divisions. Therefore, they have to be taken into account when creating the focus/diversification measures to avoid misclassification. To give some examples of common patterns in data, many construction companies whose core activities belong to industry subdivision 30 or 31 also have entries for industry subdivision 32 (various construction services), and many professional services companies have also been assigned entries for management and related consulting services. Such pairings are very common in the real world as certain auxiliary services are naturally a part or an extension of many firms' main businesses. It can be argued that in some instances they are more representative of related diversification than of focus, but certainly not of unrelated diversification. In the remainder of this article, we refer to industries whose services are also commonly offered by other (and often bigger) industries as auxiliary service industries.

A related issue is the case of vertically integrated firms. For many firms in our sample, the products of one industry assigned to a firm are often used as an input for the products of another industry assigned to the same firm. For the sake of brevity, we refer to the former type of industries as input industries. Like auxiliary service industries, input industries very often have different three-digit or two-digit industry codes (compared to focal industries). It is not clear how consistently the practice of listing the input industries for each firm has been followed by IW, as some firms that identified themselves *integrated* in various reports did not have input industries listed in the IW database. This has implications for our tests as it may introduce enough noise to our vertical integration measure to result in type I error.

To avoid the likely misclassification issues, we separately linked *official* ANZSIC industry classes along two dimensions. For each ANZSIC industry class we prepared two lists of industries (to the extent that was possible), one comprising auxiliary service industries and the other comprising input industries. In our preparation of the auxiliary service industries list, we were guided by not only the linkages commonly observed in the real world, but also the industry entries that appear together quite often in our sample though they may not be commonly observed in the real world. When preparing the list of input industries, we consulted the official industry descriptions to confirm the industry products and did additional research to identify major inputs for the focal industry in more complex cases.

The process through which we transformed the cleaned data by using industry linkages is best explained through an example. Suppose the cleaned data has three industry entries for firm X: *A*, *B*, and

C. Of these, industry *C* is listed as an auxiliary service industry for industry *A* in our industry linkages file. Consequently, only industries *A* and *B* are included in the transformed data. Further assume that *B* is listed as an input industry for *A* in our industry linkages file. Our original diversification measure, which does not incorporate vertical integration, would classify this firm as diversified because the transformed data includes both *A* and *B* (assuming the two do not have the same four-digit industry code). Our alternative diversification measure, which incorporates vertical integration, however, would classify this firm as focused because the further processed data would include only industry *A*.

FINDINGS

Variables

We use four performance measures as our dependent variables in multivariate tests. *ROE* is calculated as NPAT (net profit after tax) less the extraordinary items and profits from discontinued operations, divided by average total equity. *ROA* is calculated as EBIT (earnings before interest and taxes) less the extraordinary items and profits from discontinued operations before taxes, divided by average total assets. *Sales Growth* is the (natural) logarithmic change in total sales from previous to current year. *Operating Prof* is operating cash flows before taxes, divided by average total assets. Since IW does not collect data on cash flow statement items, we estimate operating cash flows using balance sheet items. Operating cash flows is calculated as NPAT plus interest paid, minus interest received, plus depreciation and amortisation, minus gains on sale of non-current assets, minus (plus) increase (decrease) in current assets from the previous year, plus (minus) increase (decrease) in current liabilities from the previous year.

We control for various factors found in prior studies to be important determinants of firm performance. For all variables that use only balance sheet items, we use beginning balances. *Assets (log)* is the natural logarithm of total assets. *Intangibles* equals intangible assets divided by total assets. *Leverage* is total liabilities divided by total assets. *NC Investments* equals non-current investments divided by total assets. *Net WC* equals current assets minus current liabilities, scaled by total assets. *Inventory %* is calculated as inventories divided by current assets. We control for this variable because prior research suggests that lean inventory management can improve firm performance.

The remaining control variables use data from multiple financial statements. *Sales (log)* is the natural logarithm of total sales. *CapExp* stands for capital expenditures and is calculated as the change in PP&E (property, plant, and equipment) from previous year plus depreciation and amortisation minus gains on sale of non-current assets (if available), scaled by average total assets. *R&D* is calculated as research and development expenses divided by total assets. *CapExp* is lagged one year, while *R&D* is lagged two years to take into account the delayed impact of innovation spending on profitability. *Net Debt Coverage* is a version of one of the major ratios used by credit rating agencies, and is calculated as EBITDA (i.e., EBIT plus depreciation and amortisation) divided by non-current liabilities net of cash and short-term investments, lagged one year. Finally, *Public Firm* takes the value of one if the firm is listed on Australian or New Zealand stock exchanges, and zero otherwise.

Multivariate Analyses

Our previous work (under review) using the same data for the pre-COVID-19 period found focused and related diversified firms to perform significantly better than unrelated diversified firms, and focused firms to perform on par with related diversified firms. As discussed earlier, since there are grounds to think that these relationships might have changed during the COVID-19 pandemic, we re-examine them using the updated sample.

Tables 1-3, where each panel corresponds to a different model, present the results from our main tests. The difference between Table 1 and Tables 2-3 is that the latter regressions use diversification measures that account for vertical integration. All regressions include the same explanatory variables (including year and two-digit industry dummies) and are estimated using OLS. Standard errors are based on heteroskedasticity-adjusted covariance matrices. In all regressions, the dependent variables are truncated at the extremes at both tails.

Insert Tables 1, 2 and 3 about here

Results from Table 1 Panel A (Model 1) suggest that the focus advantage we documented in our earlier work for the pre-COVID-19 period seems to have disappeared during the COVID-19 pandemic (as the coefficient on *Unrelated Div* is statistically insignificant across all columns). In our additional

tests (untabulated), we confirm that both the performance of focused firms and the performance of conglomerates fell during the pandemic, but the latter fell to a lesser extent. Considering the differential impact of the pandemic on industries, this finding is consistent with the risk-reducing role of conglomeration. Inferences remain similar when we use diversification measures that take vertical integration into account in Table 2 Panel A (Model 3). One noteworthy observation from Model 3 results is that the coefficient on *Unrelated Div* becomes more negative across all columns yet remains statistically insignificant.

In Model 2, we disaggregate *Related Div (conventional)* into two parts. *Related Div (lvl 1)* equals one if the firm operates in multiple four-digit industries within a single three-digit industry, and zero otherwise. *Related Div (lvl 2)* equals one if the firm operates in multiple three-digit industries within a single two-digit industry, and zero otherwise. Employing these more fine-tuned measures of related diversification reveals that firms with narrow level of related diversification (i.e., *Related Div (lvl 1)*) outperformed all other groups of firms. That we find this result for *Related Div (lvl 1)* firms but not *Related Div (lvl 2)* firms is consistent with the findings from our earlier work that the former, but not the latter, group outperformed conglomerates before the pandemic. Inferences remain the same when we take vertical integration into account in Model 4 (Table 2 Panel B).

DISCUSSION

Our fundamental question was *Who fared better during COVID-19 pandemic – focused or diversified firms?* The answer appears to be diversified firms fared better than focused, and that among the diversified firms, the most closely diversified won out. So what made *Related Div (lvl 1)* firms more successful during the pandemic? One potential explanation is that they were able to shift firm resources toward business lines that fared better during the pandemic with relative ease given the high degree of relatedness between the business lines. This would be more difficult to achieve for a conglomerate given the unrelated nature of its businesses. An alternative explanation is that *Related Div (lvl 1)* firms just happen to populate the industries that were less hit by the pandemic more than they do other industries. Focused firms were most exposed to the vagaries of the single industry class in which they operated, and, on balance, this looks to have hurt them.

Our ancillary research question was *How did vertical integration affect the impact of COVID-19 on the focus-performance relationship?* In Table 3, we include vertical integration as a separate explanatory variable. *Integrated* takes the value of one if, for a given firm, at least one of the industries assigned to the firm is an input industry for another industry assigned to the same firm. We find the coefficient on *Integrated* to be statistically insignificant across all regressions. This stands in contrast to the findings from our earlier work that before the pandemic vertical integration was *negatively* associated with three of the performance measures examined (ROE, ROA, and sales growth). One possibility is that the contrasting results from the two periods reflect the benefits of having supply chain in-house during the pandemic, such as the preferential access to limited inputs, which might have offset the negative aspects of vertical integration. More tests are needed, however, to eliminate other potential explanations for the documented results.

CONCLUSION

Our study contributes to an emergent set of conversations around the impact of COVID-19 on firms and their performances (Amankwah-Amoah, Khan, & Wood, 2021; Margherita, & Heikkilä, 2021). Rather than explore firm survival levels, or search for organisational resilience correlates, we have simply looked at a fundamental characteristic of any given firm, namely their degree of focus. This elemental strategy choice may have handicapped or helped a firm weather the COVID-19 storm. Whereas, in *normal times*, it would usually pay for Australian firms to be focused on a single industry class, the pandemic tipped the balance back in favour of diversification. This reflects the spreading of risk and the lower probability of being in the most battered industry segments. It may have medium- to long-term implications for both the resultant population size of focused firms (if this performance hit affects their financial viability and survival) and potentially shifting the mindset of corporate Australasia towards the attractiveness of diversification as a corporate strategy. Future directions with this research include (a) identifying the most affected specific industries in terms of performances drops/gains; (b) comparing the Australasian experience to those of other markets, especially those with substantially different policy responses to COVID-19; and (c) exploring the firm survival implications in the medium term.

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TABLES AND FIGURES

Table 1: Diversification and Firm Performance - vertical integration *not* accounted for

Panel A: Model 1 - Conventional diversification classification

	M1: ROE	M1: ROA	M1: SG	M1: OP
Related Div (conventional)	0.012	0.014	0.019	0.019
	(0.381)	(1.295)	(0.775)	(1.179)
Unrelated Div	0.002	0.004	0.006	0.008
	(0.107)	(0.434)	(0.287)	(0.652)
Assets (log)	-0.055 ***	-0.033 ***	-0.159 ***	-0.025 ***
	(-2.923)	(-3.621)	(-9.084)	(-2.590)
Sales (log)	0.068 ***	0.039 ***	0.188 ***	0.039 ***
	(3.502)	(3.739)	(8.999)	(3.974)
R&D (t-2)	1.039 *	0.308	0.068	-0.263
	(1.749)	(1.148)	(0.243)	(-0.503)
CapExp (t-1)	0.146 **	0.059 ***	0.256 ***	0.117 ***
	(2.028)	(2.711)	(3.920)	(2.961)
NC Investments	0.042	0.106 **	0.398 ***	-0.235 ***
	(0.252)	(2.297)	(3.741)	(-3.088)
Intangibles	0.013	0.016	0.181 ***	-0.033
	(0.198)	(0.690)	(3.436)	(-0.981)
Public Firm	-0.085 ***	-0.029 ***	0.013	-0.041 ***
	(-2.781)	(-2.648)	(0.534)	(-2.795)
Leverage	0.069	-0.042 *	-0.050	-0.061 *
	(0.806)	(-1.836)	(-0.972)	(-1.713)
Net WC	0.228 **	0.068 **	0.108	0.206 ***
	(2.258)	(2.548)	(1.585)	(4.443)
Inventory %	-0.123 *	-0.041 *	0.015	-0.024
	(-1.915)	(-1.773)	(0.219)	(-0.668)
Net Debt Coverage	-0.001 *	-0.001 ***	-0.002 *	0.000
	(-1.699)	(-2.650)	(-1.961)	(1.214)
N	774	781	782	780
Adj R2	0.101	0.175	0.279	0.213

Panel B: Model 2 - Related diversification disaggregated into two levels

	M2: ROE	**M2: ROA**	**M2: SG**	**M2: OP**
Related Div (lvl 1)	0.035	0.032 **	0.022	0.040 *
	(0.955)	(2.383)	(0.733)	(1.864)
Related Div (lvl 2)	-0.020	-0.010	0.014	-0.009
	(-0.444)	(-0.729)	(0.464)	(-0.421)
Unrelated Div	0.001	0.003	0.006	0.007
	(0.059)	(0.330)	(0.281)	(0.574)
N	774	781	782	780
Adj R2	0.101	0.181	0.278	0.217
Firm-Level Controls	Yes	Yes	Yes	Yes

Standard errors are based on a heteroskedasticity-adjusted covariance matrix (t-values in the brackets). Regressions additionally include year and industry dummies. ROE is calculated as net profit less the extraordinary items and profit from discontinued operations, divided by average total shareholder's equity. ROA is calculated as EBIT less the extraordinary items and profit from discontinued operations, divided by average total assets. SG (sales growth) is the log change in sales from previous year. OP (operating profitability) is operating cash flows (excludes interest and taxes) scaled by average total assets. *Related Div (lvl 1)* equals one if the firm operates in multiple industry classes within a single industry group, and zero otherwise. *Related Div (lvl 2)* equals one if the firm operates in multiple industry groups within a single industry subdivision, and zero otherwise. *Related* takes the value of one for both the *Related Div (lvl 1)* and *Related Div (lvl 2)* firm-years. *Unrelated Div* equals one if the firm operates in multiple industry subdivisions, and zero otherwise.

Table 2: Diversification and Firm Performance - vertical integration accounted for

Panel A: Model 3 - Conventional diversification classification, VI factored in but not separately controlled for

	M3: ROE	M3: ROA	M3: SG	M3: OP
Related Div	0.026	0.012	0.005	0.018
	(0.931)	(1.194)	(0.189)	(1.108)
Unrelated Div	-0.019	-0.009	-0.028	-0.006
	(-0.913)	(-1.128)	(-1.346)	(-0.566)
N	774	781	782	780
Adj R2	0.103	0.177	0.280	0.214
Firm-Level Controls	Yes	Yes	Yes	Yes

Panel B: Model 4 - Related diversification disaggregated, VI factored in but not separately controlled for

	M4: ROE	M4: ROA	M4: SG	M4: OP
Related Div (lvl 1)	0.042	0.031 **	0.012	0.041 *
	(1.244)	(2.518)	(0.405)	(1.952)
Related Div (lvl 2)	-0.002	-0.020	-0.008	-0.021
	(-0.036)	(-1.483)	(-0.245)	(-0.892)
Unrelated Div	-0.021	-0.011	-0.029	-0.008
	(-0.979)	(-1.318)	(-1.372)	(-0.750)
N	774	781	782	780
Adj R2	0.103	0.185	0.279	0.220
Firm-Level Controls	Yes	Yes	Yes	Yes

Standard errors are based on a heteroskedasticity-adjusted covariance matrix (t-values in the brackets). Regressions additionally include year and industry dummies. ROE is calculated as net profit less the extraordinary items and profit from discontinued operations, divided by average total shareholder's equity. ROA is calculated as EBIT less the extraordinary items and profit from discontinued operations, divided by average total assets. SG (sales growth) is the log change in sales from previous year. OP (operating profitability) is operating cash flows (excludes interest and taxes) scaled by average total assets. Diversification variables are defined as in Table 1 but with an adjustment for vertical integration: industries whose products are potential inputs for other industries assigned to the firm by IW are ignored when determining the industries wherein the firm operates.

Table 3: Diversification and Firm Performance – separately controlling for vertical integration

	M5: ROE	M5: ROA	M5: SG	M5: OP
Related Div (lvl 1)	0.043	0.031 **	0.012	0.041 *
	(1.280)	(2.529)	(0.412)	(1.938)
Related Div (lvl 2)	-0.003	-0.020	-0.008	-0.021
	(-0.084)	(-1.479)	(-0.251)	(-0.874)
Unrelated Div	-0.018	-0.011	-0.028	-0.009
	(-0.827)	(-1.288)	(-1.346)	(-0.792)
Integrated	-0.030	-0.002	-0.004	0.006
	(-1.180)	(-0.229)	(-0.138)	(0.409)
N	774	781	782	780
Adj R2	0.103	0.184	0.278	0.219
Firm-Level Controls	Yes	Yes	Yes	Yes

Standard errors are based on a heteroskedasticity-adjusted covariance matrix (t-values in the brackets). Regressions additionally include year and industry dummies. ROE is calculated as net profit less the extraordinary items and profit from discontinued operations, divided by average total shareholder's equity. ROA is calculated as EBIT less the extraordinary items and profit from discontinued operations, divided by average total assets. SG (sales growth) is the log change in sales from previous year. OP (operating profitability) is operating cash flows (excludes interest and taxes) scaled by average total assets. Diversification variables are defined as in Table 2. *Integrated* equals one if at least two industries the firm operates in are parts of a vertical integration chain, and zero otherwise.

Stream 2. Organisational Behaviour

Conceptualising the Meaning of Working for Singaporean Graduates aligned with 21st century Economic and Social Policy: "Market, Meaning & Me"

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Conceptualising the Meaning of Working for Singaporean Graduates aligned with 21st century Economic and Social Policy: "Market, Meaning & Me"

ABSTRACT: *We conceptualise the meaning of working for Singaporean university graduates aligned to contemporary economic and social policy that anticipates a changing future of work and society. Using data from 254 Singapore undergraduates, we report an early effort to develop self-report scales measuring more contemporary (1) market-oriented/happenstance attitude to employment, and (2) intrinsic, non-economic attitudes to working, that are contrasted with more traditional (3) qualification/expertise-based attitudes to employment. Our new concepts/measures are independent of career attitudes, with the first two measures relating to protean/boundaryless career attitudes and employability and the last measure relates more to low organizational mobility preference. We discuss our research in context of ongoing employment policy transformations and social change, implications for graduate employability, and ongoing research directions.*

Keywords: Meaning of Working; Employment Policy; Graduate Employability; Future of Work; Protean and Boundaryless Career attitudes; Scale development.

INTRODUCTION

Since Morse and Weiss' (1955) use of the lottery question "Would you work if you won the lottery?" to examine the functions and meaning of work (see also Highhouse, Zickar & Yankelevich, 2010), vocational psychologists have sought different ways to study the meaning of working (MOW). Such research is considered central to work and organizational psychology because it affects individual well-being (cf. Di Fabio and Blustein, 2016; Rosso, Dekas, & Wrzesniewski, 2010; Ward and King, 2017) and persists in international, longitudinal surveys (e.g., MOW-International Research Team, 1987; European Values Survey, 2022; World Values Survey, 2022) to capture evolving meanings of working across time and place (cf. Ruiz-Quintanilla and Wilpert, 1991). Indeed, as attitudinal objects, "work" and "employment" are cultural concepts shaped by history and location.

Since the 1970s, academic interest in the careers field has been directed towards more self-driven, flexible, and opportunistic career frameworks including protean and boundaryless career forms (Arthur, 1994; Arthur and Rousseau, 1996; Hall, 1976, 2002, 2004). Corresponding attitude measures have been developed (e.g., Briscoe, Hall, & DeMuth's (2006) protean career and boundaryless career attitudes scales and Wiernik and Kostal's (2019) protean and boundaryless career orientation, PCBO). These contrast markedly with more traditional organization-centred careers characterized by greater job security and hierarchical advancement – for example, as measured by Briscoe et al.'s (2006) low organizational mobility preference scale.

While these "New Careers" (Arthur, Inkson, & Pringle, 1999) have not entirely replaced traditional organizational ones (e.g., Dries and Verbruggen, 2012; Rodrigues and Guest, 2010), they accentuate that "career" as an attitudinal object is not the same as "employment" or "having a job". Bellah, Madsen, Sullivan, Swidler, & Tipton (1985) distinguished three different ways in which work is subjectively experienced: as a job (or "employment"), a career, or a calling – a distinction which Wrzesniewski, McCauley, Rozin, & Schwartz (1997) established empirically. A calling entails intrinsic enjoyment and meaning beyond the instrumental benefits of having a job (Berg, Grant, & Johnson, 2010). Inherent to "career" is a life span, unfolding (cf. Super, 1957, 1990; Arthur and Lawrence, 1984) perspective that working – whether paid or unpaid – lacks. While individuals may value having careers, employment policy which today shapes work in society is primarily concerned with employment and jobs from a macro-economic "future of work" perspective.

Today, the study of work attitudes still lacks measures of the qualitatively different nature of a historically evolving attitudinl object: Employment. This gap is especially apparent as fundamental economic and digital transformations exacerbate uncertainty around the future of work. How are attitudes to employment and working related to well-established career attitudes like PBCO? Are new and traditional employment attitudes independent of the intrinsic work attitudes associated with a calling? Do economic policy-desired attitudes to employment relate to individuals' career self-management and employability? How do they relate to social policy concerns around working?

Policy Concerns & Need for Contemporary measures of Attitudes to Working

Work and employment are ultimately socio-economic activities, experienced individually and locally (cf. Fouad, Liu, Cotter, & Gray-Schmedlin, 2014). Since the last century, work as experienced and understood by individuals is shaped by employment policy: "a diverse set of programs and regulations that seek to improve a population's employment experience" (Schulze-Cleven, 2011). At city, regional, and national levels such policies seek to anticipate macro-economic changes to enhance economic performance and maximize participation of the population in the workforce. Today, many nations develop and align their employment policies to economic groupings and international conventions such as the Organization for Economic Co-operation and Development (OECD) and the International Labour Organization (ILO).

In the 1990s, the OECD called for greater labor market flexibility and attention to youth unemployment including concerns with graduate employability, over-education and skills under-utilization (e.g., Smith, 2017; Watts, 2008). In 2004, the OECD advocated reforming national career guidance systems to integrate efforts from education providers with those of public and private employment services, alongside community-wide initiatives. The goals: Sustainable employment (i.e., having work to do) and employability (i.e., readiness for future work opportunities). Beyond focusing on the role of institutions, such reports call for fundamental changes to education, employment, and workforce development policies will require workers to adopt new attitudes towards employment and to abandon past, specific, traditional beliefs that may become embedded in local culture.

Separately, social policy concerns also imply the need for shifting attitudes towards work. For example, as people live longer, policy makers seek ways to encourage senior citizens' active involvement in society (Bussolo, Koettl, & Sinnott, 2015; Giles, Wang, & Cai, 2011). This can include individuals adopting more intrinsic work attitudes (consistent with participation in unpaid volunteer work) alongside paid work into retirement.

Conceptualizing 21st Century Meanings of Working: "Market, Meaning & Me"

In searching for ways to measure and monitor shifts from traditional to new employment attitudes, we reviewed the literature on measures of work and career attitudes and observed gaps between current economic employment policy concerns, the study of work attitudes, career attitudes, and career guidance theory and practice.

Contemporary "market" versus traditional ("me-focussed") attitudes to employment. The OECD et al. (2016) report highlights how the pace and scale of globalization, technological change, innovation, environmental change and demographic trends are affecting work. To conceptualize the kind of attitudes to employment needed by future workers to cope with the ensuing change and uncertainty, we drew on Mitchell, Levin, & Krumboltz's (1999) concept of "planned happenstance" from career guidance literature (Krumboltz, 2009; Kim et al., 2014; Kim, Rhee, Ha, Yang, & Lee, 2016). The core idea is that career decisions are affected by unplanned or unexpected events in the external environment that occur by happenstance. Rather than regard such events positively or negatively, the theory calls on individuals to frame such chance events as career opportunities via five

behavioral "skills": Curiosity (exploring new learning opportunities), Persistence (exerting effort in the face of setbacks), Flexibility (change plans to cope with changing circumstances), Optimism (viewing new opportunities as possible and attainable) and Risk Taking (taking action in the face of uncertain outcomes). In developing our measure we extended these ideas by consideration of implicit calls by economic policy makers (supported by recent studies) for more market-oriented or "entrepreneurial" (cf. Uy, Chan, Sam, Ho, & Chernyshenko, 2015) career mindsets.

While market-oriented attitudes emphasise flexibility, traditional approaches call for matching a person to a job – "take me as I am." Career guidance was focused more on helping "me" find the right job – one which matched my qualifications, experience, and expertise. Policymakers are calling for a shift away from such a self-focused qualification/expertise-based orientation to employment (e.g., Davie, 2013; 2014). However, current policy concerns with skills-mismatch (cf. Handel, 2008) and over-education (cf. McGuinness, 2006) indicate the continued relevance of measuring these traditional "me"-oriented attitudes. During this time of transition, individuals may concurrently hold both new ("market") and traditional ("me") attitudes to employment, and we therefore hypothesize:

Hypothesis 1: Market-oriented "happenstance" attitude to employment is a distinguishable dimension from "me-focussed", qualification/expertise-based attitude to employment.

Instrumental versus intrinsic "meaning" of working.

The study of work attitudes has established a distinction between instrumental (or transactionally-motivated) versus intrinsic attitudes to working (e.g., Arvey, Harpaz, & Liao, 2004; Snir & Harpaz, 2009; Warr, 1982, 2008). While trends identified in the previous paragraphs are driving the need for new employment attitudes, we also note their relevance to the meaning of work. Unpaid volunteer work was recognised as work by the ILO in 2011, and United Nations initiatives promoting life-long life-wide learning (cf. Belanger, 2015; Reischmann, 2014; Németh, 2015) increasingly highlight the importance of intrinsic motivational attitudes toward work over a lifetime, beyond just paid employment. We therefore adapted the classic "lottery" question and referred to unpaid and volunteer work to conceptualize intrinsic, non-economic work attitudes. Recognizing the shared future-oriented policy-driven nature of intrinsic non-economic work attitude and market-oriented attitude to employment, we hypothesized:

Hypothesis 2a: Intrinsic, non-economic work attitude is a distinguishable dimension from market-oriented "happenstance" and "me-focussed", qualification/expertise-based attitudes.

Hypothesis 2b: Intrinsic, non-economic work attitude is positively associated with market-oriented/happenstance attitude to employment.

How do market-oriented/happenstance and traditional qualification/ expertise-based attitude to employments relate to corresponding "career" mindsets? "Employment" and "careers" are different concepts. Market-oriented/happenstance attitude to employment has career analogues in protean career attitude and boundaryless mindset while traditional qualification/expertise-based attitude to employment has analogues in low organizational mobility preference. We hypothesized:

Hypothesis 3a: Market-oriented "happenstance" attitude to employment is positively correlated with protean career attitude and boundaryless mindset; and,

Hypothesis 3b: Traditional "me-focussed" qualification/expertise-based attitude to employment is positively correlated with low organizational mobility preference.

Focal Research Context: Graduate Employability amidst Economic Uncertainty

Graduate employability concerns the economic role of graduates and of universities to equip them for the labor market. Emerging as a public policy concern in the U.K. during the 1990s, graduate employability is now a central theme intersecting higher education and economic policy in many other countries (Clarke, 2018; Tomlinson and Holmes, 2017), relating to concerns with youth employment, overeducation and labor market-skills mismatch. This policy area draws interdisciplinary insights from economics, education, sociology and psychology (e.g., Donald, Baruch & Ashleigh, 2017; Rothwell and Rothwell, 2017) and is one of drivers for the employment policy shifts described above.

Graduate employability is also a significant concern in the wake of the COVID-19 pandemic. On March 6th the ILO (2020a) forecasted that global unemployment would increase by 13 million with the majority (7.4 million) of job losses in high-income countries. Youth were identified as a vulnerable group in this crisis. Employability has been operationalized in many different ways ranging from objective, economic measures to subjective, psychological ones. A psychological approach to employability is the construct of self-perceived employability, defined by Berntson and Marklund, (2007) as "the individual's perception of his or her possibilities of getting new employment" (p. 281).

Writing on graduate employability, Rothwell and Rothwell (2017) defined self-perceived employability as: "how individual graduates can make an evaluation of their own career potential going forward" (p. 42). Today, self-perceived employability continues to feature in graduate employability research (e.g., Donald, Baruch, & Ashleigh, 2017; Donald, Ashleigh, & Baruch, 2018; Álvarez-González, López-Miguens, & Caballero, 2017; Jackson and Wilton, 2017; Nicholas, 2018). Self-perceived employability has also been shown to relate to employees' well-being, mediated by job insecurity in workplace settings (e.g., de Cuyper, Bernhard-Oettel, Berntson, Witte, & Alarco, 2008). Without prior research on market-oriented/happenstance attitude to employment, we referred to de Vos and Soens (2008) who had previously reported protean career attitude as an antecedent of self-perceived employability. To the extent that market-oriented/happenstance attitude to employment could be positively correlated with new career orientations such as protean career attitude and boundaryless attitude (i.e., Hypothesis 3a), we likewise hypothesized:

Hypothesis 4: Market-oriented "happenstance" attitude to employment and protean career attitude are positively correlated with self-perceived employability.

Validating "Life-wide" Work attitudes Among Student Volunteers

As mentioned, contemporary policy today also recognises unpaid volunteer work as work. The inclusion of intrinsic, non-economic work attitudes in our new conceptualisation of MOW attempts to recognise this "life-wide" view of working that goes beyond instrumental economic motivations, as reflected in Morse and Weiss' (1955) Lottery Question and related Work Centrality measures (e.g., by Arvey et al., 2004; Snir and Harpaz, 2009; Warr, 1982, 2008). Given that our participants would be recruited from a student volunteer organization, there would be restricted variance in their current volunteering activities. For this reason we chose to use future volunteering intentions (post-university) and volunteer identity as indicators of likely future engagement in life-wide non-economic work once students had entered the workforce.

Hypothesis 5: Intrinsic/non-economic work attitudes would be most strongly correlated with future intentions to volunteer beyond university studies and strength of volunteer identity.

METHOD

Participants and procedures

280 university students were recruited from a large comprehensive university in Singapore. Invitations were emailed to the university's welfare services club where students engage in volunteering activities for various social welfare organizations and causes. Online survey data collection was conducted in April and May 2020 with Institutional Review Board approval and informed consent. All participants were compensated S$8. Upon data screening, 26 cases were discarded as they failed attention checks resulting in a final sample of 254 usable cases (33% male, 67% female; age M = 22.49 years, SD = 1.67 years).

Measures

Market-oriented "happenstance" attitude to employment, qualification/expertise-based attitude to employment and intrinsic, non-economic work attitude. We developed an initial item pool comprising eight Likert-type market-oriented/happenstance items reflecting the five aspects of happenstance theory, market orientation and value creation; 12 "traditional" items reflecting what were commonly-held attitudes at least in the Singaporean workforce; and, four intrinsic, non-economic work attitude items with three reflecting attitudes towards unpaid work, and one adapted from the classic lottery question. Respondents indicated on a 5-point scale (1= *little or no*, 5 = *to a great*) the extent they felt statements were true. Using MPLUS version 8.8 (Muthén & Muthén, 1998–2012), we performed a series of exploratory factor analyses using maximum likelihood estimation with robust standard errors (MLR) extraction and Geomin oblique rotation. Parallel analysis showed that three factors accounted for most of the variance in the initial item pool with acceptable model fit, $\chi^2(207)$ = 388.56; CFI = .82, SRMR = .05, RMSEA = .06). Iteratively, we eliminated some items that either loaded more on an unintended factor or cross-loaded with other factors while considering factor interpretability. The final items for the three factors with item loadings are shown in Table 1. An initial confirmatory factor analysis (CFA) showed that the 16-item 3-factor model provided acceptable fit to the data, $\chi^2(101)$ = 211.53; CFI = .83; SRMR = .08; RMSEA = .07), but this CFA will need further cross validation with another sample. Cronbach's alpha scale reliabilities were acceptable: 7-item market-oriented/ happenstance attitude to employment α = .72, 5-item qualification/expertise-based attitude to employment α = .71, and 4-item intrinsic, non-economic work attitude α = .67 (see Table 2). Scale scores were computed by averaging responses to items within each scale.

Protean career attitude, boundaryless mindset and low organizational mobility preference. Chan et al.'s (2012) adaptation of Briscoe et al.'s (2006) scales was used as these were previously validated with Singaporean students. Respondents indicated on a 5-point scale (1 = *little or no*, 5 = *to a great*) the extent they felt statements were true. Sample items were: "Ultimately, I will only depend upon myself to move my career forward" (protean career attitude; 7 items); "I would enjoy job assignments that require me to work outside of the organization" (boundaryless mindset; 4 items); "I would like the predictability that comes with working continuously for the same organization" (low organizational mobility preference; 5 items). CFA showed that a 3-factor model provided good fit to the data, $\chi^2(101) = 160.46$; CFI = .92, SRMR = .06, RMSEA = .05. Scale reliabilities (see Table 2) were acceptable. Scale scores were computed by averaging responses to items within each scale.

Self-perceived employability. Berntson, Näswall, & Sverke's (2008) 6-item measure was used. Respondents indicated on a 5-point Likert scale their agreement/disagreement with statements about their perceived skills, experience, network, personal traits, and knowledge of the labour market (e.g., ''I know of other organizations / companies where I could get new work''; 1 = *strongly disagree*, 5 = *strongly agree*). While our past research had indicated that a unidimensional factor fitted the 6-item scale well, parallel analysis with the present data indicated that two, correlated factors ($r(F1, F2) = .48$, $\chi^2(4) = 4.85$; CFI = .99; SRMR = .02; RMSEA = .03;) provided a better fit than a single-factor model ($\chi^2(9) = 53.85$; CFI = .85, SRMR = .06; RMSEA = .14), $\chi^2(5) = 47.44$, $p < .001$. Examination of items showed that the two factors reflected a well-established distinction between personal human capital-based versus external, market-based self-perceived employability (cf. Berntson et al., 2006; Forrier, Verbruggen & de Cuyper, 2015; McQuaid & Lindsay, 2005). CFA showed that the 2-factor model provided good fit to the data, $\chi^2(8) = 13.24$; CFI = .98; SRMR = .03; RMSEA = .05. We therefore computed self-perceived employability as follows: 4-item personal qualities-related self-perceived employability, $\alpha = .70$ ("I would have no problem in getting a job"; "I have a contact network that I can use to get a job"; "My personal qualities make it easy for me to get a job"); 2-item market-related self-perceived employability, $\alpha = .75$ ("My experience is in demand in the labour market", "My competence is sought-after in the labour market"); and 6-item overall self-perceived employability, $\alpha = .77$. Scale scores were computed by averaging responses to items within each scale.

Future intentions to volunteer beyond university studies and strength of volunteer identity. To measure strength of volunteer motivation beyond university studies and causes, we developed a Future Intentions to Volunteer beyond University Studies Scale with 3 items as follows: "I will continue volunteering even after I graduate and start working full time", "I intend to volunteer as actively as I can for the rest of my life", and "In future I will volunteer for as many different causes that interest me as I can"; and, a Strength of Volunteer Identity Scale with 4 items as follows: "Volunteering is in my blood, I am a volunteer for life", "Volunteering is an important part of who I am", "I love volunteering whenever I can" and "Volunteering is my passion". Respondents indicated on a 5-point Likert scale the importance of each statement (1 = v*ery unimportant*, 5 = v*ery important*). CFA showed that a 2-factor model provided adequate fit to the data, $\chi^2(13) = 23.60$; CFI = .98; SRMR = .04; RMSEA = .06, with both measures correlated at .67. Scale reliabilities (see Table 2) were good at .79 and .85 respectively. Scale scores were computed by averaging responses to items within each scale.

RESULTS

Table 2 summarizes the key item and scale statistics and their inter-correlations for this study. Our iterative, exploratory factor analysis-driven scale development process showed that market-oriented/happenstance and "me-focussed" qualification/expertise-based attitudes to employment are distinct factors. Table 2 also shows that these scales are uncorrelated at $r(252) = .03$ (*n.s.*), thus supporting Hypothesis 1. Similarly, the exploratory factor analysis revealed that market-oriented/happenstance and traditional "me-focussed" qualification/expertise-based attitudes to employment were both distinguishable from intrinsic, non-economic work attitude, which supports Hypothesis 2a and the idea that individuals may concurrently hold both future/desired and traditional attitudes during a period of work and employment reform. We observed market-oriented/happenstance attitude to employment and intrinsic, non-economic work attitude significantly positively correlated at $r(252) = .40$ ($p < .001$), which supports Hypothesis 2b. This suggests that market-oriented/happenstance attitude to employment and intrinsic, non-economic work attitude are both consistent with policies aimed at maintaining future employability; both may be independently held alongside "me-focussed" qualification/expertise-based attitude to employment.

From Table 2, we observe that market-oriented/happenstance attitude to employment is

positively correlated with protean career attitude at r*(252)* = .32 (*p* < .001) and boundaryless mindset at r*(252)* = .44 (*p* < .001) which supports Hypothesis 3a. We also observe intrinsic, non-economic work attitude having a significant but slightly weaker positive correlation with protean career attitude at r*(252)* = .18 (*p* < .005), and with boundaryless mindset at *r(252)* = .25 (*p* < .001). Conversely, "me-focussed" qualification/expertise-based attitude to employment is only positively correlated with low organizational mobility preference at *r(252)* = .43 (p < .001) which supports Hypothesis 3b. Though conceptually distinct, both contemporary work attitudes (i.e., market-oriented/happenstance and intrinsic work attitudes) are positively related to similarly contemporary career attitudes like protean and boundaryless mindset. Likewise, individuals with traditional "me-focussed" employment attitude also tend to hold traditional career attitudes, i.e., low organizational mobility preference. This again reinforced the view that individuals may concurrently hold both contemporary and traditional attitudes during a period of employment reform and a crisis.

From Table 2, we observe that market-oriented/happenstance attitude to employment is positively correlated with personal self-perceived employability (*r(252)* = .25, *p* < .001), market-based self-perceived employability (*r(252)* = .29, *p* < .001) and overall self-perceived employability (*r(252)* = .31, *p* < .001), providing partial support for Hypothesis 4. Interestingly, we also observe that intrinsic, non-economic work attitude has slightly weaker but positive correlations with personal self-perceived employability (*r(252)* = .18, *p* < .005), market-based self-perceived employability (*r(252)* = .21, *p* = .001) and overall self-perceived employability (*r(252)* = .22, *p* < .001). Traditional qualification/expertise-based attitude is not correlated with self-perceived employability. While low organizational mobility preference is unrelated to self-perceived employability, both protean career attitude and boundaryless mindset are positively related to self-perceived employability, providing further support for Hypothesis 4. Market-oriented/happenstance attitude to employment and intrinsic, non-economic work attitude are each also positively correlated with protean career attitude and boundaryless mindset. Together, these observations suggest that progressive attitudes to employment and career are associated with self-perceived employability; traditional attitudes are not. This supports policy-led initiatives to encourage such new attitudes to employment and careers.

Finally, to validate the distinction of social policy-motivated intrinsic work attitudes from

economically driven market-oriented/happenstance employment attitude, we observe from Table 2 that Intrinsic Work Attitude is most highly correlated with both Future Intentions to Volunteer ($r(252) = .35$, $p < .001$) and Strength of Volunteer Identity ($r(252) = .32$, $p < .001$) among our student volunteer participants compared to market-based and me-focussed employment attitudes. This supports Hypothesis 5 and provides initial discriminant validation of socially-driven intrinsic work attitudes from more economically-driven employment attitudes.

DISCUSSION

Our research contributes to continuing interest in the meaning of working. Specifically, we provide a contemporary focus on attitudes to employment and working in manner relevant to both social and economic policy concerns that shape the future of working in a society moving away from past cultural assumptions. We show how a contemporary approach to working may be conceptualized in terms of: (1) the external market or environmental opportunities, needs and demands, (2) subjective and intrinsic meaning of working itself, and (3) one's identity ("me") that reflects both agentic elements like one's interests, aspirations, expertise and qualifications in context of socio-cultural influences that may be both local and traditional. Our initial empirical effort indicates that pre-workforce undergraduate students in Singapore are able to hold both traditional and contemporary attitudes independently during current conditions of employment policy transformation. Our research reinforces Bellah et al. (1985) and Wrzesniewski et al.'s (1997) reminders that careers are not the same as "employment" or "having a job", which in turn is critical in the conceptualization of work attitudes as they pertain to either perspective of work. By incorporating elements of happenstance theory into our new measure of work, we have attempted to bridge applied psychological interests with contemporary career guidance theory.

Our research highlights the important role of future-oriented employment policy as a societal factor that today shapes individual attitudes toward employment and working while implicitly expecting individuals to abandon or de-emphasize past culturally embedded attitudes towards working. It is important to constantly review and revise the measurement of work attitudes to stay locally relevant, yet anticipate the future of working. While our market-oriented/happenstance and intrinsic work attitude scales were theoretically justified, what constitutes especially "traditional" work

attitudes should be locally relevant. It is thus vital to establish the measurement equivalence and content validity of any measure of "traditional" attitude to employment (including ours) before using these in other countries. Likewise, measures of the meaning of working may need to be updated to include new life domains that were non-existent in the last century (e.g., virtual work life in social media), yet applied carefully at different locations.

For now, our research addresses the concerns of countries like Singapore (e.g., Tan, 2017, Woo, 2018) that anticipate a vastly different future of working in social and economic life. In Singapore at least, it appears that today's traditional attitudes toward employment are likely rooted in the industrial age that shaped assumptions of linear, sequential relations between formal education, qualifications and employment, e.g., "front loading" education/learning and skills acquisition with an expectation of lifetime employment returns on this investment, and, an assumed fit between relatively static job and person. Such assumptions are no longer tenable given the many factors forcing fundamental changes in the nature of work. Looking ahead, individuals may need more "happenstance" orientations towards their work as they anticipate the uncertainties and unknowns of a rapidly changing world as suggested by career guidance theory. From an economic (personal survival and competitiveness) perspective, individuals may also need to adopt more market-oriented, value-creating perspective toward their work beyond a purely agentic view (cf. Tams & Arthur, 2010). Perhaps there is scope to further expand the concept of career entrepreneurship (cf. Korotov, Khapova & Arthur, 2010) beyond its investment emphasis to also focus on external market demand and opportunity-seeking or creating aspects (e.g., Arthur, Khapova, & Richardson, 2016). Distinguishing economically-driven market-oriented/happenstance from socially-motivated intrinsic, non-economic work attitude also provides a more balanced vision of working in society for individuals where one works not only to meet immediate economic needs but where work is intrinsically meaningful when unpaid and volunteered.

This study was conducted in Singapore and with university students, recruited mostly via the student welfare services club during a very unique and specific period in this country's history marked by policy driven reforms, and an impeding global pandemic. Any inferences from this study should consider these limitations before generalizing to other contexts. More data is now being collected from different samples to further refine and validate our measures, and to establish generalizability.

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Table 1
Items and Standardized item loadings of the new "Market, Meaning, and Me" scales.

Items	Factor loading 1	2	3
Factor 1: Market-oriented/Happenstance Attitude to Employment			
1. I am always curious to explore a totally different job just to see if I can make it there.	**.94**	.00	-.24
2. My working life is largely guided by my sense of what the market needs and what value I can provide to it.	**.61**	.27	-.01
3. I will take risks to try out something new so as to increase my chances of landing a good job.	**.48**	-.04	.06
4. I am the type who constantly consider many alternative career paths instead of sticking to one career path.	**.48**	-.28	.09
5. When faced with a situation where I might lose my job, I would work hard to re-invent myself by learning new skills to stay employed.	**.44**	.09	.14
6. If I stay stuck in my current profession or industry, I will lose the opportunities to create value in the future economy.	**.35**	.27	-.01
7. Even in an economic downturn, I can always see new opportunities to keep working and stay employed.	**.27**	-.03	.24
Factor 2: Qualification/Expertise-based Attitude to Employment			
1. I am <u>not</u> prepared to work in roles that are outside of my main area of expertise.	-.13	**.68**	-.01
2. I would only take on a job in another industry I am familiar with than to consider taking a new job in a different industry.	.01	**.60**	.13
3. I would probably avoid taking on job tasks and assignments that are outside my chosen area of expertise.	-.05	**.58**	.09
4. I mainly seek work opportunities that directly fit my skills and interests.	.03	**.50**	.16
5. The key to securing my dream job lies in achieving the right education qualifications.	.00	**.48**	.11
Factor 3: Intrinsic, Non-Economic Work Attitude			
1. I <u>do not</u> ever see myself fully retired from work and will keep working (e.g., doing unpaid volunteer work) even if I am financially secure.	-.01	.01	**.62**
2. I am the type who will gladly do unpaid, volunteer work even while having full-time paid work and employment.	.01	-.12	**.60**
3. Any work or job, including unpaid volunteer work, is better than having no work to do.	.06	.02	**.58**
4. I will continue working and **stay active** in society and the economy even if I won a huge lottery.	-.03	.00	**.51**

Note. N = 254. Values in bold represent the highest standardized factor loading for each item.

Table 2. Scale means, standard deviations, reliabilities and inter-scale correlations

Scale	*M*	*SD*	Mkt attitude	Qual' attitude	IWA	Protean Attitude	BM	Low OMP	Personal SPE	Market SPE	Overall SPE	Intent to Vol	Vol Identity
1. Market-oriented/ Happenstance attitude to Employment (Mkt Attitude)	3.40	0.55	(.72)										
2. Qualification/Expertise-based attitude to Employment (Qual' Attitude)	3.28	0.62	.03	(.71)									
3. Intrinsic, Non-Economic Work Attitude (IWA)	3.74	0.67	.40**	.07	(.67)								
4. Protean Career Attitude	3.83	0.49	.32**	.12	.18**	(.75)							
5. Boundaryless Mindset (BM)	3.59	0.68	.44**	-.03	.25**	.38**	(.80)						
6. Low Organizational Mobility Preference (Low OMP)	3.03	0.66	.10	.43**	-.01	.07	-.00	(.72)					
7. Personal Qualities-related Self-Perceived Employability (Personal SPE)	3.29	0.67	.25**	-.07	.18**	.29**	.26**	-.08	(.70)				
8. Market-related Self-Perceived Employability (Market SPE)	3.36	0.79	.29**	.08	.21**	.28**	.29**	.03	.50**	(.75)			
9. Overall Self-Perceived Employability (Overall SPE)	3.31	0.62	.31**	-.02	.22**	.33**	.31**	-.05	.93**	78**	(.77)		
10. Future Intent to Volunteer beyond University studies (Intent to Vol)	3.93	0.58	.10*	.04	.35**	.13*	.28**	.04	.20**	.25**	.25**	(.79)	
11. Strength of Volunteering Identity (Vol Identity)	3.70	0.66	.19**	.05	.32**	.13*	.24**	.03	.19**	.22**	.23**	.67**	(.85)

Note. $^{**}p < .01$, $^{*}p < .05$, $n = 254$. Diagonal entries in parentheses indicate the Cronbach alpha reliability of each scale.

6. Leadership, Governance and Strategy

An Overlooked Connection: Work Design Quality and Leadership Intention

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An Overlooked Connection: Work Design Quality and Leadership Intention

ABSTRACT: *The present study investigated whether there is a connection between employees' perceived work design quality and their intention for a possible leadership position at their current organization. The mediating role of worries about leadership and the moderating role of motivation to lead were also examined. The results showed that there is a positive relationship between work design and leadership intention: as employees' work design quality increases, their intention to be a leader at the current organization increases correspondingly. However, the mediation effect of worries about leadership and the moderation effect of motivation to lead were not significant. Results showed the importance of employee work design for maintaining effective leader candidate pools.*

Keywords: work design quality, leadership intention, leader emergence, leadership shortage, worries about leadership (WAL), motivation to lead (MTL)

INTRODUCTION

Many organizations today suffer from what Epitropaki (2018) calls *the leadership shortage*: "Talented employees, who are by all accounts successful individual contributors, are not willing to step up in managerial positions and claim leadership" (p. 89). A substantial outcome of this shortage is that organizations frequently appoint incompetent leaders partly because of the narrower talent pools for leadership (e.g., Chamorro-Premuzic, 2019; Hogan et al., 2018). Given the importance of effective leaders for organizational success (Kaiser, Hogan, & Craig, 2008), understanding the reasons behind this shortage is critical. One reason that many talented employees are not motivated for leadership positions in their current job might be that they view their current jobs as *dead-ends,* and one of the reasons why employees view their jobs as dead-ends can be related to the way their work is designed. Based on this reasoning, one can ask, could employees' perception of their work design quality be one of the reasons for them to avoid leadership positions? The present study investigates whether there is a connection between perceived work design quality and intention to assume managerial/leadership positions (i.e., leadership intention).

Epitropaki (2018) points out the emergence of a self-selection bias in leadership, where some individuals deliberately opt out of leadership opportunities, which then probably leads to the leadership shortage. Trying to shed light on this shortage, Epitropaki (2018) reviewed the existing literature and identified two groups of factors behind this problem. The first group of these factors is related to individuals' willingness to assume leadership roles: narcissism, gender, socio-economic status, and some specific biological characteristics (i.e., genetic and neurochemical differences). The second group of factors are associated with the reluctance to step up for leadership: lack of motivation, lack of skills, lack of developmental readiness and efficacy, and lack of leader identity. However, to the best of our knowledge, the effect of employment context (specifically employee work design) in the scope of leader self-selection has been overlooked so far.

The Theory of Purposeful Work Behavior suggests that behaviors at the workplace can be explained by the interplay between personality traits and situational factors (Barrick & Mount, 2013). Situational factors in this framework are defined primarily as the characteristics of the job. According to

the theory, individuals' volitional actions are characterized by two key mechanisms: purposefulness and experienced meaningfulness. Purposefulness is defined as "having a sense of desired end states or directedness to one's behaviour, whereas experienced meaningfulness refers to the perceived significance or meaning an individual draws from engaging in work activities" (Barrick & Mount, 2013, p. 133). Purposefulness is experienced when individuals feel that they pursue their fundamental higher-order goals, which are molded mainly through personality traits. Meaningfulness is experienced when individuals feel that what they do at work has significance and is aligned with their higher-order goals (thus, they are purposeful). In other words, meaningfulness is experienced when the situation (i.e., the current work characteristics) is in accordance with personal higher-order goals. For example, an employee with high conscientiousness may have a strong strive for achievement, and if their job provides them with a sense of accomplishment (e.g., having a high task identity), then the employee would feel their actions are purposeful and have meaning. Drawing from the Theory of Purposeful Work Behavior, we investigate how specific situational factors (i.e., work design) interact with personality traits (i.e., motivation to lead) to give way to intentions about becoming a leader (i.e., leadership intention).

Work design refers to "the content and organization of one's work tasks, activities, relationships, and responsibilities" (Parker, 2014, p. 662). Growing evidence suggests that work design quality has significant outcomes for employees (Andrei & Parker, 2018; Alarcon, 2011; Podsakoff, LePine, & LePine, 2007) as well as organizations (Humphrey, Nahrgang, & Morgeson, 2007; Morgeson & Humphrey, 2008). However, Parker, Andrei, and Van den Broeck (2019) maintain that although work design quality has been proven to be quite beneficial for all stakeholders (employees and organizations), low-quality work design practices are still prevalent. A poorly designed work can be defined as one where the employee has little or no autonomy, low task variety, low task significance, low task complexity, low social contact and support, and high job demands – some of the factors that may lead the employee to think that they are working a *dead-end job*. In a poorly designed work, employees can feel unsatisfied (i.e., low job satisfaction), unmotivated (i.e., low job motivation), anxious, stressed, burned-out,

constrained; and experience work-life imbalance and even some physical health issues (Morgeson & Humphrey, 2008).

We speculated that these two problems (i.e., leadership shortage and prevalence of poor work design) from two distinct research streams might be partly connected. We predicted that there might be a relationship between employees' perceived work design quality and their intention to become a leader in their current job at their current organization. Although leadership positions are usually considered desirable (i.e., they increase employees' power and compensation), these positions generally require tremendous dedication and sacrifice on employees' part. With the leadership position, the employee may need to work longer hours, make difficult termination decisions, be responsible for failures of the team, and so on. Thus, employees who already suffer from low-quality work design may not be willing to make these sacrifices for their organization, thinking that becoming a leader will increase their dissatisfaction at work and also the benefits will not compensate for the costs of becoming a leader.

Attempting to account for the mechanism underlying this relationship, we propose that worries about leadership (Aycan & Shelia, 2019) might mediate the relationship between work design quality and leadership intention. Aycan and Shelia (2019) define the construct as "the worries people have about the possible negative consequences of assuming a leadership role" (p. 21). We predicted that there may be a linear relationship between work design quality and worries about leadership. Poorly designed work may be associated with increased worries about leadership as employees may anticipate that their adverse conditions will become even more arduous with the leadership responsibilities. Increased worries, in turn, may lead to decreased intentions for taking leadership roles (Aycan & Shelia, 2019). Conversely, high-quality work design may be associated with decreased worries which will, in turn, be associated with higher leadership intention (see Figure 1).

However, not all employees with a low-quality work design may be reluctant about leadership opportunities. The strength of the proposed relationship between work design quality and leadership intention may be affected by employees' motivation to lead (Chan and Drasgow, 2001). Motivation to lead is an individual-difference construct that "affects a leader's or leader-to-be's decisions to assume

leadership training, roles, and responsibilities and that affect his or her intensity of effort at leading and persistence as a leader" (Chan and Drasgow, 2001, p. 482). Although some employees may perceive their work negatively in terms of its design, they may still be motivated to assume leadership roles due to various personal reasons such as extrinsic rewards (e.g., increased paycheck and power), a sense of duty, or an inclination to be in charge. Therefore, we expect motivation to lead to act as a moderator in the proposed relationship (see Figure 1).

To summarize the arguments presented so far, the main goal of the current study is to determine whether employees' perception of their work design quality is associated with their intention to assume a current leadership position through their worries about leadership and whether the total strength of this possible association is influenced by employees' motivation to lead. With this goal in mind, this study attempts to contribute to both leader emergence and work design literature by focusing on the connection between work design and leadership shortage (Epitropaki, 2018). For the leader emergence literature, its contribution will be to identify the work characteristics underlying the leadership shortage. For the work design literature, it will reveal one of the potential consequences of poor work design (i.e., contribution to the shrinkage of leader talent pools). If the proposed relationship is confirmed, it may lead to a new stream of research investigating the dynamics between work design and leader emergence. Consequently, intervention programs can be implemented to improve work design quality, which will help increase the size and quality of leadership candidate pools. This way, both individuals' work conditions and the success of organizations can be enhanced in the long term.

- Insert Figure 1 about here -

HYPOTHESES

Leadership Intention, Work Design and Mediating Role of Worries About Leadership

One of the reasons behind the leadership shortage can be the recent trend that employees are becoming less interested in these positions (Chudzikowski, 2012; Lyons, Schweitzer & Ng, 2015). However, our aim in this study is to understand whether this reluctance is also partly due to situatinal factors instead of being a purely generational difference. Therefore, to understand the effect of the current

context on forming an intention to become a leader, we specified our outcome variable as leadership intention to investigate the leadership shortage. Leadership intention can be defined as an employees' desire to assume a particular leadership position at their current organization at a given time. It is different from employees' motivation to lead since motivation is usually quite broad and does not necessarily involve an element of immediate and direct action. More specifically, it is possible to have a motivation for becoming a leader while having no active intention of becoming one at a particular time (Kennedy et al., 2021). Moreover, motivation to lead is a trait construct, meaning that it is a relatively stable characteristic of an individual (Chan & Drasgow, 2001). Therefore, motivation to lead must be context-independent, while leadership intention is tied entirely to a specific context. Thus, an employee, for example, may have a high motivation to lead (i.e., general interest in leadership) but a low intention to assume a specific leadership role at a given time.

Current work design quality, which is a strong situational cue, may influence employees' worries associated with leadership since worries about leadership "is domain-specific and can change depending on situational cues" (Aycan and Shelia, 2019, p. 24). Well-designed work can mitigate employees' worries, while poorly designed work can trigger the worries associated with being a leader. For example, an employee who has been experiencing low-quality work design (i.e., low levels of autonomy, task variety, task significance, task complexity, social support, interdependence, etc.) may fear that these work characteristics will not improve if not get worse, when they become a leader at their current job function/work team. The employee may perceive becoming a leader as an invitation to failure as the mistakes they make will become more salient. Furthermore, employees may fear that there will be little or no work-life balance, and a possibility of harming others with the decisions they made (e.g., laying off employees who may be former peers) or get harmed by the elevated levels of stress if they become a manager/leader at their current work team. Consequently, heightened worries may decrease the employee's intention to assume a managerial/leadership position.

On the other hand, high-quality work design (i.e., high levels of autonomy, task variety, task significance, task complexity, social support, interdependence, etc.) can encourage employees to take the

risk and put themselves forward for the leadership positions as their positive work experiences can provide them with a benchmark from which they can evaluate the outcomes of the leadership position. For example, an employee with a high-quality work design can readily predict how much autonomy and responsibility the leadership position will bring as they already have significant levels of job autonomy and responsibilities. Therefore, high-quality work design might be associated with increased leadership intention of an employee through low levels of worries about leadership.

Based on this reasoning, we predicted that there would be a relationship between employees' perceived work design quality and their leadership intention, and this relationship would be mediated by employees' worries about leadership. However, we limit our prediction of this association to the immediate team level. In other words, the current work design quality may be significant only for the next hierarchical leading position, while its effect may be weaker for the intention towards more distant leading positions (e.g., director, general manager, CEO, etc.). The reason behind this limitation is that employees are primarily able to observe their immediate superior's work design thoroughly (compared to more senior managers' work design) to make decisive judgments of the desirability and feasibility of that position. For this reason, the participants were asked to indicate their intention to assume a managerial/leadership role that is hierarchically the closest to their current position. Based on these justifications, our first and second hypotheses are:

Hypothesis 1. There will be a positive relationship between perceived work design quality and leadership intention, such that poor work design will be associated with decreased leadership intention while good work design will be associated with increased leadership intention.

Hypothesis 2. The relationship between employees' perceived work design quality and leadership intention will be mediated by employees' worries about leadership.

Moderating Role of Motivation to Lead

What if an employee suffers from poor work design but has always felt like they need to be a leader no matter what? As discussed above, employees' motivation to lead (MTL; Chan and Drasgow, 2001) can moderate the relationship between work design quality and leadership intention. If an

employee's motivation to lead is already high, their intention to nominate themselves for a managerial/leadership position may not be affected by work design quality. Since motivation to lead is a trait (i.e., individual difference; Chan and Drasgow, 2001) construct, employees may have a high motivation to lead regardless of their perceptions about their current work characteristics. For example, if an employee has a strong sense of duty for leading others or expects significant benefits (e.g., more money or power) as a result of becoming a leader, then they may not be affected significantly by the work design quality. The opposite condition is also possible: If an employee already has a low motivation to lead, then their intention for claiming leadership positions would not increase even if they had a pretty high level of work design quality. Based on these justifications, our third hypothesis is as follows:

Hypothesis 3. The relationship between employees' perceived work design quality and leadership intention will be moderated by employees' level of motivation to lead in such a way that this relationship is weakened by high and low (rather than moderate) levels of motivation to lead.

METHOD

Participants and Procedure

The participants were recruited through Amazon Mechanical Turk (MTurk), an online crowdsourcing website that has been increasingly used in behavioral sciences for participant recruitment (Buhrmester, Kwang, & Gosling, 2011). As participants needed to evaluate their work design at their current job and their intentions for becoming a leader at their current organization, only full-time white-collar employees who had at least six months of experience at their current organization were included in the survey study. Those who did not satisfy these criteria were opted out of the study. The survey included demographic questions and scales to measure intention to assume leadership positions at the current organization, work design quality, worries about leadership, and motivation to lead. The participants who completed the survey were compensated $0.50.

Initially, 582 responses were received through MTurk. However, 232 responses were excluded due to several reasons: Some participants filled out the survey multiple times even though they were opted out as they did not fit the inclusion criteria. Some participants were excluded due to failing at least one of

the attention check questions or completing the survey in an unreasonably short amount of time. Finally, participants who were detected as outliers or had poor OddEven index were excluded from the analysis. The final sample consisted of 350 participants (58% male, 41.4% female, and 0.6% other). The age of the participants ranged from 21 to 71 years, with an average of 39.68 years (*SD* = 10.07). Total tenure of the participants and their tenure at the current organization ranged from 1 to 50 years (*M* = 13.07, *SD* = 9.58; *M* = 8.06, *SD* = 10.08, respectively). The participants were from various industries such as technology, education, health, service, entertainment, etc. At the time of the study (during the COVID pandemic), 48.3% of the participants worked in their office, 21.1% worked remotely, and 30.6% worked hybrid (i.e., they worked sometimes remotely and sometimes at their office).

Measures

Leadership Intention

The scale for measuring intention to assume leadership roles at the current organization was developed for the purpose of this study. The items were pooled and selected by three researchers in the area of industrial and organizational psychology. Several items were combined from two previous studies (Aycan & Shelia, 2019; Auvinen et al, 2022). Additional items were developed to include behavioral components of leadership intention. The final pool of items has not been tested prior to the main study, which remains a limitation of the study. However, the data for the main study indicated no significant psychometric problems with this measure (see Appendix A for an examination of the psychometric properties of the measure). The scale consists of 6 items, and responses are given on a 5-point Likert-type scale ranging from “very unlikely” (1) to “very likely” (5). Higher scores on this scale indicate higher degrees of leadership intention. A sample item is as follows: “I would nominate myself for a managerial/leadership position if there were an opening for such a position at my current organization.” As employees’ intention for a leading role within their immediate work team was the main interest of this study, the participants were explicitly instructed to think of the mentioned position as the closest managerial/leadership role to their current roles.

Work Design Quality

A short version of the Work Design Questionnaire (WDQ; Morgeson & Humphrey, 2006) was used for the purpose of this study since the aim of the original version is to measure general work design comprehensively, and thus, it was too long for an online survey study. The items for the short version were carefully pooled and selected from the original version by three researchers in the area of industrial and organizational psychology. A sample item for the autonomy subdimension is as follows: "The job gives me a chance to use my personal initiative or judgment in carrying out the work." A sample item for the task significance subdimension is as follows: "The job itself is very significant and important in the broader scheme of things."

The original questionnaire contained work context items (ergonomics, physical demands, work conditions, and equipment use) which are mainly about the physical conditions of the work. However, these items were excluded in the adapted short version because the present study was conducted during the COVID19 pandemic and, thus, most of the regular white-collar employees' physical work conditions were affected. Therefore, to prevent the physical effects of the pandemic from diverting responses, the work context items were excluded entirely. The resulting questionnaire consists of 19 items, and responses are given on a 5-point Likert-type scale ranging from "strongly disagree" (1) to "strongly agree" (5). Higher scores on this scale mean higher degrees of work design quality.

Worries About Leadership

The Worries About Leadership Scale (Aycan & Shelia, 2019), which is a 16-item questionnaire, was used to measure the degree of employees' worries raised by a possible promotion to a leadership position. Responses are given on a 5-point Likert-type scale ranging from "to a very little extent" (1) to "to a very large extent" (5). The participants were asked to suppose that they have been offered a managerial/leadership position at their current organization and indicate to what extent each of the items makes them worry. A sample item is as follows: "Mistakes I make being noticed more than before".

Motivation to Lead

A short version of the Motivation to Lead Scale developed by Chan and Drasgow (2001) was used to measure employees' general motivation toward assuming leadership. The scale consists of 12 items,

and responses are given on a 5-point Likert-type scale ranging from "strongly disagree" (1) to "strongly agree" (5). Higher scores on this scale mean higher degrees of motivation to lead. A sample item is as follows: "I feel that I have a duty to lead others if I am asked."

Demographic Information Questionnaire

This questionnaire consisted of items about participants' age, gender, employment status, area of work, total tenure and tenure at the current organization, department/team, and mode of work (i.e., at the office, remote, or hybrid).

RESULTS

Internal reliabilities of the scales, descriptive statistics and correlations among the study variables are shown in Table 1. The Cronbach's alpha scores of all variables are above the cut-off score of .70 (Tavakol & Dennick, 2011). The distribution of the data seems to be normal as the skewness and kurtosis scores are within the expected ranges (less than 1 for skewness and less than 3 for kurtosis; Muthen & Kaplan, 1985).

- Insert Table 1 about here -

One-way analyses of variance were conducted to understand whether work mode (i.e., working at an office, working remotely or hybrid) significantly affected the study variables. Results are shown in Table 2. Although some groups significantly differed, the differences in means and the effect sizes were quite small (i.e., $\eta^2 < .06$; Cohen, 1988). In terms of work design quality, only the hybrid and the office groups differed significantly from each other ($p = .005$). In terms of leadership intention, the only significant difference was between the remote and the hybrid groups ($p = .047$). In terms of worries about leadership, the hybrid group differed from both the office group ($p < .001$) and the remote group ($p < .001$). Lastly, in line with the assumption that motivation to lead is context-independent (i.e., a trait construct), none of the groups significantly differed from each other in terms of motivation to lead scores.

- Insert Table 2 about here -

To test the hypotheses, the PROCESS macro for SPSS (Hayes, 2013) was employed as it is suitable to conduct indirect and conditional indirect effects analyses using a bootstrapping approach

(Kisbu-Sakarya, MacKinnon, & Miočević, 2014). Model 5 of the PROCESS macro was used with 1000 bootstrapping iterations. Results are shown in Table 3.

Hypothesis 1, that employees' work design quality would be associated with their intention to assume leadership positions, was supported as work design quality positively predicted leadership intention ($B = .829$, $t = 2.707$, $p = .007$), controlling for the mode of work (i.e., remote, office, or hybrid), $\Delta R^2 = .0001$, $F(2, 344) = .032$, $p > .05$. As employees' work design quality increases, their intention to take leadership positions at their current job increases correspondingly.

Hypothesis 2, that worries about leadership would mediate the relationship between work design quality and leadership intention, was not supported as the indirect effect of work design quality on leadership intention was not significant, $b = .004$, 95% CI [–.0215, .0068]. Work design quality did not significantly predict worries about leadership ($B = –.141$, $t = –1.25$, $p > .05$) and worries about leadership did not significantly predict leadership intention ($B = .029$, $t = .926$, $p > .05$). The direct effect between work design quality and leadership intention was significant ($B = .810$, $t = 11.41$, $p < .001$).

Hypothesis 3, that motivation to lead would moderate the relationship between work design quality and leadership intention, was also not supported since the interaction between work design quality and motivation to lead was not significant ($B = –.094$, $t = –.972$, $p > .05$). There was a significant positive relationship between motivation to lead and leadership intention ($B = 1.141$, $t = 2.951$, $p = .003$).

- Insert Table 3 about here -

As both worries about leadership and motivation to lead are multidimensional constructs, post-hoc analyses were conducted to see whether the mediation and the moderation relationships can be observed at the subdimension levels of these two constructs. However, the results showed that none of the models produced with the subdimensions was significant. In other words, none of the worries about leadership's subdimensions had a significant mediation effect and none of the motivation to lead's subdimensions had a significant moderation effect in this study.

- Insert Table 4 about here -

DISCUSSION

The results showed that there is a linear relationship between work design quality and leadership intention. Employees with well-designed work had higher intentions to assume leadership positions at their current job, while those with poorly designed work had lower intentions. Turning to the possible mechanisms underlying the relationship between work design and leadership intention, we expected that worries about leadership would act as a mediator. However, the results showed that the mediation effect of worries about leadership was not significant. Even though work design can be a solid situational factor, this finding suggests that work design may not directly evoke employees' worries about leadership. In other words, work design quality may be related to employees' leadership intention without eliciting worries associated with becoming a leader. However, this conclusion should be treated with caution as the study design might have failed to capture employees' worries about leadership appropriately as it was a cross-sectional design. Experimental or longitudinal studies must be conducted before reaching a conclusion as worries about leadership may be better observed in these kinds of study designs.

Another prediction of this study was that employees' leadership intention would not strongly relate to their work design quality if they have already high or low motivations for assuming leadership positions. As motivation to lead is a trait construct, employees' motivation to lead may be high or low independent of their employment contexts (Chan & Drasgow, 2001). However, there was no such interaction as the results revealed that the strength of the relationship did not significantly differ at the levels of employees' motivation to lead (e.g., low, moderate, high).

Theoretical and Practical Contributions

This study is the first to bridge the gap between work design literature and leader emergence literature. It made important contributions to both streams of research. First, the present study extends the work design literature by uncovering another important work design outcome. Besides being related to employees' well-being, performance, motivation, commitment, involvement, and learning and development (Morgeson & Humphrey, 2008; Parker, Morgeson, & Johns, 2017); work design is also related to employees' intentions for becoming a leader. Second, this study contributes to the leader emergence literature by identifying one of the determinants of leadership shortage, (i.e., work design

quality). As discussed above, only the individual-related factors contributing to this problem have been identified. However, this study showed that a situational factor, current work design, can also play a role. The most significant practical contribution of this study is that it offers insights into solving the leadership shortage problem. To avoid narrow leader candidate pools and its long-run consequence of appointing incompetent leaders, organizations should pay close attention to the work design of their employees. Improving work design practices at an organization will not only benefit employees in many ways, but it will also benefit the organization in better retaining talented employees and diversifying the leader candidate pools.

Organizations can train their key personnel (e.g., human resources specialists, team leaders, directing managers, upper-level executives) to improve their work design practices as previous research shows that a good understanding of work design is very much likely to result in enriched work design (Campion & Stevens, 1991; Parker, Andrei, & Van den Broeck, 2019). Especially, work design should be added to manager/leader training and development programs as individuals at these positions have significant influences on work design practices (Parker, Morgeson, Johns, 2017; Parker, Andrei, & Van den Broeck, 2019). Parker, Andrei, and Van den Broeck (2019) underline this issue, "one might question how much attention (relative to, say, leadership) the topic of work design gets in MBA programs, executive development or leadership programs, and even supervisory training courses" (p. 923). Organizations and educational institutions (e.g., business schools) can work with psychologists specialized in industrial and organizational psychology to embed work design related topics into their training programs.

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FIGURES AND TABLES

Figure 1
Research model of the present study.

Table 1
Descriptive Statistics and Correlations Among the Study Variables (N = 350)

Variables	*α*	*M*	*SD*	1	2	3	Skewness	Kurtosis
1. WDQ	.86	3.92	.48				-.545	.121
2. LI	.84	3.63	.73	.52*			-.765	1.792
3. WAL	.95	3.05	1.01	.07	-.14*		-.458	-.740
4. MTL	.73	3.15	.52	.35*	.64*	-.32*	.384	1.549

Note. WDQ = work design quality, LI = leadership intention, WAL = worries about leadership, MTL = motivation to lead, *α* = Cronbach's alpha, *M* = mean, *SD* = standard deviation. All variables were measured on a 5-point Likert type scale.
* $p < .001$

Table 2
Means, Standard Deviations, and One-Way Analyses of Variance in Work Design Quality, Leadership Intention, WAL and MTL

Measure	Office		Remote		Hybrid		*F* (2,347)	η^2
	M	*SD*	*M*	*SD*	*M*	*SD*		
WDQ	3.854	.493	3.903	.449	4.039	.471	5.016*	.028
LI	3.578	.675	3.511	.840	3.780	.788	3.500*	.020
WAL	3.160	.978	3.272	.970	2.727	1.019	8.615**	.047
MTL	3.130	.461	3.085	.474	3.233	.624	2.080	.012

Note. WDQ = work design quality, LI = leadership intention, WAL = worries about leadership, MTL = motivation to lead, *M* = mean, *SD* = standard deviation, η^2 = eta squared.
* $p < .05$
** $p < .001$

Table 3
Regression Analysis Exploring Mediation of WAL and Moderation of MTL (N = 350)

Variable	*B*	*se*	*t*	*p*	*LCL*	*UCL*	*df1*	*df2*	*F*	R^2
Outcome: WAL							1	348	1.581	.004
WDQ	-.141	.112	-1.257	.209	-.361	.079				
Outcome: LI							4	345	91.315	.514
WDQ	.829	.306	2.707	.007	.227	1.432				
WAL	.029	.031	.926	.355	-.032	.090				
MTL	1.141	.387	2.951	.003	.381	1.902				
WDQ x MTL	-.094	.097	-.972	.332	-.286	.097				

Note. WAL = worries about leadership, LI = leadership intention, WDQ = work design quality, MTL = motivation to lead

Table 4
Regression Analyses Exploring Mediation and Moderation Effects of WAL and MTL Subdimensions (N = 350)

Variable	*B*	*se*	*t*	*p*	*LCL*	*UCL*	*df1*	*df2*	*F*	R^2
Mediation										
Outcome: WAF							1	348	.191	.0005
WDQ	-. 051	. 118	-. 437	. 662	-.280	. 178				
Outcome: WAH							1	348	1.281	.004
WDQ	-.142	.126	-1.132	.258	-.390	.105				
Outcome: WAW							1	348	3.459	.099
WDQ	-.213	.115	-1.860	.063	-.440	.012				
Outcome: LI							4	345	35.416	.291
WDQ	.815	.071	11.414	.000	.674	.955				
WAF	-.078	.063	-1.245	.214	-.201	.045				
WAH	.019	.061	.323	.747	-.101	.140				
WAW	-.026	.067	-.399	.690	-.157	.104				
Moderation										
Outcome: LI							3	346	52.507	.313
WDQ	.781	.228	3.419	.000	.332	1.230				
MTL-NC	.088	.317	.278	.781	-.536	.712				
WDQ x MTL-NC	.016	.077	.209	.834	-.135	.167				
Outcome: LI							3	346	133.349	.536
WDQ	.921	.213	4.331	.000	.503	1.339				
MTL-A	.983	.268	3.669	.000	.456	1,510				
WDQ x MTL-A	-.111	. 067	-1.652	.099	-.243	.021				
Outcome: LI							3	346	70.626	. 380
WDQ	.539	.287	1,875	.061	-.026	1.104				
MTL-SN	.443	.311	1.425	.154	-.168	1.055				
WDQ x MTL-SN	-.006	.079	-.078	.938	-.162	.150				

Note. WAF = worries about failure, WAH = worries about harm, WAW = worries about work-life balance, LI = leadership intention, WDQ = work design quality, MTL-NC = non-calculative MTL, MTL-A = affective MTL, MTL-SN = social-normative MTL

Appendix A

A post hoc exploratory factor analysis showed that Leadership Intention items loaded to only one factor explaining a total of 55.902% of the variance, which was intended for since the aim was to measure a composite leadership intention score. None of the items were eliminated as the factor analysis indicated no redundant items.

Table A.1.
Factor Loadings and Communalities for 6 Leadership Intention Items (N = 350)

Item	Factor Loading	Communality
1. I would nominate myself for a managerial/leadership position if there were an opening for such a position at my current organization.	.828	.685
2. I would request to be considered in the pool for management/leadership positions.	.828	.685
3. I would be reluctant to apply for an open leadership/managerial position. (R)	.410	.168
4. I would participate in training programs to be prepared for managerial/leadership positions at my current organization.	.701	.491
5. I would seek endorsement for my candidacy for a managerial/leadership position at my current organization.	.783	.613
6. I would mention my interest in managerial/leadership positions when an opportunity arises.	.844	.712

Note. The extraction method was principal component analysis with no rotation. The reverse-scored item is denoted with an (R).

Table A.2.

Eigenvalues, Percentages of Variance and Cumulative Percentages for 6 Leadership Intention Items (N = 350)

Factor	Eigenvalue	% Variance	Cumulative %
1	3.354	55.902	55.902
2	.882	14.807	70.710
3	.605	10.088	80.798
4	.434	7.235	88.033
5	.370	6.164	94.197
6	.348	5.803	100

To understand the divergent validity of the Leadership Intention Scale, a confirmatory factor analysis was performed by combining leadership intention items with motivation to lead items since motivation to lead seemed to be closely related to leadership intention. The results showed poor model fit (χ^2 = 1277.979, *df* = 135, $p < 0.001$, RMSEA = 0.156, CFI = 0.557). A two-factor model with separate leadership intention and motivation to lead items had also poor fit (χ^2 = 1232.897, *df* = 134, $p < 0.001$, RMSEA = 0.153, CFI = 0.574). However, an explanatory factor analysis with leadership intention and motivation to lead items yielded a two-factor model, explaining a total of 53.803% of the variance. The items loading showed that leadership intention and motivation to lead items were mostly grouped into two different factors (no items loaded to a third factor). Together, these results indicate partial support for divergent validity between leadership intention and motivation to lead.

Table A.3.

Eigenvalues, Percentages of Variance and Cumulative Percentages for Leadership Intention and Motivation to Lead Items (N = 350)

Factor	Eigenvalue	% Variance	Cumulative %
1	5.151	36.795	36.795
2	2.381	17.007	53.803
3	1.009	7.208	61.011
4	0.831	5.937	66.948
5	0.744	5.311	72.260
6	0.686	4.900	77.159
7	0.550	3.930	81.089
8	0.480	3.425	84.514
9	0.432	3.087	87.601
10	0.398	2.840	90.441
11	0.390	2.787	93.228
12	0.349	2.496	95.723
13	0.323	2.310	98.034
14	0.275	1.966	100

Note

This paper is based on the first author's master thesis submitted to the Graduate School of Social Sciences and Humanities, Koç University.

COVID-19's Impact on Students' Perceptions of Employability and Readiness

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COVID-19's Impact on Students' Perceptions of Employability and Readiness

ABSTRACT:

Implementing online study modes has been increasingly important for universities seeking to encourage students of all backgrounds to access and engage in higher education. COVID-19 exacerbated the need for universities to transform learning experiences and consider online study as the new normal. However, due to the recency of COVID-19, there is little research on how changing study mode affects students' perceptions of employability and work readiness. This paper focused on the experiences of students disrupted by COVID-19 and transitioned into online study. The key findings show that students felt online study was not an equivalent alternative to on-campus learning, and their experience transitioning online adversely affected their employability and work readiness development.

Keywords: (Study Mode, Employability, Work Readiness, COVID-19)

As employers and the government demand work-ready graduates (Boden & Nedeva, 2010; Wardle & Ashwell, 2018), university students are expected to have both degree specific-skills and transferable skills to meet the needs of graduate roles (Quality Indicators for Learning and Teaching, 2020; Jackson, 2016a; Jackson, 2016b). The growing necessity of practical or working experiences alongside a university degree has become a significant barrier for students attempting to enter the workforce (Jackson, 2016c; Jewell, 2014). Research indicates that students highly value the practical experiences offered by higher education institutions (HEIs), including internships, but feel they cannot access these opportunities due to competing study, working and personal commitments (Jackson & Bridgstock, 2018; Reddan & Rauchle, 2012). Moreover, these opportunities are of growing interest to students as they transition to online studies (Helyer & Lee, 2014; Jackson, 2019).

With the increasing adoption of online learning in tertiary education, the ability for universities to provide accessible and equitable alternatives to employability and work readiness (EWR) development opportunities previously available on-campus to students has become more difficult (Winter, Costello, O'Brien & Hickey, 2021). In particular, the provision of internships and work-integrated learning, which help students successfully transition into the workforce (Jackson & Wilton, 2017; Niu, Hunter-Johnson, Xu & Liu, 2019), is currently scarce online (Helyer & Lee, 2014). Furthermore, the physical restrictions imposed by the COVID-19 pandemic have exacerbated the already limited availability of such opportunities for online students, adversely affecting their

tertiary learning experiences (Agarwal & Kaushik, 2021; Mukhtar, Javed, Arooj & Sethi, 2020). Therefore, the rising prevalence of online modes raises questions about how online students may be advantaged or disadvantaged compared to their on-campus peers (Agarwal & Kaushik, 2020). This paper explores the impact of COVID-19 on students' perceptions of EWR and will first provide a review of relevant literature related to EWR and study modes. Subsequently, the paper will discuss the methods, the findings, and conclude with a summary of insights gained throughout the study. This study utilises data for an honour's dissertation collected through a series of semi-structured interviews and an online survey. Responses were collected from undergraduate students and career support professionals to examine COVID-19's influence on students' EWR development.

LITERATURE REVIEW

Employability and Work Readiness: Frameworks and Measurement

Employability refers to the combination of skills, experiences and attributes individuals possess which are perceived as desirable by employers (Rothwell, Herbert & Rothwell, 2008; Tomlinson, 2007). In comparison, *Work Readiness* complements employability by encapsulating the individual's perspective and examines their journey of developing the required skills and traits to improve their aspects of securing employment (Caballero, Walker & Fuller-Tyszkiewicz, 2011; Jackson, 2019). HEIs play a critical role in upskilling and preparing students and are instrumental in conveying the dual importance of EWR on students' success in transitioning into the workforce. Furthermore, studies have discussed the value of universities integrating the concept of employability within their curriculum to provide experiences for students that develops both generic and technical skills (Sin, Tavares & Amaral, 2016; Jackson & Bridgstock, 2018).

This value-alignment coincides with current employer interests in employability, job security decline, and uncertainty about the types of jobs available in the future (Sánchez-Gelabert, Figueroa & Elias, 2017; Tymon, 2013). However, employers are increasingly diminishing the value of undergraduate degrees and redefining the expectations of what employability attributes entry-level roles require (Jackson, 2020; Matković & Kogan, 2014). As such, a bachelor's degree's relative worth is merely becoming an additional criterion to mark against when recruiting (Matković & Kogan, 2014). The devaluation of HEI degrees creates an inherent issue for graduates seeking employment (Jackson, 2016a; Clarke, 2017). Students are now more than ever expected to accumulate experiences

through paid work, internships, and networking to bolster their perceived employability (Jackson, 2016a; Billett, Cain & Le, 2018). However, the COVID-19 pandemic has limited students' access to extracurricular opportunities to develop their EWR and supplement their tertiary education (Bekova, Terentev & Maloshonok, 2021). As such, these barriers further increase students' reliance on HEIs to offer online learning that replicates on-campus content and activities in an online setting.

The Disadvantages of COVID-19 and Online Learning on Student Employability and Work Readiness Development

The introduction of an online study mode has significantly changed the HEI sector (Purarjomandlangrudi & Chen, 2020). Australian universities' adoption of online modes has become prevalent and attracts a broader range of students seeking to experience tertiary education or upskill without disrupting their careers (Crisp, 2018; Smith, 2010; Holt & Palmer, 2010). Furthermore, the integration of technological advancements such as learning management systems has increased the opportunity for HEIs to offer online courses and reduced student access barriers (Mukhtar et al., 2020; Roberts, 2015). In response to the ongoing COVID-19 pandemic, the shift to online learning introduced new issues and opportunities for HEIs (Agarwal & Kaushik, 2020; Mukhtar et al., 2020). Agarwal and Kaushik (2020) highlighted one issue: course content that is simply modified to fit online modes but cannot accurately replicate on-campus learning experiences. In addition, they note that the requirement for heightened technological literacy in online learning obstructs students' engagement with HEIs. Winter et al. (2021) concurred that the transition to online learning had disconnected students from the more accountable, in-person learning environment where students' commitment to study is supported by observing others engaging in study.

Online students' disengagement is further exacerbated by the recording of lectures (Bosshardt & Chiang, 2016). In addition, the flexible learning experience afforded to online students potentially decreases their motivation to engage with their studies. Bosshardt and Chiang (2016) suggest that this decrease is due to the reduction of external motivators such as regular interaction with peers and staff. Therefore, online learning places increased reliance on personal drivers to maintain motivation to study (Ayish & Deveci, 2019). Recent research also indicates that the transition to online learning has significantly impacted academic staff (Downing, Dyment & Stone, 2019). As a result, academics are now required to upskill to facilitate online delivery without disrupting students' learning experiences

(Winter et al., 2021).

Despite research advocating the benefits and consequences of online studies (Ornellas, Falkner & Stålbrandt, 2019; Oliver, 2013; Roberts, 2015; Gregory, 2018), there has been little investigation into how students perceive the effect of studying online on developing their EWR. Furthermore, there is a dearth of literature exploring the effects of situational factors such as sudden changes to student learning mode, including the advent of COVID-19 on student employability (Mukhtar et al., 2020; Agarwal & Kaushik, 2020). Additionally, COVID-19 appears to have highlighted the need for HEIs to support online learning modes in the future (Mukhtar et al., 2020). Therefore, this research seeks to address the following research question; How has COVID-19 affected students' perceptions of employability and work readiness?

METHODS AND DATA

This research project used a qualitative interpretivist phenomenological paradigm to explore the individualistic perceptions of the participant sample. The study focused on undergraduate students who had completed at least one business subject, alongside a small sample of career support professionals who assist students with developing EWR for graduate employment. Semi-structured interviews were conducted with both sample groups to explore if students' study mode had influenced their perceptions of EWR development during the COVID-19 pandemic. An online survey was also conducted alongside the semi-structured interviews, which captured an additional unique sample of students who responded to identical questions asked to the interview sample. The process of conducting interviews and an online survey allowed the study to capture a larger sample and provided greater depth and triangulation to themes and subthemes produced from semi-structured interview responses. A total of 51 responses were collected (Table 1) comprised of 47 students and four Career Support Professionals. The participants were sourced from an Australian university. Participants were recruited via email, social media and university course site announcements advertising the research.

Within the sample, most participants (57.45%) were engaged in blended study, with proportionally lower amounts enrolled on-campus (12.77%) and online (29.79%). These figures are a significant shift from the statistics reported by the Department of Education, Skills, and Employment (2019), as visualised in Figure 1. However, recent changes to HEIs offerings resulting from the COVID-19 pandemic may help explain these figures and be considered an influential factor regarding

the choice of study mode, where HEIs have heavily reduced the number of on-campus courses (Agarwal & Kaushik, 2020). Figure 2 visualises the distribution of age groups by study mode, where younger groups were primarily enrolled in a blended study mode. This distribution is likely due to casual and part-time student work commitments to accommodate study and the current limited on-campus offerings due to COVID-19 restrictions (Carnegie, Martin-Sardesai, Marini & Am, 2021). In comparison, students aged 31 and above were primarily enrolled in online study (55%) compared to 23% of students aged below 31. This prevalence of older online students is likely due to needing to accommodate external commitments, including work and caring for family (Winter et al., 2021). Table 2 summarises sampled respondents' gender, age group, year of study, degree, major(s), and study mode.

FINDINGS

Student Experiences Transitioning into Online Study due to COVID-19

The Transition to Online Learning

Due to COVID-19, the expansive transition of students from on-campus to online study has demonstrated that online study does not adequately replicate the learning experiences found when studying on-campus. For students who were previously studying on-campus, the shift online was unable to replicate the learning experiences they were accustomed to. In addition, students who had been moved online appeared to be ill-prepared. Approximately a quarter of students mentioned difficulties studying in a home environment where they did not have a private area to study away from personal commitments. For example, I5 reflected, "trying to find a personal space at home to study has been difficult as there are always distractions around me." Another student (I7) corroborated these experiences, stating personal commitments were frequently prioritised over their studies, "sometimes I find study difficult to keep up as I have to pick up my kids from school … Focusing on my study is even harder when they get home." Additionally, students frequently suggested that the costs of purchasing resources to study online were undesirable for their circumstances. For example, a third-year blended student (S2) stated, "I am working part-time outside for financial stability reasons and can't afford to have other tasks."

Similar responses were collected by Mukhtar et al. (2020) and Bekova et al. (2021), who noted that students were primarily dissuaded from continuing study online due to the added

complexity of managing their study space and resources compared to those provided by HEIs. However, despite students recognising the limitations of online study, they were hesitant to devalue their experiences outright. Importantly, students were aware of the situational influences that contributed to their discontent towards online study, exacerbated by sudden transitions to online learning caused by COVID-19. Rather, most students responded with constructive feedback towards online study, advocating the benefits of flexibility within their studies to accommodate personal and professional commitments.

Online Study Isolation and Student Wellbeing

The influence of COVID-19 and study mode on the well-being of students, as they became increasingly isolated from their peers due to online study, was another common. Students who had voluntarily chosen online study and those who were moved online due to COVID-19 frequently expressed feeling isolated during their studies. Interestingly, some students felt they relied on their degrees as a primary source of socialisation. Therefore, connectivity issues were further exacerbated by restrictions imposed by COVID-19 from 2020 onwards.

These findings correlate with research by Agarwal and Kaushik (2020), who found that students were increasingly utilising university platforms to socialise throughout the COVID-19 pandemic. Additionally, responses collected throughout this study suggest the separation from practical socialisation in online settings reduces students' ability to develop necessary interpersonal skills, including active listening and teamwork, and could be a barrier when engaging in social settings such as a workplace or participating in an interview. For example, a third-year student who was now studying online due to COVID-19 restrictions (S1) advised, "I would have benefited from being able to study on-campus my whole degree. It would have increased my engagement and learning." Another third-year student (S8) stated, "being on-campus could have benefitted my networking skills."

As detailed by six students, separation from the social environments, including on-campus lectures, was noted as creating risks to their personal and emotional development and could adversely affect students' mental health. For example, a first-year blended student (S29) reflected that online study had adverse effects on their learning and social engagement, stating, "online-only … resulted in isolation and lack of engagement." S14, another first-year blended student, expressed concerns that

the lack of physical communication they had experienced throughout their degree was affecting their social skills, remarking, "I believe I am missing out on networking opportunities by not meeting with people face-to-face." Comparatively, two students believed online study had supported their mental health, advising that reduced engagement in group activities and social interactions had alleviated their anxiety. To illustrate, an online student (S18) responded with the following comments, "online suited for my social anxiety." Similarly, another online student (I10) said, "being able to study and work from home at the moment has reduced a lot of the stress I had about managing both." Therefore, it is critical to acknowledge the overall influence that study mode has on a student's development, especially where this choice is made for them due to events such as COVID-19.

Flexibility and Freedom of Online Learning

Compared to in-person study modes, online learning is inferred to provide students greater freedom to accommodate personal commitments and seek external opportunities to upskill themselves for employment, such as paid work and volunteering. However, this study's results suggest that despite acknowledging increased freedom to accommodate these opportunities, students struggle to access them. For instance, a Career Support Professional (P1) reported, "students are bombarded with internal communications from the university, and it can be hard to … get the message across on what (services and extracurricular activities) is available for them." These findings support prior research by Sánchez-Gelabert et al. (2019), who argue that students are overwhelmed with information and resources by HEIs but are not advised which are important and how to access them.

These issues are further compounded by EWR development opportunities being predominantly offered only on-campus or local to HEIs. The current disparity in EWR development opportunities offered between online options and on-campus limits students' ability to develop their EWR online. These findings suggest that students are unfortunately limited to a greater extent based on their selection of study mode whilst also being subject to external influences such as COVID-19. As a result, students advised that they were less inclined to engage with EWR development opportunities due to the competing commitments alongside limitations on the location of opportunities, which would be less influential if they were studying on campus. For instance, a first-year student (I2) suggested that the physical limitations of extracurricular opportunities offered by HEI do not provide enough value to warrant travelling, stating, "there just isn't enough reason to go …

I feel like I am just wasting my time travelling."

Throughout data collection, students were asked if they felt online courses were comparable to on-campus teaching. For example, one blended student (S10) said, "some courses are too vague and don't relate to actual work. Online studies remove the human element from work." Students who had transitioned to online study also felt that their learning experience was impacted in a way that potentially reduced their employability for graduate employment. Interestingly, students perceived the lack of validation from peers and HEI staff online exacerbated their lack of confidence in their EWR development. Contrastingly, students who did engage with their peers felt that these experiences had helped their skills development. For example, a third-year student (S2) remarked:

> I didn't engage much with my peers or university activities outside the required study. I only had enough time for the study alone. When I did have on-campus classes, they were the ones that were mandatory. I found it to be helpful in developing my social skills.

Students' Pursuit of Development Opportunities

Study mode was also found to affect how students pursue EWR development and graduate employment opportunities, having considerable influence over the availability and accessibility of these opportunities. Specifically, the divide between online and on-campus studies causes students' EWR development to be limited by the types of opportunities immediately accessible to them, either locally or online. As a result, these inherent limitations of study modes can restrict the consistent development amongst students EWR separated across study modes. Likewise, the myriad of external factors that compete for students' time and attention are often determined by their choice of study mode and resulting from it. For example, students consistently advised the need to make compromises within their studies to accommodate external commitments. Furthermore, students strongly expressed interest in undertaking volunteering or internships. However, they felt highly reliant on the support of the university to facilitate these opportunities online.

Despite some activities catering for EWR development being offered online, including networking events and workshops, students advised that they perceived these opportunities as either not valuable or inaccessible. For example, a first-year student (I3) advised, "sometimes I would register for an event, but then the week before it happens, I just can't prioritise it." In addition, the limited availability of HEI-facilitated opportunities exacerbated by COVID-19 left students unable to

prepare themselves for graduate employment effectively. As such, online students were more likely to seek paid work or volunteering opportunities to supplement their online learning.

COVID-19's Effect on Student Engagement

Student Engagement and Socialisation

The advent of COVID-19 on HEIs unquestionably contributed to the negative online experiences detailed by respondents. HEIs were hastily required to change course facilitation to accommodate an online medium. The digitalisation of learning environments propelled by COVID-19 has disrupted students' potential careers and has influenced how HEIs deliver content in the future (Agarwal & Kaushik, 2020; Carnegie et al., 2021; Winter et al., 2021). The changes onset by COVID-19 significantly impacted students, with several noting they felt uncomfortable with the change to blended or online study after being on-campus. Students mentioned they felt disadvantaged compared to when they were on-campus because engagement with their studies was more reliant on self-motivation. A third-year blended student (S20) advised that the changes in study mode throughout their degree were unpleasant, saying:

> Truthfully speaking, the switch to online studying last year caused me to lose track and interest in participating in curricular activities. I felt unfamiliar with the virtual meetings and sort of blanked out on how important it was to engage in HEI-based extracurricular activities.

However, the same student also advocated for studying online, stating, "I was able to participate in all my courses and regularly attend due to time convenience in studying online." Other students also mentioned that online study had helped balance work, personal, and extracurricular commitments. Notably, these responses largely came from students who were already studying online before changes due to COVID-19 and, therefore, avoided the disruptions felt by on-campus students.

Online learning's toleration of reclusive behaviours can also disadvantage students' development of social skills. S3, a third-year blended student, felt strongly about the subject and said, "engagement is hindered because there are technical difficulties as well as people not wanting to participate. In real life, everything is straightforward, and you can't hide behind a screen." Another third-year blended student revealed online studies suited their willingness to engage in lectures and advised, "I felt like at times I didn't need to be involved in the conversation … others would generally answer the questions instead." In comparison, S20, an on-campus student who was now studying

online due to COVID-19, positively remarked:

> As a bit of an introvert, speaking in virtual classes has definitely been easier compared to in-person classes for me. It has allowed me to practice my communication skills via audio and emails/Teams. I also feel more comfortable using Teams/Zoom/Collaborate.

Career Support Professionals concurred that COVID-19 had progressively caused students to become socially disconnected from their peers. In addition, they suggested that the veil of anonymity supported by online platforms would harm students' socialisation skills as they became employed.

Students frequently suggested that socialising online was not comparable to on-campus. For example, a blended student (I17) said, "just signing into a zoom call doesn't really feel like it has the same benefit as a workshop." These responses suggest that students are dissatisfied with the current delivery of online courses and perceive their learning experiences as inferior to on-campus students. For example, a third-year student (S20) who had moved online due to COVID-19 remarked, "I do agree that it [studying online] can cause demotivation and lack of engagement due to absence of physical presence. Especially when it comes to actively participating in co-curricular activities." These findings reinforce recent research by Agarwal and Kaushik (2020) and Winter et al. (2021) that online degrees' delivery has areas for improvement to help students socialise. Notably, online students who discussed feeling disconnected from their peers indicated they did not regularly participate in HEI-run or externally organised social events due to a lack of personal drivers or physical barriers such as anxiety or travel.

Groupwork and Collaboration in an Online Setting

Students also commonly requested online content delivery to emphasise collaboration and engagement between and by students outside of group assignments. However, despite these requests, the research found that students perceived group work in online courses did not represent work settings and was more likely to cause the students to be reluctant to participate in future group work. For example, I14, an online student who had previously studied on-campus, believed online degrees increased the accessibility of content at the cost of practical elements found in on-campus equivalents, stating, "online courses just don't have the same feeling, they don't provide many options for me to apply myself compared to on-campus", and, "connection with my peers is from a place of desperation, not initiative or motivation." Another online student (S13) agreed with this sentiment and mentioned,

"when workshops only encourage students to communicate with the group by typing their contributions, no one gets to know each other, and students remain 'numbers' to the teaching staff."

Similarly, other blended and online students responded, "the forced environments didn't really foster any … true kind of learning" (I10) and "it doesn't feel like you're in a group, you're just doing personal study and then checking in with a couple of other people on a semi-regular basis" (I18). The duality of student responses reiterates the subjectivity of online study as a learning medium.

Technological Limitations Introduced Online

Students and career support professionals perceived technology as a limiting factor to online studies. For example, the restrictive nature of online communications necessitating online conferencing tools has reduced students' abilities to engage with course convenors (Winter et al., 2021). One Career Support Professional (P3) agreed, suggesting that online studies had bolstered the requirement for HEIs to consider how students can be kept engaged and motivated to study, advising, "I think that online studies really prevents students from getting the best experience at university, not having those smaller interactions with lecturers or other students can reduce those students' sense of commitment to study." P3 continued to state, "students really need … to be checked in with when online as it helps them feel comfortable to ask questions in class and when they get into work." P3 also reflected that the adoption of technology to support online learning and teaching had also affected academic staff, which likely reduced the effectiveness of the teaching experience for students during COVID-19. In particular, P3 suggested academics are required to continually upskill to support facilitating online learning and responded accordingly:

> The challenge of changing to online learning has been keeping the interactivity between academics and students. As a result, academic staff are having to learn how to build an online community in their courses and employ other strategies to engage students.

Students also agreed that their HEI lacked the adequate infrastructure to support online learning. The transition to online study modes reduced their ability to engage with the HEI offerings and EWR development opportunities effectively. Recent literature found similar perceptions by students who blamed HEIs for not being readily prepared for online studies exacerbated by COVID-19 (Agarwal & Kaushik, 2020) and suggest COVID-19 has helped reveal online learning shortfalls across universities (Carnegie et al., 2021)

CONCLUSION

This study expands upon the existing literature on student EWR development and critically focused on the influence of COVID-19 on student learning experiences. The influence of study mode on students' perceptions was determined to have a recognisable influence on their engagement and methods to develop EWR, which supports previous EWR literature by Jackson and Wilson (2017) and Clarke (2017). In terms of study mode, students recognised the flexibility afforded by online and blended study but felt the benefits provided by these modes were subject to individual needs and experiences.

Students stated that online study supported independent learning at the cost of socialisation and accessibility of EWR development opportunities. As a result, students highly valued and requested the support and influence of HEIs in guiding their development process, especially online. Furthermore, this study found that the sudden transition to online learning for students previously studying on-campus reinforces the inequity of EWR development opportunities between the two modes. Additionally, most students perceived the networking opportunities provided by HEIs as essential to overcome the barriers of independently seeking limited online self-development options. However, most also noted that they had not accessed these opportunities.

Importantly, the research found that students perceived study mode as a limitation to engaging with EWR opportunities and not a limitation to gaining employment. Instead, the findings suggest that the limitations to access EWR development opportunities imposed by various study modes and COVID-19 are vicariously influential on students' perceived EWR. As such, students felt less prepared to transition into employment, given they have had limited opportunities to develop their EWR, which is also subject to their study mode. The findings presented in this paper contribute to student EWR literature from students' perspectives compared to the largely HEI-centric perspective previous research has taken. Additionally, as the research was conducted during the transition to online as a result of COVID-19, the data collected provides a unique lens on how students respond to a sudden change in study mode and their perception of how the change affected their EWR development. Finally, the insights from the study demonstrate the necessity for HEIs to collaborate with students to understand how online learning can be further developed to become an effective and comparable medium to on-campus learning.

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FIGURES

Figure 1: Study Mode Comparison (Paper Sample and DESE)

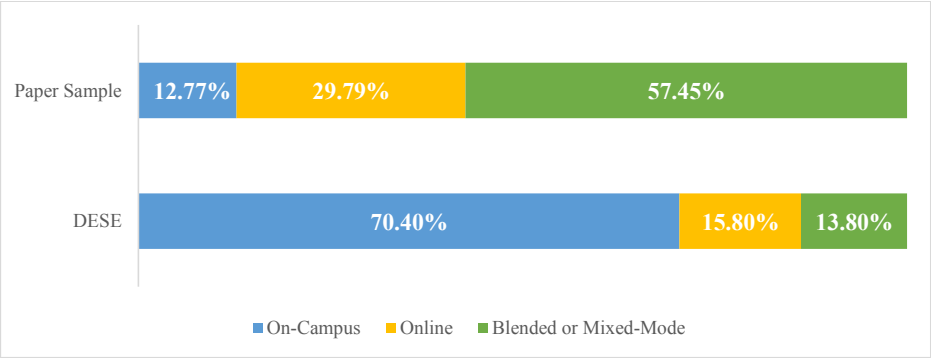
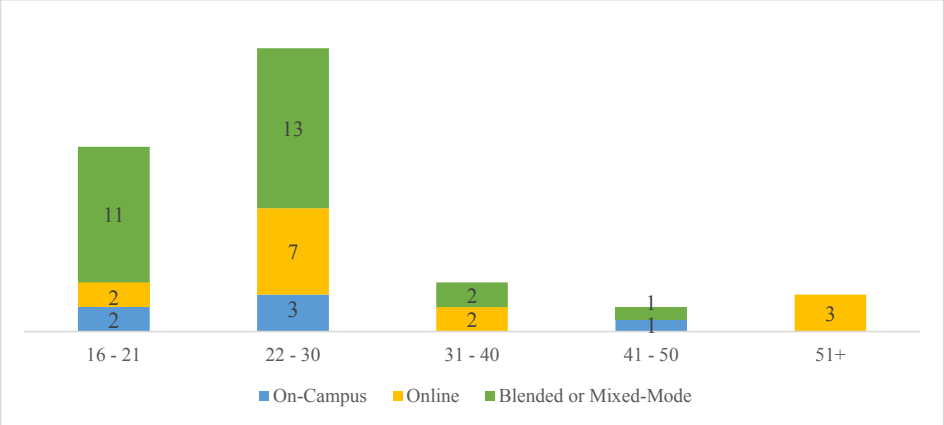


Figure 2: Participant Study Mode by Age Group



TABLES

Table 1: Data Collection Participant Distribution

Collection Method	**Participant Count**
Interview	18
Survey	29
Professionals (CSP)	4
Grand Total	**51**

Table 2: Participant Demographic Information

I = Interview, S = Survey, P = Career Support Professional

Identifier	Gender	Age Group	Year of Study	Degree	Major(s)	Study Mode
S1	Female	16 - 21	Third Year	Bachelor of Business	Entrepreneurship	Blended
S2	Male	16 - 21	Third Year	Bachelor of Business	Human Resource Management	Blended
S3	Male	16 - 21	Third Year	Bachelor of Business	Human Resource Management & Hospitality Management	Blended
S4	Female	16 - 21	First Year	Bachelor of Business	Accounting	Blended
S5	Female	16 - 21	First Year	Bachelor of Business	No Major Advised	Blended
S6	Female	16 - 21	First Year	Bachelor of Business	Government & International Relations	Blended
S7	Female	22 - 30	Second Year	Bachelor of Business	Human Resource Management	Blended
S8	Female	22 - 30	Third Year	Bachelor of Business	Human Resource Management	Online
S9	Female	31 - 40	Third Year	Bachelor of Business	Marketing	Blended
S10	Male	41 - 50	Second Year	Bachelor of Business	Human Resource Management & Event Management	Blended
S11	Male	51+	Second Year	Bachelor of Business	Human Resource Management	Online
S12	Female	51+	Third Year	Bachelor of Business	Human Resource Management	Online
S12	Female	51+	Third Year	Bachelor of Business	Employee Relations	Online
S13	Male	16 - 21	First Year	Bachelor of Business & Commerce	Economics	Blended
S14	Female	22 - 30	Third Year	Bachelor of Business & Commerce	Sustainable Business & Economics	Blended

Identifier	Gender	Age Group	Year of Study	Degree	Major(s)	Study Mode
S15	Female	16 - 21	Third Year	Bachelor of Business & International Tourism	Event Management & Tourism Management	Blended
S16	Female	22 - 30	Second Year	Bachelor of Commerce	Accounting & Taxation	Online
S17	Female	22 - 30	Third Year	Bachelor of Design & Business	Visual Communication	Online
S18	Female	16 - 21	First Year	Bachelor of Design & Business	Visual Communication & Marketing	On-Campus
S19	Female	22 - 30	Third Year	Bachelor of Design & Business	Visual Communication & Marketing	Blended
S20	Male	22 - 30	Third Year	Bachelor of Government & International Relations	Public Policy & International Business	On-Campus
S21	Female	31 - 40	First Year	Bachelor of International Tourism & Hotel Management	No Major Advised	Online
S22	Female	16 - 21	First Year	Bachelor of Law & Business	Human Resource Management	On-Campus
S23	Female	22 - 30	Third Year	Bachelor of Law & Business	No Major Advised	Blended
S24	Female	41 - 50	First Year	Bachelor of Psychological Science	No Major Advised	On-Campus

Identifier	Gender	Age Group	Year of Study	Degree	Major(s)	Study Mode
S25	Male	22 - 30	First Year	Bachelor of Psychology & Business	No Major Advised	Blended
S26	Male	22 - 30	Third Year	Bachelor of Science	Applied Physics	On-Campus
S27	Male	22 - 30	Third Year	Bachelor of Sociology	No Major Advised	Blended
S28	Male	22 - 30	First Year	Bachelor of Urban and Environmental Planning	No Major Advised	Blended
I1	Male	31 - 40	Third Year	Bachelor of Business	No Major Advised	Online
I2	Male	22 - 30	First Year	Bachelor of Business	No Major Advised	Online
I3	Male	22 - 30	First Year	Bachelor of Business & Urban and Environmental Planning	No Major Advised	Blended
I4	Female	16 - 21	Third Year	Bachelor of Law & Business	Human Resource Management	Blended
I5	Male	22 - 30	Third Year	Bachelor of Engineering & Business	Civil Engineering	Blended
I6	Female	22 - 30	Second Year	Bachelor of Psychology & Business	Organisational Psychology	Blended
I7	Female	31 - 40	Third Year	Bachelor of Business	Human Resource Management & Employee Relations	Blended
I8	Male	16 - 21	Third Year	Bachelor of Business	Management	Online
I9	Female	22 - 30	First Year	Bachelor of Business	Sustainable Business	Blended
I10	Female	22 - 30	Third Year	Bachelor of Business	Logistics	Blended

Identifier	Gender	Age Group	Year of Study	Degree	Major(s)	Study Mode
I11	Male	16 - 21	Third Year	Bachelor of Business	Human Resource Management & Hospitality Management	Blended
I12	Male	22 - 30	Third Year	Bachelor of Business	Human Resource Management & Management	Online
I13	Female	22 - 30	Third Year	Bachelor of Business	Human Resource Management & Hotel Management	On-Campus
I14	Female	22 - 30	Third Year	Bachelor of Business	International Relations	Online
I15	Female	16 - 21	Second Year	Bachelor of Business & Arts	No Major Advised	Online
I16	Male	22 - 30	Third Year	Bachelor of Design & Business	Marketing	Blended
I17	Female	16 - 21	Third Year	Bachelor of Business & Commerce	No Major Advised	Blended
I18	Female	22 - 30	Third Year	Bachelor of Business	No Major Advised	Online
P1	N/A					
P2	N/A					
P3	N/A					
P4	N/A					

3. Sustainability and Social Issues

Corporate purpose and the Sustainable Development Goals: An exploratory study of large Australian companies

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Corporate purpose and the Sustainable Development Goals: An exploratory study of large Australian companies

ABSTRACT:
Large companies are expected to play a greater role in addressing societal problems represented in the United Nations' Sustainable Development Goals (SDGs). In response, companies are broadening their purposes beyond profit maximization. This paper explores the relationship between companies' broader corporate purpose and their engagement with the SDGs using interviews with ten Australian companies. We found that companies commonly have a strategic intent to adopt a broader corporate purpose due to competitive motives and incorporate sustainable development into corporate strategies. However, not all of them integrate the SDGs at the strategic level. The broader corporate purpose and/or the SDGs facilitate companies' approaches to sustainable development through their strategies, but no transformational changes to the business model were identified.

Keywords: corporate purpose; corporate sustainability strategy; Sustainable Development Goals (SDGs);

The world faces complex environmental and social issues such as climate change and widening inequalities. To tackle these issues, the United Nations (UN) adopted *Transforming our world: the 2030 Agenda for Sustainable Development*, consisting of a set of 17 Sustainable Development Goals (SDGs) (UN, 2015, p. 1). The UN clearly states that every country has the primary responsibility to implement the goals but acknowledges that "the new sustainable development agenda cannot be achieved without business" (UN, 2015; UN News Centre, 2015). In response, large companies began to engage with the SDGs and the number of companies reporting on the SDGs continues to increase (Bose & Khan, 2022; KPMG, 2017, 2020).

As society expects companies to play a greater role in addressing societal problems (Moon, 2007; Scherer & Palazzo, 2011), they are adopting a broader corporate purpose beyond profit maximization (Business Roundtable, 2019; Matten & Moon, 2020; Porter, Serafeim, & Kramer, 2019). The trend is also associated with the increasing demands from large investors (Freeman, Martin, & Parmar, 2020; Winston, 2019). While there is growing interest in corporate purpose beyond profit maximization, little empirical research exists on why and how companies implement broader corporate purpose (Bhattacharya, Sen, Edinger-Schons, & Neureiter, 2022; Gartenberg, Prat, & Serafeim, 2019), and how the purpose relates to companies' actions on the societal problems represented by the SDGs (Bhattacharya et al., 2022).

This paper investigates the emerging phenomena of large companies' declarations of broader

corporate purpose and their engagement with the SDGs to address whether the phenomena drive a meaningful change for sustainable development. The aim of this paper is to examine the relationship between companies' corporate purpose and their engagement with the SDGs, by exploring the motivations and practices of large Australian companies to pursue both a broader corporate purpose and the SDGs. The main contribution of the paper is an explanatory model of the relationship between corporate purpose and the SDGs. The remaining paper is structured as follows. The theoretical background for the research study is presented, including the analytical framework, followed by the research methodology. The paper then discusses the findings and contributions of the research study.

THEORETICAL BACKGROUND

Corporate Purpose

Corporate purpose refers to "why" an organization exists or its *raison d' être* (Bartlett & Ghoshal, 1994; Ellsworth, 2002; Hollensbe, Wookey, Hickey, & George, 2014). Scholars have engaged with the question over several decades, resulting in conflicting views: maximizing profits and shareholder value (Friedman, 1970; Jensen & Meckling, 1976) or benefitting broader society (Bowen, 1953; Carroll, 1991). Recently, George and colleagues (2021) reviewed the extensive literature on corporate purpose and identified two distinctive perspectives: "goal-based purpose" and "duty-based purpose" (p.2). The goal-based purpose is closely related to theories of mission, vision and strategic intent, which does not necessarily recognize the company's broader role in society (George, Haas, McGahan, Schillebeeckx, & Tracey, 2021). It rests on systems thinking and natural sciences, and the change mechanisms are driven by top-down and extrinsic motivation (Dahlmann & Stubbs, 2021). In contrast, "duty-based purpose" embraces theories of ethics, values and morality and explicitly defines a company's social and environmental responsibilities (George et al., 2021). The paradigm is humanism and social sciences focusing on individual employees rather than an organization, and the change mechanism is based on bottom-up and intrinsic motivation (Dahlmann & Stubbs, 2021).

Corporate Engagement with the SDGs

There is a growing body of literature on corporate engagement with the SDGs. This literature

mainly draws upon company surveys and sustainability reports to examine how companies perceive and implement the SDGs (KPMG, 2018; PwC, 2019; Rosati & Faria, 2019a, 2019b; Van der Waal & Thijssens, 2020; Van Zanten & Van Tulder, 2018). Scholars found that companies mapped their existing activities against the SDGs rather than undertook specific actions based on the SDGs (KPMG, 2018; PwC, 2019; Van der Waal & Thijssens, 2020). Companies' SDG reporting is driven by legitimacy motives (Elalfy, Weber, & Geobey, 2021; Silva, 2021; Van der Waal & Thijssens, 2020). While existing studies help to understand the overall trends, they are limited in understanding what drives companies to engage with the SDGs and how the SDGs affect their business strategies.

A few empirical case studies draw on interviews with people working in organizations that generate in-depth analyses of "why" and "how" companies adopt the SDGs (Fleming, Wise, Hansen, & Sams, 2017; Santos & Silva Bastos, 2021; Vildåsen, 2018). Unlike studies based on corporate disclosures, scholars found reasons other than legitimacy for companies to engage with the SDGs, such as ethical reasons (Santos & Silva Bastos, 2021). While these case studies provide some insights into large companies' engagement with the SDGs, research is still scant compared to research on companies' role in sustainable development (Kolk, Kourula, & Pisani, 2017; Van der Waal & Thijssens, 2020).

Analytical Framework

The analytical framework draws upon two major concepts in the CSR and corporate sustainability literature to guide the data analysis: 1) companies' motivation for social and environmental initiatives (why) and 2) Baumgartner's (2014) layers of integrating sustainable development into companies' management (how) (see Table 1).

Insert Table 1 about here

Three major motivations for companies to engage with social and environmental initiatives are *competitive*, *legitimacy* and *ethical* motivations. Competitive motives are also referred to as instrumental motives (Aguilera, Rupp, Williams, & Ganapathi, 2007) or profitability motives (Brønn & Vidaver-Cohen, 2009). Companies with a competitive motive attach great importance to the

interests of their customers, who generate profits, and to the investors who provide them with funds. Legitimacy motives are known as relational motives, supported by legitimacy theory, stakeholder theory and institutional theory. Companies seek legitimacy from stakeholders or to comply with society's norms and regulations (Aguilera et al., 2007; Bansal & Roth, 2000). These companies try to avoid stakeholders' negative perceptions to ensure long-term survival and social license to operate by aligning with their surrounding audiences and social systems (Aguilera et al., 2007; Bansal & Roth, 2000). Ethical motives, or moral motives, rest on companies' values beyond economic interests brought by individuals in the organization (Aguilera et al., 2007; Bansal & Roth, 2000). Unlike competitive motives, ethical motives are driven by a concern for social benefits (Bansal & Roth, 2000) and are aligned with stewardship theory (Aguilera et al., 2007). Even though these three motivations are distinctive, they are not mutually exclusive. One motivation may dominate in some companies, while other companies may have multiple motivations (Bansal & Roth, 2000; Brønn & Vidaver-Cohen, 2009; Santos & Silva Bastos, 2021).

The analytical framework also draws from Baumgartner's (2014) layers of management integration. Baumgartner (2014) categorizes three layers of corporate management practices integrating sustainable development: *normative*, *strategic* and *operational*. Normative management refers to how sustainable development is integrated into the company's management philosophy, which encompasses its mission, vision, policy, governance, and culture (Baumgartner, 2014). Strategic management reflects sustainable development in the decision-making process (Baumgartner, 2014). Companies integrating sustainable development at this level analyze impacts and interrelations between the external environment and companies' strengths and weaknesses and use the analysis to develop a corporate sustainability strategy. Finally, companies implement their strategy at the operational management level through various functions such as logistics, production, human resources, and public relations (Baumgartner, 2014). Companies' activities depend on how they integrate sustainability into their strategy. All three levels (normative, strategic and operational) are necessary for companies to integrate sustainable development into their business (Baumgartner, 2014). Companies demonstrate one or a combination of these three levels of integration.

We combine motivation theory with Baumgartner's framework to analyze why and how large

companies adopt broader corporate purposes and pursue the SDGs. The consolidated framework shown in Figure 1 guides the analysis of the relationship between broader corporate purpose and companies' actions on the SDGs.

Insert Figure 1 about here

METHOD

Sampling

The sample was drawn from the S&P/ASX100 companies, the 100 largest listed companies on the Australian Securities Exchange (ASX). 86 companies were headquartered in Australia. Their publicly accessible corporate websites and published annual/sustainability reports were reviewed to create a shortlist of companies having a broader corporate purpose and pursuing the SDGs (the criteria). Identifying companies with a broader corporate purpose beyond maximizing profits was not limited to statements titled "purpose" but included other strategic documents such as mission and vision, which also explain the corporate purpose or a company's reason for existence. 48 Australian companies satisfied the criteria, and were invited to participate in the study. Eleven people from nine companies in ASX100 and one from a government-owned company accepted the invitation (see Figure 2). The government-owned company was recruited through snowballing sampling, as one of the participants from the ASX company recommended and referred the company and the contact person to the main researcher. This company is as large as the other ASX companies and has been pursuing the broader corporate purpose and the SDGs. Table 2 summarizes the participants.

Insert Figure 2 about here

Insert Table 2 about here

Data Collection and Analysis

The interviews were conducted between September and December 2021 on Zoom. Interviews were between 30 and 60 minutes, audio-recorded, transcribed, and shared with each participant to enhance data validation (see Appendix for the interview questions). Secondary data were also

analyzed for data triangulation (Eisenhardt, 1989; Yin, 2003), including corporate websites, sustainability reports, annual reports, and other relevant resources from third-party organizations. All transcribed data were imported into NVivo software (R1.6) for coding and analysis. The coding process followed three types of coding: open coding; axial coding; and selective coding (Strauss & Corbin, 1998). Codes were produced initially to organize the data in categories through open coding. They were then sorted into higher-level categories and converged into themes in axial coding. Selective coding further classified the relationship between broader corporate purpose and the company's action on the SDGs.

FINDINGS AND ANALYSIS

This section addresses the research aim by discussing the relationship between the ten Australian companies' broader corporate purpose and their engagement with the SDGs. It explores the motivations and practices of the ten companies to pursue both a broader corporate purpose and the SDGs. This section first analyzes why companies adopt the broader corporate purpose and how the purpose is implemented in the organizations. It then discusses companies' views and actions on the SDGs to reveal why and how companies pursue the SDGs. These findings are drawn on to develop the explanatory model presented in the next section.

Adopting Broader Corporate Purpose

All ten companies developed the purpose in the last ten years; nine after 2017. The study identified three reasons why Australian companies developed and implemented the broader corporate purpose: (1) defining strategic direction; (2) earning trust from stakeholders; and (3) employee engagement. The three reasons are not mutually exclusive, and all the companies have more than one reason for adopting their broader corporate purpose.

Defining strategic direction

Defining the strategic direction was the most prevalent reason for all Australian companies. For seven companies, the change of their CEOs triggered the development of a broader corporate purpose

and accompanying strategy. Five had a purpose before the appointment of the current CEOs and revised them, whereas two companies did not have a purpose statement. Purpose development is often a top-down project led by new CEOs. Among companies where the change of CEO is not a trigger, clarifying strategic direction is still a reason for developing corporate purpose. The ten companies saw that the purpose determines their business direction and developed a more detailed business strategy to align with the purpose. This reflects competitive motives because the business strategy aligns with profitability (Bansal & Roth, 2000).

All ten companies linked their strategy to their purpose and integrated sustainable development into their strategy. However, their underlying logic varied. Five companies (A1, A6, A7, A9 and A10) reflected the instrumental logic, seeking financial benefits from social and environmental activities (Gao & Bansal, 2013; Hahn, Pinkse, Preuss, & Figge, 2015). These companies' managers do not recognize tensions between different aspects of sustainable development (i.e., economic, social and environmental) (Hahn et al., 2015). They incorporated sustainability aspects into business strategies because they believe it drives profits. For them, the corporate purpose, the business strategy and sustainability are aligned. In contrast, the other five companies' (A2, A3, A4, A5 and A8) corporate sustainability strategies were driven by integrative logic. The integrative logic recognizes tensions among economic, social and environmental aspects and embraces the contradiction (Gao & Bansal, 2013; Hahn et al., 2015). These companies are more likely to set comprehensive and long-term sustainability strategies, which tend to be independent to business strategies.

The "goal aspect" of purpose is activated in both instrumental and integrative logic supported by competitive motives. The findings suggest that companies set a broader corporate purpose to clarify their strategic direction because "business driven by purpose is likely to end up more profitable in the long term than by attempting to maximize shareholder value" (Edmans, 2020, p. 293).

Earning trust from stakeholders

Another trigger for developing a broader corporate purpose is recovering from controversies and gaining trust from stakeholders. All three financial services companies (A4, A8 and A9) explained that the background of developing the purpose was related to the investigation by the Royal

Commission[1] about "Misconduct in the Banking, Superannuation and Financial Services Industry" from 2017 to 2019 (Royal Commissions, 2019). The incident caused changes in management teams in the financial industry, including the three companies in this study. According to the participants, the new CEOs had a sense of urgency to address the loss of their customers' and communities' trust. This impelled companies to develop customer and community-focused purposes.

The primary motive is legitimacy, complying with norms, beliefs and regulations (Bansal & Roth, 2000; Suchman, 1995). Companies were concerned about losing their "license to operate" (Bansal & Roth, 2000, p. 727) with key stakeholders, which drove them to highlight customers and community in their purpose statements. They activated the "goal aspect" of purpose, driven by top-down and extrinsic motivation (Dahlmann & Stubbs, 2021).

Engaging employees

A third reason for adopting a broader corporate purpose is clarifying organizational values and unifying employees, which was identified by six companies. The ethical motives derive "feel-good factors" that bring satisfaction to employees by engaging in a certain social or environmental activity (Bansal & Roth, 2000, p. 728). At the same time, there is an instrumental aspect in engaging employees, as management recognizes the usefulness of broader corporate purpose in empowering, retaining, and attracting employees, which is also valued by investors. This links to the competitive motive and long-term profitability (Bansal & Roth, 2000).

Companies were disseminating the corporate purpose in various ways to engage employees with the purpose. They not only publicize the purpose within the organization, but the companies also invest in employees and give them discretion through an employee welfare program (A1) or with an inspiring "catch cry" for sustainable development (A10). Four companies practiced the purpose's "duty aspect" while activating the "goal aspect" through implementing strategies. These companies have built an open and flexible corporate culture by disseminating their corporate purpose. According to Linnenluecke and Griffiths (2010), companies with these cultures contribute to sustainable

[1] Royal Commissions are a form of non-judicial and non-administrative governmental investigation and the highest form of inquiry on matters of public importance in Australia (Royal Commissions, 2022).

development through staff capacity building and/or innovation, but this study observed no significant differences in their approach to the SDGs compared to other companies.

Adopting the SDGs in Business

All ten companies explained their commitment to the SDGs in their corporate reports, which they perceive to be useful communication tools. Seven companies also regarded the SDGs to be more than a mere communication tool and saw them as providing a pathway to sustainable development and engaging stakeholders to change. This study found three reasons for pursuing the SDGs: (1) aligning with the broader corporate purpose; (2) integrating into the strategy; and (3) communicating with stakeholders.

Aligning with the broader corporate purpose

Even though nine companies developed a broader corporate purpose after adopting the SDGs in 2015, only three companies (A1, A2 and A10) explained that their corporate purpose aligned with the SDGs' aims. While these companies had developed their broader corporate purpose without direct influence from the SDGs, the participants recognized the shared goals between the SDGs and their purpose. This reflects an ethical motive to pursue the SDGs, addressing "social obligations and values" (Bansal & Roth, 2000, p. 728). Companies with ethical motives act on social and environmental issues (i.e. the SDGs) without pragmatic reasons and seek to benefit broader society (Bansal & Roth, 2000). Both companies exemplified ethical motives as they explained that "the SDGs just make sense to us" (A1-2) and "it's the role of business" (A2-1). The companies integrate the SDGs at the normative management level, as the SDGs resonate with the companies' "management philosophy" (i.e. corporate purpose) (Baumgartner, 2014, p. 261).

Integrating into the strategy

Three companies (A2, A3 and A4) stated they developed or reframed their strategies based on the SDGs. The most notable case was A2, which changed its sustainability strategy according to the SDGs. A3 prioritized the SDGs when forming its corporate sustainability strategy, and developed

"2030 aspirations" with qualitative and quantitative goals. These two companies assessed the impact of their business on the SDGs and defined the areas that had direct and indirect impacts. A4-1 explained that its company "started (to develop its sustainability strategy) with the SDGs", and this has changed over time. In contrast, there was a weaker relationship between the other three companies' (A5, A8 and A10) sustainability strategies and the SDGs. The participants explained there was some alignment between their sustainability strategies and the SDGs, or the SDGs partly influenced their strategies. For example, the SDGs informed A5's health and safety strategy, but it is in the early stage of integrating the SDGs into its sustainability strategy and the process is evolving. While the SDGs did not shape A8's and A10's sustainability strategies, they do reinforce their strategies. Competitive and ethical motives influenced the four companies adopting SDGs at the strategic level. Furthermore, legitimacy motives "triggered" some companies to sign other UN initiatives such as the Global Compact (A3) and the United Nations Principles for Responsible Banking (A4). These frameworks encourage engagement with the SDGs and suggest strategic actions (e.g., the SDG Compass), encouraging companies to take a strategic approach to the SDGs.

Communicating with stakeholders

Participants from all the companies mentioned the uniqueness and usefulness of the SDGs as a communication tool and implemented the SDGs at the operational level. They suggested the SDGs comprehensively address various societal issues to which they can easily relate. By explaining the alignment with the institution (i.e. the SDGs), the companies gain legitimacy (Dimaggio & Powell, 1983; Suchman, 1995). These companies map their existing activities against the SDGs to communicate with their external stakeholders. Five companies mentioned that investors are their primary audience of SDG reporting, indicating that the pressures and expectations from investors are one of the drivers for large listed Australian companies' reporting the SDGs.

Participants acknowledged that the SDGs are the "common language" with their stakeholders, facilitating collaboration with business partners. In this context, implementing the SDGs at the operational management level supports companies in pursuing their sustainability strategy. Participants highlighted that the SDGs worked as a driving force for influencing stakeholders to align

with the SDGs. The competitive and legitimacy motives also influenced SDG-based communication with stakeholders (including investors).

DISCUSSION AND CONCLUSION

The aim of our research was to understand the relationship between companies' corporate purpose and their engagement with the SDGs. We found that two aspects of corporate purpose, goal and duty, determine the relationship between corporate purpose and the SDGs in the ten Australian companies. Figure 3 summarizes the relationships.

Insert Figure 3 about here

The ten Australian companies commonly had a strategic intent to adopt a broader corporate purpose and activated the purpose's "goal aspect" by setting sustainability strategies (including business strategies with sustainability aspects) associated with the purpose. How the ten companies implement the SDGs with their purposes' goal aspect differs according to the underlying logic of their sustainability strategies. Companies whose sustainability strategies were driven by an integrative logic engage with the SDGs at the strategic level. They also reported on their progress on the SDGs in detail, suggesting they have "a sense of responsibility" toward addressing their environmental and social impacts. In contrast, companies do not implement the SDGs at the strategic level when their sustainability strategies are driven by an instrumental logic. They are more aware of the financial impact of the environment and society on their business and less likely to set targets based on an external framework such as the SDGs. As such, these companies tend to perceive the SDGs as the responsibility of governments and use the SDGs mainly for communication purposes with investors. Under the instrumental logic, the SDGs have little influence on broader corporate purpose and sustainability strategies. In both cases, the broader corporate purpose and/or the SDGs facilitate companies' approaches to sustainable development through their sustainability strategies. Even though there were changes to business practices to support the strategies, no transformation of the ten companies' business models was identified.

Four companies simultaneously activated the purpose's "duty aspect" with the "goal aspect".

They expected the purpose to enhance employee engagement and change their corporate culture. Two of them integrated the SDGs at the normative level, finding alignment between broader corporate purpose and the SDGs. These two companies do not necessarily implement the SDGs at the strategic level, but participants observed that employees' discretionary actions based on corporate purpose contribute to solving societal challenges articulated in the SDGs. This aligns with the recent paper by Bhattacharya et al. (2022), who found broader corporate purpose drives employees' sustainability behaviors through a sense of ownership of sustainability issues. This suggests a company could increase its contribution to the SDGs by enhancing employees' autonomy through the activation of purposes' duty aspect.

Our paper makes three contributions. First, the paper provided new explanations of why companies adopt broader corporate purposes and how the goal and duty aspects of the purpose influence companies' actions on societal issues. Second, the paper provided empirical evidence that the goal aspect is dominant among the Australian companies, which contradicts George et al.'s (2021) theory that "duty-based" purpose are more aligned with recent purpose discussions. Third, the paper identified how different logics underlying corporate sustainability strategies influence companies' approaches to the SDGs.

Further research is required to test the validity of the findings with a larger sample and in different countries, which may find other relationships between broader corporate purpose and corporate engagement with the SDGs. Future research could further investigate the relationship between the "duty aspect" and companies' approaches to the SDGs. Also, the relationship between corporate culture and companies' behavior toward sustainable development could be examined, possibly drawing from theories developed by Linnenluecke and Griffiths (2010) about how different corporate cultures determine corporate sustainability actions.

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TABLES AND FIGURES

Table 1: Sources of literature to develop analytical framework

Questions	Theories	Sources
Why do companies adopt and implement broader corporate purpose and the SDGs?	Motivation of companies to engage with sustainability (environment and social) activities	Aguilera et al. (2007) Bansal and Roth (2000) Brønn and Vidaver-Cohen (2009) Lozano (2015) Santos and Silva Bastos (2021)
How do companies pursue the SDGs?	Layers of integrating sustainable development into management and practices	Baumgartner (2014) Redman (2018) Santos and Silva Bastos (2021)

Table 2: Summary of interview participants

Company code	Industry	Participant code	Participant title
A1	Financial Services	A1-1	Sustainability Lead
		A1-2	Head of Inclusion, Sustainability & Engagement
A2	Construction	A2-1	Head of Sustainability
A3	Services	A3-1	Sustainability Manager
A4	Financial Services	A4-1	Head of [A4] Ready Together
		A4-2	Head of Climate and Sustainability Solutions, Social Impact
A5	Manufacturing	A5-1	Head of Sustainability
A6	Building and Construction Materials	A6-1	Group Investor Relations and Sustainability Reporting Manager
A7	Commercial & Professional Services	A7-1	Director of Sustainability Asia-Pacific
A8	Financial Services	A8-1	Head of Corporate Sustainability
A9	Financial Services	A9-1	Executive Manager, Corporate Responsibility
A10	Food & Drug Stores	A10-1	Head of Sustainability Reporting and Engagement

Figure 1: Consolidated analytical framework

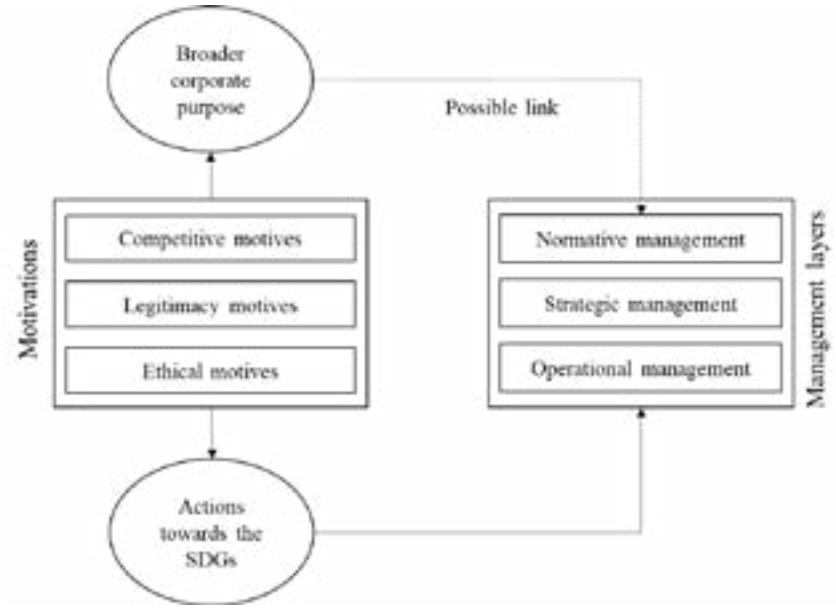

Figure 2: Sampling process

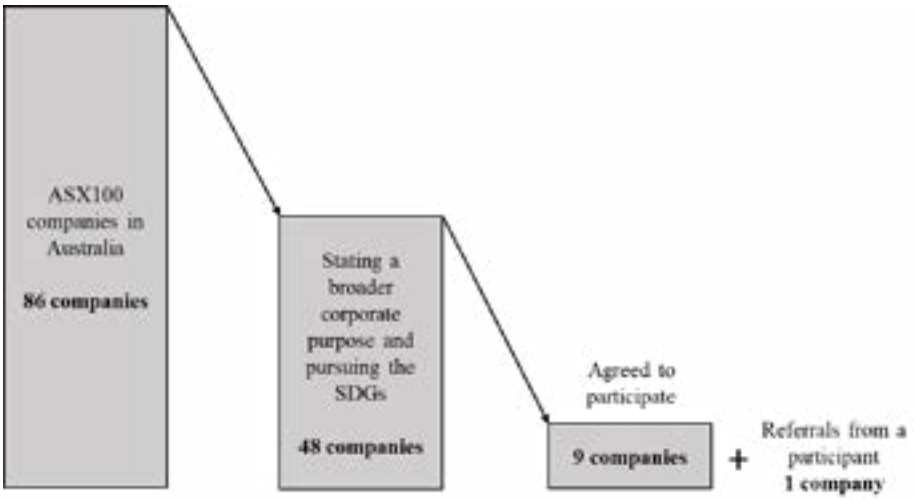

Figure 3: Explanatory model of the relationship between corporate purpose and the SDGs

APPENDIX

List of interview questions

1. What is your role in relation to the corporate purpose and/or the SDGs?
2. What is your company's purpose (the reason for existence)?
3. When did your company develop this purpose?
4. Why and how did your company develop this purpose?
5. What is your own view of this purpose?
6. To what extent is the purpose embedded in your organization?
7. What is the relationship between securing profits for shareholders and realizing the company's purpose?
8. What are the challenges/barriers to realizing the purpose?
9. How long have you (or your company) been involved in the SDGs?
10. Which SDGs are you (or your company) working on? Why is that?
11. Have the SDGs changed the way you do business? How has it changed?
12. What are the challenges/barriers for working on the SDGs?
13. What are your future plans for contributing to the SDGs?

07. Teaching and Learning
Refereed Interactive Paper

Antipodean contributions to The International Journal of Management Education: is there untapped potential?

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Australian and New Zealand Academy of Management Conference 2022

Antipodean contributions to *The International Journal of Management Education*: is there untapped potential?

Emeritus Professor Neil Marriott

University of Winchester and Editor-in-Chief of The International Journal of Management Education

Abstract

The purpose of this paper is to introduce conference participants to the *International Journal of Management Education*. This an established journal that has a disproportionate Editorial Board membership from Australia and New Zealand but has not traditionally attracted significant numbers of authors from these countries to successfully submit papers to the Journal. This paper presents a brief history of the Journal, its *modus operandi* and analyses in detail the sources of contributions and usage of published papers. It focuses on the contributions from Australia and New Zealand authors and seeks to increase the Journal's exposure in these countries.

Introduction

This year marks the publication of the 20th volume of the *International Journal of Management Education* (ISSN:1472-8117) and I have had the privilege of being the *Editor-in-Chief* since August 2006. Despite its title, the Journal started as a publication strongly focused on a readership of university business school faculty members in the UK. A brief history is provided that explains the rationale behind the original aims of the Journal and how it became focused on an international readership especially when it changed publisher in 2012. The paper continues to provide detailed information regarding the geographic distribution of corresponding authors, the usage of papers (as measured by downloads) across the globe, together with an analysis of citation metrics. Finally, the most cited, most downloaded and most popular papers are discussed in detail. The paper concludes that there may be untapped potential for authors from Australia and New Zealand to contribute to the Journal and to encourage conference participants to consider submitting their papers.

A Brief History of the *International Journal of Management Education*

The *International Journal of Management Education (IJME)* was published with the strategic aim to improve the educational experience of students, to communicate and disseminate pedagogic ideas and to promote good practice and innovation in the teaching and learning of management related subjects taught in UK higher education institutions.

The Journal was first published in November 2000 by the *Business*, Management, Accounting and Finance (BMAF) Subject Centre (previously known as BEST, the Business *Education Support Team* (BEST) which was originally part of the UK Learning and Support Network based at the University of East Anglia (UEA). The first editor of IJME was Professor Keith Fletcher from the University of East Anglia and the Editorial

Board consisted of academics based in UK universities. For Volume 4, issue 3 and Volume 5, issue 1, the editorship passed to Professor Roland Kaye but the journal was now part of the *Business, Management, Accounting and Finance (BMAF) Subject Centre* of the UK's *Higher Education Academy (HEA)* initially based at Oxford Brookes University.

The period 2005-2006 was a particularly difficult time for the journal as the subject centre changed hands from BEST to BMAF. Submissions were described in Subject Centre minutes as "sluggish" and averaging about 30 a year and various options were discussed including discontinuing the Journal altogether. However, the decision was made to appoint a new editor for a trial period and the fate of the Journal was sealed. David Hawkridge, Emeritus Professor of the Open University accepted editorial duties for Volume 5 issue 2 and his editorial introduced me as the newly appointed editor for an initial period of three years by the BMAF Subject Centre (IJME 2006).

In Volume 6, number 1 editorial, I indicated a policy change, agreed by the Subject Centre, to attract a greater geographic coverage and the editorial board was expanded to include senior academics from USA and Australia (IJME, 2007). It was also the first time that IJME featured in the UK's Chartered Association of Business School's Journal Quality Guide.

Due to severe funding reductions, the HEA decided to close all Subject Centres in 2011 and to move operations to their headquarters in York. The then Head of the BMAF Subject Centre, Clive Robertson, negotiated the move of the Journal to the academic publisher, Elsevier, retaining the editor and editorial board. However, the copyright of the papers published in the journal until 2011 remained with the HEA as it was funded by the public purse. Unfortunately, when the Subject Centre closed, their website was also removed and electronic access to these editions of the Journal was lost. All that remains of the papers from this period are the hard copy journals that were disseminated to named academics and their departmental heads. I have an almost complete set that I retain as an archive; I send scanned copies of papers to academics on request. Hard copies are available from copyright libraries.

It is interesting that despite the technological origin of the Journal, that hard copies were produced in such large numbers and at such expense, even when it was available online. It was a time when hard copies of academic journals were placed in libraries and perceived to have higher academic credibility.

In its early years, the journal received academic papers mainly from the UK. However, in the years since the move to Elsevier, the impact has increased and now authors and reviewers from a wide range of different countries send their contributions and collaborate with the journal to improve its quality and impact.

Current Editorship of the Journal

The Publisher has extended Professor Neil Marriott's position as Editor-in-Chief and there are now four Associate Editors as well as several guest editors.

Professor Paul Jones of Swansea University managed a successful Special Issue (SI) of the Journal that published papers in Entrepreneurship Education. The issue was so successful that it led to many more related papers being submitted to the Journal and Paul was asked to continue as a permanent Associate Editor to manage any paper that are submitted within his area of specialism.

Professor Jonathan Lean of Plymouth University also managed a successful SI of the Journal that published papers in Games and Simulation. Jon was also asked to continue permentantly in the role of Associate Editor. Jon has subsequently managed a SI focussing on the supervision of doctoral students at business schools. Again, Jon is asked to manage papers within his areas of specialism.

The most successful SI in terms of submissions, publications, citations and downloads was led by Professor Carole Parkes (now Emeritus) of the University of Winchester. This was an edition that focussed on the Principles of Management Education (PRME). Carole was retained as a permanent Associate Editor and manages papers related to PRME.

In February 2021, Professor Meredith Tharopos (RMIT) was invited to join as an Associate Editor to broaden the international editorship of the Journal. Meredith is particularly interested in papers that consider cultural or gender issues.

In December 2021, two Associate Editors were appointed to share the workload of Professor Paul Jones as the volume of papers focusing on Entrepreneurship Education had increased significantly. Dr David Higgins from Liverpool University and Professor Colin Jones from University of Southern Queensland.

Reviewer Panel

There are over sixteen hundred registered reviewers for the Journal. All successful authors published in the Journal are invited to become reviewers. Other reviewers are invited because of their expertise. The most active and contributing reviewers are invited to become Editorial Board (EB) members. EB members still review for the Journal and are sometimes invited to act as a third reviewer when a difference of opinion between two reviewers arises that is difficult to resolve to advise the Editor or Associate Editor accordingly.

Associate Editors can invite their own reviewers for any papers they are asked to manage and can make recommendations for reviewers to join the EB.

Where possible, the review team for a paper will consist of one reviewer from the country of the paper's origin and one from another country. It is not a hard and fast rule but is used to ensure the papers recommended for acceptance have a wider, international appeal.

On average it takes eight weeks for an article to complete the editorial review process for this journal, including standard and desk rejects. It then takes an average of a further two weeks from manuscript acceptance to the first appearance of the article online (with DOI).

Changes to the Editorial Board

Some members of the EB have served since the start of the Journal and were asked if they wished to continue in their role after so many years of continued commitment. Several review board members have retired or left academia and have been stood down from the Board.

The continuing Board members are A.D. Amar (Seton Hall University, USA), Phil Hancock (University of Western Australia), Roberto Rivas Hermann (Nord University, Norway), Linda Hort (Australia National University), Andy Penaluna (University of Wales Trinity Saint David), Julia Pointon (De Montford University, UK), Glauco De Vita (Coventry University), Jim Stewart (Liverpool John Moores University, UK, Liza Pybus (Nottingham Trent University, UK) and Nick Zepke (Massey University, New Zealand).

In consultation with the Publisher, it was decided to invite the most experienced and consistent reviewers in recent years from the Review Panel to step up and join the EB. The following have accepted this invitation and will become EB members in November 2022: Dianne Bolton (Western Sydney University, Australia), Teodros Getachew (Providence College, USA), Mohamed Yacine Haddoud (Liverpool John Moores University, UK), Alexandros Kakouris (University of the Peloponnese, Greece), Chris Moon (Middlesex University), Simon O'Leary (Canterbury Christ Church University, UK), Jonathan Moizer (University of Plymouth, UK), Dung Pham (University of Manitoba, Canada), Vanessa Ratten (La Trobe University, Australia) and Stephen Wilkins (The British University in Dubai, , United Arab Emirates).

These new EB members enhance its diversity and geographic representation. There are now more EB members not from the UK: five are from Australasian countries, three are from North America, two from other European countries and one is from the Middle East.

Geographic authorship and downloads of papers

Data is available from the publisher for the last ten years of the Journal. While the number of papers published has increased significantly, so has the geographic diversity of the authors. Tables1 and 2 and Figures 1 and 2 demonstrate how the published papers have increased from modest low 20s, to a steady 60s and last year a significant increase to over 150. The significant increase in 2021 is probably the result of the Journal's indexing on Clarivate's Web of Science database and possibly the impact of the pandemic and the forced changes to online teaching and assessment approach. The growth in papers from Europe is due to the increase of non-UK publications which were around 30% in 2012 but have now grown to over 70%.

Table 1. Geographic Region of Corresponding Authors of Published Papers[1].

Region	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Asia	0	2	5	3	10	2	10	7	11	28
Africa	2	3	0	1	1	4	4	3	5	10
Australasia	3	2	7	4	2	5	2	2	1	11
Europe	11	12	32	20	16	25	21	24	33	68
N. America	6	2	15	14	20	20	21	21	9	30
S. America	0	0	1	0	2	5	2	4	5	4
Total	22	21	60	42	51	61	60	61	64	151

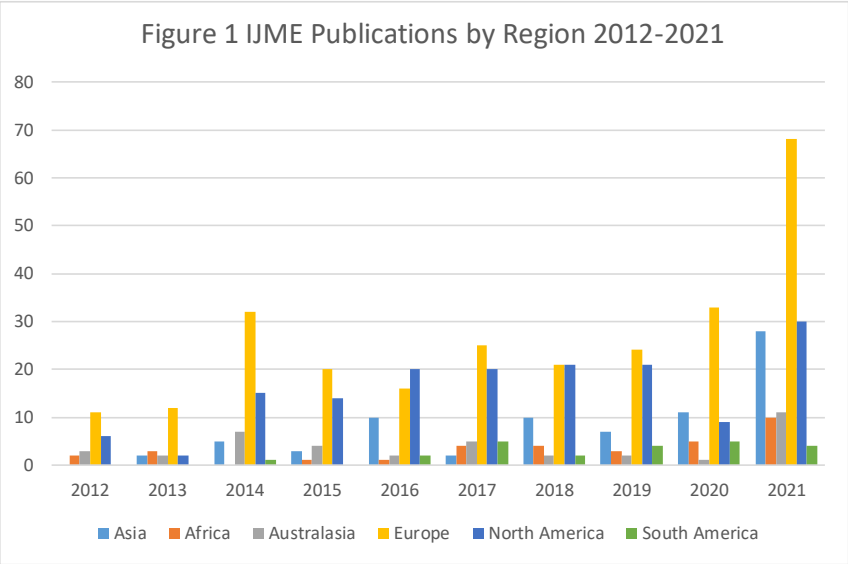


Figure 2 Indication of the location of corresponding authors for last five years.

[1] The data for Table 1 and Figure 2 was provided by Simon Jones, publisher, Elsevier in April 2022

Table 2 Location of corresponding authors for last five years (IJME 2022)

1	United States	83	11	Nigeria	5
2	United Kingdom	62	12	South Africa	4
3	Spain	24	=12	Qatar	4
4	Canada	23	=12	New Zealand	4
5	Brazil	13	=12	Italy	4
6	Australia	12	=12	Malaysia	4
=6	Germany	12	=12	Taiwan	4
8	Portugal	7	=12	Ireland	4
=8	United Arab Emirates	7	=19	Finland	3
10	India	6	=19	Austria	3

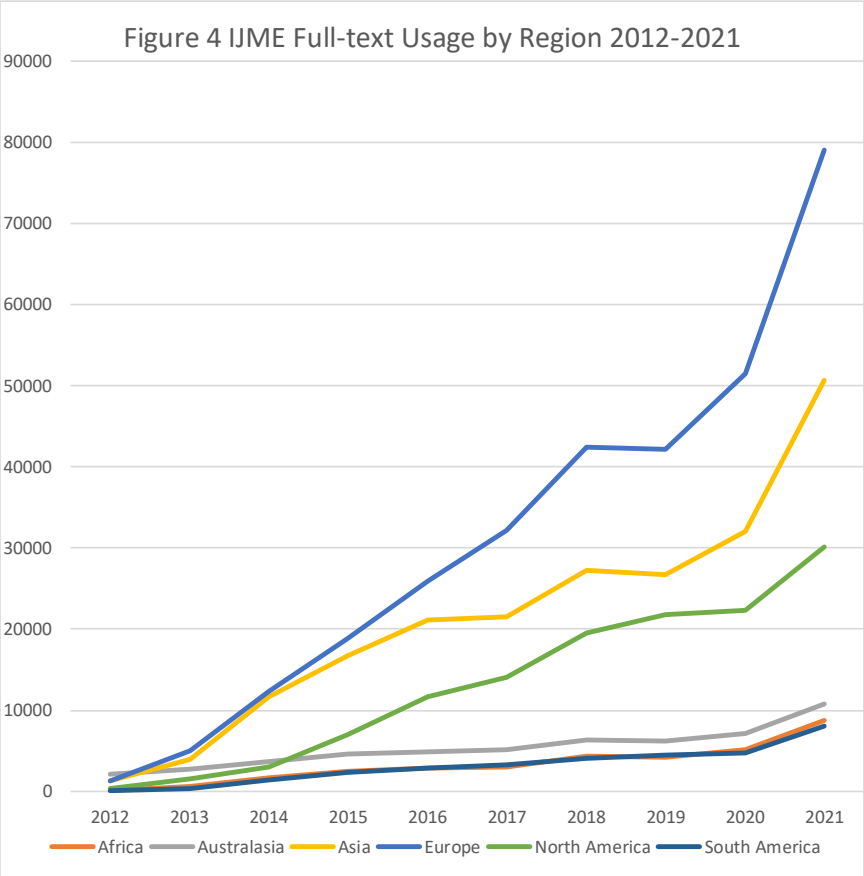
Figure 3 and Table 3 provides an indication of worldwide usage for this journal at the country/region level over the last five years.

Figure 3 Full Text Usage by Region (last five years) (IJME 2022)

Table 3 Full Text Usage by Region (last five years) (IJME 2022)

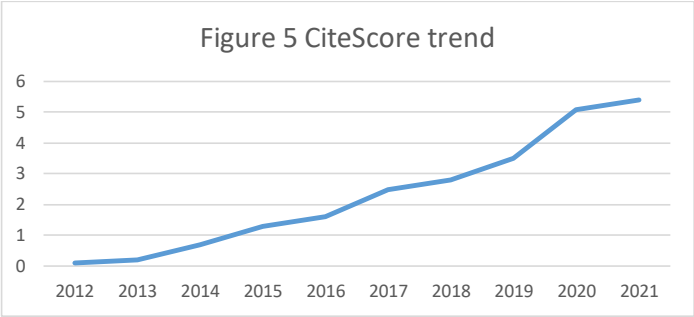
1	United Kingdom	103,241	11	Brazil	12,481
2	United States	87,470	12	Spain	12,455
3	China	51,333	13	Taiwan	12,445
4	Australia	46,644	14	Turkey	11,906
5	Malaysia	27,710	15	Thailand	11,830
6	Canada	19,075	16	India	10,436
7	Indonesia	18,088	17	Germany	9,445
8	South Africa	15,131	18	Portugal	8,078
9	Netherlands	14,214	19	Colombia	7,901
10	Russia	12,855	20	Sweden	7,128

The increase in usage since 2012 is over 2000% but this growth is more prominent in Europe, Asia and North America, see Figure 4.



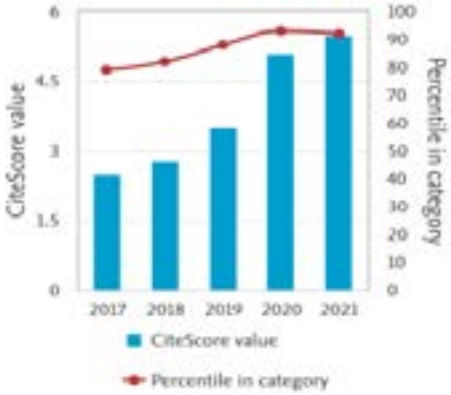
Citation metrics

There are a variety of citation metrics available, however, the publisher's preferred measure is CiteScore which measures average citations received per document published. The Journal's current score is 5.5 and this has increased steadily over time, see Figure 5.



There are other metrics such as the SCImago Journal Rank (SJR) which measures weighted citations received. Citation weighting depends on subject field and prestige. The Journal's SJR score is 0.819. Another metric that is used is the Source Normalized Impact per Paper (SNIP) which measures actual citations received relative to citations expected for the journal's subject field. The Journal's SNIP score is 2.075. The CiteScore (2021) ranks the Journal as 111 out of 1406, (92nd percentile) for Social Sciences Education journals and 90 out of 458, (80th percentile) for Business, Management and Accounting - Strategy and Management journals, see Figure 6.

Figure 6 CiteScore Trend



While CiteScore values tend to increase for many journals over time, the percentile ranking provides an indication of the consistency of a journal's performance.

Most cited, most downloaded and most popular papers

The Journal's website shows the top ten papers in three categories: most cited over the last three years (Figure 7), the most downloaded in the last 90 days (Figure 8) and the most popular in the last three years as measured using a social media metric (Figure 9).

Figure 7 The five most cited articles published in the past 3 years

Artificial intelligence and sustainable development, Margaret A. Goralski (USA), Tay Keong Tan (USA), March 2020

Entrepreneurship education programmes: How learning, inspiration and resources affect intentions for new venture creation in a developing economy, Tariq Ahmed (Pakistan), V.G.R.Chandran (Malaysia), Jane E.Klobas (Australia), Francisco Liñán (UK), Panagiotis Kokkalis (UAE), March 2020

The impact of entrepreneurship education on the entrepreneurial mindset of college students in China: The mediating role of inspiration and the role of educational attributes, Jun Cui (China), Junhua Sun (China), Robin Bell (UK), March 2021

Entrepreneurship education: Time for a change in research direction?, Vanessa Ratten (Australia), Petrus Usmanij (Australia), March 2021

Education for advancing the implementation of the Sustainable Development Goals: A systematic approach, Aline Bento (Brazil), Ambrosio Avelar (Brazil), Keilla Dayane da Silva-Oliveira (Brazil), Raquel da Silva Pereira (Brazil), November 2019

Figure 8The five most downloaded articles (in the last 90 days 6th July 2022):

How do students perceive face-to-face/blended learning as a result of the Covid-19 pandemic? Dafydd Mali (UK), Hyoungjoo Lim (South Korea), November 2021

Factors affecting business school students' performance during the COVID-19 pandemic: A moderated and mediated model, Muddassar Sarfraz (China), Kausar Fiaz (Pakistan), Khawaja, Larisa Ivascu (Romania), July 2022

Students' attitude: Key to understanding the improvement of their academic results in a flipped classroom environment, M. Carmen Ruiz-Jiménez (Spain), Rocío Martínez-Jiménez (Spain), Ana Licerán-Gutiérrez (Spain), Elia García-Martí (Spain) July 2022

Modelling the acceptance of e-learning during the pandemic of COVID-19-A study of South Korea, Hasnan Baber (South Korea), July 2021

Effect of entrepreneurship education on entrepreneurship intention and related outcomes in educational contexts: a meta-analysis, S. Martínez-Gregorio (Spain), L. Badenes-Ribera (Spain), A. Oliver (Spain), November 2021

Figure 9 The five articles from the last 3 years that have received the most social media attention. (Source: PlumX Metrics):

The role of theory in the business/management PhD: How students may use theory to make an original contribution to knowledge, Stephen Wilkins (UAE), Selina Neri (UAE), Jonathan Lean (UK), November 2019

Investigating the application of the Principles for Responsible Management Education to resort mini-clubs, Hugues Seraphin (UK), Tan Vo Thanh (France), July 2020

The "Bermuda triangle" of academic writing, Olga Iermolenko (Norway), Evgenii Aleksandrov (Norway), Nadezda Nazarova (Norway), Anatoli Bourmistrov (Norway), July 2021

Influence of student-faculty interaction on graduate outcomes of undergraduate management students: The mediating role of behavioural, emotional and cognitive engagement, Sabina Baniya Chhetri (Nepal), Rojan Baniya (USA), July 2022

Advanced mathematics: An advantage for business and management administration students, Rosario Asian-Chaves (Spain), Eva M Buitrago (Spain), Inmaculada Masero-Moreno (Spain), Rocío Yñiguez (Spain), July 2021

The most cited papers tend to be at the older end of the three-year spectrum and focus on entrepreneurship education and sustainability issues. These include a paper where both authors were from Australia and another paper where one of the international authors was also from Australia.

The most downloaded five papers in the last 90 days have a strong Spanish and South Korean authorship with one multinational authorship paper. The main theme is online

education and innovative teaching approaches as a response to the impact of the pandemic.

The most popular papers are identified using PlumX Metrics (2022). These metrics provide insights into the ways people interact with articles in the online environment. For examples when a paper is mentioned in the news or is tweeted about. There is no theme to the articles listed and this metric may depend on the social media activity of the authors, e.g. posting details of their papers on LinkedIn, FaceBook, Instgram and Twitter.

Only two papers in all these categories have any antipodean authors. A reason for the lower rate of contribution may be due to the C ranking of the Journal on the ABDC journal quality list (ABDC, 2019). However, the citations metrics for IJME are similar, if not better than higher ranked journals, see Table 4.

Table 4 Scopus ranking, journal title, citescore and ABDC ranking

Scopus	Journal	CiteScore	ABDC
#31	Studies in Higher Education	7.2	A
#111	**International Journal of Management Education**	**5.5**	**C**
#113	Academy of Management Learning and Education	5.4	A*
#158	Issues in Accounting Education	1.3	A
#172	Accounting Education	4.6	A
#282	Journal of Higher Education and Policy Management	3.5	B
#416	International Journal of Education Management	2.7	B
#816	Journal of Accounting Education	4.8	B

The ABDC list was compiled in 2019 and would have used metrics from previous years and the Journal's significantly improved performance would not have been reflected. However, a full review of the list is scheduled for 2024 and the Journal's ranking should improve. One way of increasing the ranking of the Journal would be for more Australian academics to publish in it and to help bring it to the attention of the Expert Panel compiling the list.

Conclusion

Despite the Journal's continued growth in usage (downloads) and reputation (CiteScore and other metrics) and the presence of two Associate Editors and five EB members from Australia and New Zealand the number of authors from this geographic region remains modest. This may be a result of the current ranking of the Journal on the ABDC Journal Quality List. The usage of the Journal in Australia is relatively high but New Zealand is not amongst the top 20 users. Most noticeable is that the growth in usage of the Journal in Australia and New Zealand, whilst increasing, has not been as dramatic as the increase in usage in Europe, Asia and North America. The presentation of this paper at the Australian and New Zealand Academy of Management Conference 2022 is an attempt to improve these statistics in the future.

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IJME (2022) The International Journal of Management Education | ScienceDirect.com by Elsevier

Co-opetition in the Disaster Recovery Phase: The Christchurch Rebuild Case Study

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Stream 8.
Business Processes,
Innovation and Supply Chain

Co-opetition in the Disaster Recovery Phase: The Christchurch Rebuild Case Study

ABSTRACT

Coordinating actors has been a significant research focus in disaster relief and emergency management disciplines. Most of this literature focuses on the response phase, while the longer-term recovery phase is less studied. During long-term recovery, the types of actors change from disaster relief not-for-profits to commercial entities, thus creating tensions between humanitarian and commercial values. This paper presents a model for the rebuild phase that encourages the simultaneous interplay of collaboration and competition, otherwise known as co-opetition. Following the devastating earthquakes in Christchurch, New Zealand, in 2010/11, the Stronger Christchurch Infrastructure Rebuild Team (SCIRT) was created to coordinate rebuilding. Hence, this case study demonstrates a model deployed by SCIRT to incentivise co-opetition by blending humanitarian and commercial values.

Keywords: Co-opetition, Christchurch, Earthquakes, Construction, Disaster Rebuild

A rapid and effective response to a disaster event is critical. Typically, a large number and types of actors become involved in disaster response efforts, such as international relief agencies, the United Nations (UN), non-governmental organisations (NGOs), military, central and local government, emergency services, communities and businesses (Pollock et al, 2019; Tatham, 2012). Organising such a diverse range of actors to achieve the significant humanitarian objectives of alleviating human suffering is daunting. Tatham and Houghton (2011) describe this as a 'wicked problem'. The issues of inter-agency coordination pre and post-disaster are well known and indeed are exacerbated by the temporary nature of most disaster event responses (Balick et al., 2010). Coordination difficulties have been identified as one of the main issues for humanitarian logistics and disaster relief supply chains (John et al., 2019; Moore, Eng and Daniel, 2003; Rey, 2001; Tatham and Pettit, 2010; Tomasini and van Wassenhove, 2009). Further, not only are coordination issues at the horizontal level present (two or more actors doing essentially the same things) but also at the vertical level of the relief supply chain (*i.e.* from donor to disaster) as well (Schulz and Blecken, 2010).

While most of the disaster literature focuses on the initial response phase (Balcik et al., 2010; Balcik et al., 2019; Hosseinnejad, Mahdavian, and Zolala 2020, Kunz and Reiner, 2012; Leiras et al., 2014), the problems of actor values and coordination do not cease here. Indeed, humanitarian and disaster relief efforts go far beyond just the preparedness and early response phases. The long-term rebuild phase determines how successfully communities recover from an event and adapt to the new normal. Indeed, reconstruction is an essential stage in the disaster relief cycle for the long-term sustainability of the region, both economically and socially. A large-scale disaster will often substantially degrade infrastructure, such as roads, bridges and water and sewage systems, which means that "reconstruction during the… final phase of rehabilitation could take years" (van Wassenhove, 2006, p. 481). If reconstruction is delayed, underfunded or uncompleted, future mitigation and preparedness efforts will be compromised. Or worse, long-term dissatisfaction directed at local leaders, authorities or NGOs at the lack of progress may translate into civil unrest or even violence. Hence, tight coordination of actors at both the vertical and horizontal levels is just as critical for the recovery phase and indeed for the long-term economic recovery of the region (Horwich, 2000).

As the disaster phases transition from response to recovery, the number and functions of NGOs, Government and private sector actors involved in the humanitarian effort change due to the evolving needs. Hence, the nature of the inter-organisational coordination should evolve from the likely authoritarian regimes necessary for the response phase to a more collaborative one that, is argued, is more suited to the recovery phase (Balcik et al., 2019; Kovács and Spens, 2007; van Wassehove, 2006).

Coordination mechanisms have been described as a set of *methods* to manage interdependence between organisations (Xu and Beamon, 2006), yet we argue that coordination is more than a method. Instead, we focus on the nature of the behaviour used to coordinate actors. In particular, as the disaster phases progress and move from the response to rebuilding, the actors change from humanitarian to commercial. NGOs and other humanitarian and commercial agencies often compete for scarce resources yet are still required to cooperate. Therefore, it is valid to ask if a specific organisational model encourages inter-agency collaboration that accommodates the humanitarian and commercial in a disaster rebuild?

This paper aims to offer insights into the coordinative mechanisms that promote inter-agency collaboration by reviewing the critical organisational model utilised to rebuild the underground infrastructure of the city of Christchurch, New Zealand, after a series of devastating earthquakes from 2010 to 2011. We ask the following research questions:

> RO_1 *Did co-opetition support the recovery phase of disaster management in Christchurch?*
>
> RQ_2 *What organisational structure and format promoted inter-agency collaboration within the lead Christchurch infrastructure rebuild organisation?*
>
> RQ_3 *What procedural and economic arrangements facilitate humanitarian and commercial motives in the Christchurch infrastructure rebuild?*

Utilising an action research approach over two years, we examine the structure and interaction of the Stronger Christchurch Infrastructure Rebuild Team (SCIRT). They were responsible for the 'horizontal rebuild' (ground level and below) of the entire city[1]. Overall, SCIRT manages to coordinate over 2,000 people from over 100 different commercial and humanitarian organisations, simultaneously delivering multiple complex engineering rebuild projects. How this temporary/virtual organisation achieves this level of coordination is the central theme of this study and an essential question for humanitarian relief efforts.

Phases of disaster relief

McFarlane and Norris (2006, in Norris, Stevens, Pfefferbaum, Wyche and Pfefferbaum, 2008, p. 128) define a disaster as "a potentially traumatic event that is collectively experienced, has an acute onset, and is time delimited; disasters may be attributed to natural, technological or human causes". Humanitarian logistics categorises disasters as sudden-onset or slow-onset disasters (van Wassenhove, 2006). Sudden-onset disasters unfold with little warnings, such as earthquakes and weather events. Apart from a recent addition (Rietjens, Goedee, van Sommeren and Soeters, 2014), most of the humanitarian logistics literature in this emerging discipline focuses on sudden-onset disasters. For instance, the comprehensive literature reviews of Kunz and Reiner (2012) and Leiras *et al.* (2014). The primary phases of a disaster are; preparedness, repose and recovery (Kovács and Spens, 2007, 2011; Altay and Green, 2006; Cozzolino, Rossi and Conforti, 2012). However, it is argued that Safran (2005) offers a more realistic cyclical view of disaster relief where the phases transition and ultimately flow back into the preparedness phase. Table 1 summarises the purpose of the three steps, some of the relevant activities and the coordinative mechanisms present within each stage.

Insert Table 1 about here

Actor transition and motives in the reconstruction phase

[1] This excludes electricity, gas and communication networks.

The role, existence and importance of the recovery/rebuild phase within the disaster relief cycle are clear (Haas, Kates and Bowden, 1977). However, surprisingly the recovery/rebuild phase has received little attention within Humanitarian Disaster Relief Supply Chain Management (HDRSCM) research. Despite the field's rapid growth in the last few years, most papers still focus on the response or preparation phases. Kunz and Reiner's (2012) review notes that only ten out of 174 papers specifically address the reconstruction phase, confirming the findings of previous literature reviews pointing to the lack of studies on the recovery phase (Altay and Green, 2006; Kovács and Spens, 2011; Leiras *et at*., 2014: Overstreet, Hall, Hanna and Rainer, 2011). Indeed, most of the authors who discuss the recovery phase do so in passing, only to point out its importance and draw its boundaries to study the other stages of disaster relief (Maon, Lindgreen, and Joëlle, 2009; van Wassenhove, 2006).

The actors present during the reconstruction phase strongly impact the success of the whole disaster recovery process, especially in terms of sustainability and long-term effectiveness (Beamon and Balcik, 2008; Besiou, Stapleton and van Wassenhove, 2011; Kovács and Spens, 2011). While most of the papers on HDRSCM are response phase centred, they also focus more on the humanitarian sector actor NGOs. Rightfully, NGOs play a leading role in the academic literature as they do so in reality for the response phase. However, as the phase transitions to the recovery phase, most response-focused NGOs have fulfilled their missions and are redeployed. The control that has hitherto been centralised then devolves to local authorities, agencies, businesses and communities who take the lead in shaping their futures (Balcik et al., 2010; Balcik et al., 2019; Dolinskaya, Shi and Smilowitz, 2011). We recognise that this sequence does not always happen as described in many post-disaster theatres, as power is often difficult to centralise and then surrender.

Further, in the rebuild phase, not-for-profit humanitarian emergency-focused NGOs are replaced by other NGOs/Agencies with capabilities focused on longer-term economic development and rebuilding (Gustavsson, 2003). There are legitimate reasons for this transition; philosophically, the question is whether prolonged support from the humanitarian sector would help or hinder the disaster-struck region from becoming self-sufficient again. Further, we must ask whether not-for-profit NGOs are the most appropriate actors to take the lead in the rebuilding phase? We argue that they are not due to aid dependency issues but also because commercial motives re-assert themselves as time passes. Indeed, Kovács and Spens (2007) refer to the reconstruction phase as very similar to a standard business logistics environment. Yet importantly, we argue that the higher humanitarian values should remain part of the ethos (motives) of the actors in the rebuild phase (McLachlin and Larson, 2011; Tomasini and van Wassenhove, 2009). If this transition is organic and smooth at the local level, then outside/international actors such as NGOs may have little to offer. When NGOs and other external aid agencies decide to withdraw, a vital issue is how to coordinate the transition and what form of actor coordination will be suitable for rebuilding, given the evolving power and commercial structures within the region?

Coordination for the recovery phase

While relief actors work towards relieving human suffering, their mandates, ideologies and operational methods differ, potentially causing friction (Balcik et al., 2010; Balcik et al., 2019; McLachlin and Larson, 2011). Furthermore, when the immediate response phase transitions into recovery and NGOs fade to the background or leave, and the role of the military and national governments decreases, the local institutions and private sector must take the lead on the way to the new normal. Institutions, such as local governments, play a substantial role in steering the disaster-struck region to the new normal and facilitating coordination among the actors in the recovery phase (Boettke *et al.*, 2007; Izadkhah and Hosseini, 2010). However, they must increasingly rely on commercial entities rather than not-for-profits to deliver the rebuild. Yet, the recovery phase should not be run solely by the commercial laws of supply and demand (Horwich, 2000). For example, if construction companies focus on bidding against each other to restore the wealthiest neighbourhoods and leave the worst hit, poor communities themselves,

this would not only be non-humanitarian but also undermine the region's social stability. Thus, whatever structure or system emerges to facilitate the rebuild phase must accommodate humanitarian and commercial values that deliver value for all stakeholders.

The task of rebuilding post-disaster is analogous to standard business construction (Kovács and Spens, 2007; Sospeter, Rwelamila and Gimbi, 2021). A conceptual framework for managing post-disaster reconstruction projects in emerging economies: the case of Angola. *Built Environment Project and Asset Management*.). Therefore, it would be enlightening to briefly review this idea of collaboration and construction partnering arrangements, particularly the concept of 'alliancing'. Cox and Ireland (2002) argue that an integrated and seamless arrangement of actors is required to deliver value in construction contracting. At the heart of this contracting is the formation of collaborative relationships (Haigh and Sutton, 2012). Given the past poor performance and adverse client outcomes in several construction industries (Cole, 2002), there is strong interest in alliancing as a way to stimulate inter-agency collaboration. Much of the poor performance has been attributed to such factors as a one-off project-based mindset among the actors that encourages an overly narrow and short-term focus, hence constraining efforts toward joint investment and partnering (Ingirige and Sexton, 2006).

Further, Hans-Martin, Rosenkranz and Kolbe (2010) point out that construction supply chains have a notable tendency for waste and inefficiencies. They argue for appropriate IT solutions and mutual trust among the cooperating actors, especially for central coordination for partners employing decentralised task management. Supporting this, Davis and Love (2011) focus on the development of the alliance relationship from its inception and point to the elements of openness, honesty, and a willingness to share as *personal attributes* in the alliance initiators for success.

The mechanisms for collaboration in construction, as in other industries, are intrinsically related to the governance structures employed, such as joint ventures, strategic alliances, equity and non-equity ownership, consortiums, prime contractors and partnerships (Williamson, 1996). The central rationale of each is to control opportunism and encourage collaboration. The forms of contracting that occur within the prime or lead contractor arrangements due to their ubiquitous use are of interest. Traditional client/contractor arm's-length contracting preserves the independence of each actor and a one-to-one relationship. Prime or lead acquiring is where a coordinating contractor forms a consortium or alliance of other contractors to meet the needs for more complex projects (Ingirige and Sexton, 2006). The prime contractor is client-facing, whilst the others are coordinated and subcontracted to the lead. While collaboration within these consortiums is evidenced (Davis and Love, 2011), the essence of the relationship is still that of independent contractors. Other variations and adaptations to this model have been examined. Notably, Ritson, Wilson and Cohen (2017) have documented a quasi-integrated model in the petrochemical industry called an 'Employer Panel'. This differs from traditional prime contracting because no one owns the Panel. Instead, it is an autonomous organisation formed from a seconded client and contractor personnel with management control over the project and daily work. Collaboration here is 'mandated' by the client.

Another form of collaboration to emerge is the concept of 'co-opetition', a neologism formed from combining cooperation and competition (Brandenburger and Nalebuff, 2021; Nalebuff and Brandenburger, 1996; Bengtsson and Kock, 2000; Kotzab and Teller, 2003; Barretta, 2006). At its broadest, co-opetition can be understood as the simultaneous cooperation and competition among actors within a similar context (Kock, Nisuls and Söderqvist, 2010). Co-opetition captures the paradoxical behaviours of competitors sharing information and resources with others, game theory style (Brandenburger and Nalebuff, 2021; Nalebuff and Brandeburger, 1996). These competitive and collaborative tensions are highly evident in construction supply chains and humanitarian rebuilds (Nurmala, de Leeuw and Dullaert, 2017), as it is appropriate and necessary to reimburse relatively the skills and resources that the private sector brings to the recovery. The literature on construction alliancing confirms that the central issue is not the organisational form or governance *per see*, but rather the nature of the main behaviours enacted within the alliance. Certainly, the emphasis is on collaboration as the *modus operandi* enacted by competitive actors. The more frequent use of the term 'relational

contracting' is interchangeable with alliance contracting (Jefferies, Brewer and Gajendran, 2014), highlighting an intentional and determined move away from the adversarial, short-term mentality. For our purposes, Hietajarvi and Aaltonen's (2018) paper illustrates an interesting mechanism: forming a "collaborative project identity" in an infrastructure alliance project.

In the disaster recovery phase, coordinating motivations should reflect a shift from humanitarian to commercial (Nurmala et al., 2017). Companies engage with NGOs for commercial and philanthropic reasons (Balcik et al., 2010; Balcik et al., 2019). Nevertheless, the reality is that motivations to collaborate are always difficult to disentangle from the surrounding context, being a mix of humanitarianism, corporate social responsibility, commercial return, and legitimacy seeking. Whatever the reason, a high level of tight coordination around rebuild activities is essential, especially given the greater level of public scrutiny such relationships are subjected to in a stabilised region to achieve value for money. Finally, if cooperation is essential, and private sector businesses are at the heart of the recovery phase, how best should we organise to generate the right incentives for collaboration to flourish organically?

METHOD

The method for this research suggested itself as there was only one organisation to study, the Stronger Christchurch Infrastructure Rebuild Team - SCIRT, the Government appointed lead agency for the horizontal infrastructure rebuild. Hence, an action research approach was employed as a unique form of case study that facilitates successive waves of iterative data gathering/interpretation in the research process (Näslund, Kale and Paulraj, 2010: Yin, 2014). Furthermore, if the researcher has no control over the behavioural actions and the research is focused more on contemporary events, then the action research methodology is recommended (Corbin and Strauss, 2015). We were not seeking a statistically representative or generalisable sample, but we chose a population within a single organisation. That led the researchers to adopt a stratified sampling across the hierarchy, especially at the interface between SCIRT and all five Delivery Teams (more details in the case description). The tension between collaborative and competitive behaviours would be the most obvious at this interface. Two rounds of in-depth interviews were conducted in 2014 (n = 3) and 2016 (n = 9) for a total of 12 interviews that also gave somewhat of a longitudinal view (See Table 2 below). The actual company names have been permitted under the SCIRT Researcher agreement, although individuals have been anonymised.

Insert Table 2 about here

Data were also gathered from observations over time, key documents such as contracts, joint agreements, interrogating of the organisation's business databases and systems, meeting minutes and personal conversations over two years. The researchers were granted access under a Researcher Agreement with the SCIRT Learning Legacy project that allowed access to the main operating systems and databases, along with a good number of reports, reviews and media releases. These secondary sources were invaluable in triangulating the model, behaviours and motivations of the participants, thus increasing the internal validity (Miles, Huberman, and Saldaña, 2013).

One of the primary forms of data gathering was in-depth interviews. The interview protocol helps maintain uniformity across all the interviews, thus increasing the reliability of the research (Voss, Tsikriktsis and Frohlich, 2002). The interview protocol is attached in Appendix A. Semi-structured in-depth interviews were used as these types of interviews are more flexible, thus, more suitable for the objectives of this research (exploratory). All the interviews were individual face-to-face interviews lasting anywhere between 60-120 minutes and recorded. While conducting these interviews, the researcher has also noted the depth, detail, vivid and nuanced answers, rich content, and non-verbal clues that helped generate and validate the themes (Rubin and Rubin, 2011). One of the main features

of generation from action research is the numerous overlaps between data collection and data analysis. It is called the 'matching process' or 'systematic combining' (Corbin and Strauss, 2015), namely, that the conceptual framework, theory, fieldwork and case analysis develop simultaneously.

Validity and reliability

Written transcripts were shared with the respondents, and feedback received with draft versions of this paper has been reviewed and approved by the critical SCIRT management by the agreement, thus increasing external validity and objectivity. We intended to study a contemporary phenomenon, and other than generalising the findings to the specific context, interpreting and explaining the events are the primary concern (Alasuutari, 2010). Authenticity and internal validity are the focal issues for qualitative research. The following case study presents the results of this analysis and describes a model of a disaster rebuilding organisation. We argue that the delicate balance of incentives that promoted the behaviours of co-opetition materially supported the rebuilding phase.

CASE STUDY

Christchurch earthquakes 2010/11

This research was conducted in Christchurch, New Zealand, after the city, with a pre-earthquake population of 330,000, suffered a series of devastating earthquakes between 2010 and 2011. Notwithstanding that Christchurch is a modern 'first world' city with good public services and governance, a robust regulatory environment and sound building practices and codes, the inhabitants and the built environment suffered considerably. The first 7.1 magnitude earthquake struck at a shallow depth of 10 kilometres on 4 September 2010 within 40 kilometres of the city, causing significant damage, but miraculously, no direct causalities. However, another 6.3 magnitude earthquake[2] struck directly under the city on 22 February 2011 at a very shallow depth of 5.3km. That second quake resulted in violent shaking and a maximum peak ground acceleration (PGA) of 2.2g (*i.e.* 2.2 times the acceleration of gravity), being one of the highest ever ground accelerations recorded in the world. This earthquake struck at 12.51 pm, lunchtime on a busy working day, killing 185 people and causing major damage to the city and the eastern suburbs. The central business district (CBD) was hard hit, and 80-90% of the buildings have since had to be demolished.

The damage was exacerbated, and infrastructure was already weakened by the initial 7.1 magnitude earthquake five months earlier. In addition, with large parts of the city being built on silt loam and sandy soils with a high water table, liquefaction was a significant problem and over half a million tonnes of sand/silt had to be removed from the city (Christchurch City Council, Dec 2011). The liquefaction caused significant ground movement, and as a result, underground pipes became positively buoyant. The city's below-ground infrastructure damage was exceptional since 80% of the city's water and sewerage system was severely damaged (Clifton, 2011). The total cost to insurers was estimated to be NZD15 billion for the whole city (Murdoch and Fraser, 2011). Later, the revised cost exceeded NZD40 billion, making it one of the costliest earthquakes in human history due to the very high levels of insurance coverage (3 News, April 2013). Since most of the damage and 185 lives were lost in the 22nd February earthquake, we will focus on this event as the crisis trigger. However, the ongoing significant earthquake swarms lasting over the subsequent 18 months have caused considerably more stress, damage and disruption to the rebuilding efforts.

[2] Technically this event was actually an aftershock from the 4 September 2010 earthquake.

The response phase after the 22nd February magnitude 6.3 earthquake lasted a little over seven days and, whilst a rich research area in itself; it is outside the scope of this paper. Early in the recovery phase, there was a dawning realisation that the rebuild would be massive and well beyond the capabilities and resources of any one organisation or business. The damage to the horizontal infrastructure (ground level and below) was unprecedented. It included 300 kilometres of sewer pipes, 124 kilometres of water mains, 895 kilometres of road (52% of the total), together with an additional 50,000+ individual road faults (for example, cracks, bridge support displacements) (Christchurch City Council, Dec 2011, p. 11). Wider socio-economic impacts are reviewed in Potter, Becker, Johnston and Rossiter's (2015) article. It was, therefore, abundantly clear that the asset owners and local authorities would have to prioritise their efforts and develop a detailed programme to rebuild the city's infrastructure. This quickly led to a general outline plan developed by the Christchurch City Council, which sat alongside other works streams. Yet, the critical question remained- who would coordinate this massive task of rebuilding the horizontal infrastructure?

Structure and functions of SCIRT

SCIRT was designed as a temporary organisation from the outset, similar to many disaster relief/recovery agencies. Its mandate is to complete the horizontal rebuild work within five years with an end date of Dec 2016. It is a purpose-built virtual organisation where participating contractors second everyone. Even the CEO remains an employee of Fulton Hogan. This temporal/virtual nature of the organisation fits well with the needs of the humanitarian disaster relief and rebuilding contexts. The Senior Management Team, as with the entire SCIRT organisation, comprises representatives from the five construction companies, consultants, designers and clients (in fact,>100 organisations). The SCIRT management team directly oversees the delivery of the rebuild services on behalf of the clients. Hence the data gathering was focused on the "*...key people, the leaders at the end of the day are the ones that either going to make it work or it is going to fail. You have that true kind of collaborative approach*" (Interview 6, 2016).

The heart of SCIRT is the Integrated Services TEAM (IST) which employs 300 staff from 21 different consulting and engineering companies, bringing together various construction disciplines. SCIRT does not directly hire anyone (Interview 10, 2016; Alchimie, March 2014). Instead, all staff are on secondment (employed, contracted) from their parent organisations. They come from the funding agencies and the five prime contracting firms, with other businesses providing additional discipline experts as required. All supplying agencies are reimbursed their labour costs, with commercial entities receiving a pre-agreed profit margin. This high inter-company and cross-disciplinary integration have been vital in creating a culture of innovation and cooperation, primarily driven by the deliberately installed ethos 'to do well for the community. Yet, collaboration across the delivery teams was not always easy and was hindered mainly due to differences in company cultures, systems and work practices. The co-opting mechanisms were not initially established (Interview 6, 2016). These evolved as the alliance progressed and would be a key area for further development/improvement in any disaster recovery model (Interview 8, 2016).

The role of the IST is to assess asset condition, design the rebuild projects, develop cost estimates (independently audited), monitor the standards of engineering compliance, design and build work, manage the environmental and community impacts of each project and report to key stakeholders. A crucial role of the IST is identifying and prioritising projects utilising multi-criteria analysis of asset importance and community factors. The IST then designs discrete projects or ‘parcels of work’, develops the cost estimates, and then 'allocates' (note - no tendering) these projects to the five prime contractors in parcels worth about NZD10m each (Interviews 6 & 10; Steeman, 2013). The *allocation* of similarly priced work packages to the five delivery teams is one of the more significant differences from average commercial contracting (Interview 10, 2016). Yet, the work allocation process is competitive, with performance measures considering cost, time, and many other non-cost KPIs

determining the percentage of total work allocated. Hence, the five construction companies are guaranteed work (subject to performance adjustments), and the removal of the tendering process dramatically facilitates and speeds up the formation of cooperation. These five contracting companies are responsible for delivering their allocated projects on time and within the estimated costs (Targeted Outturn Costs, TOC). The agreement with SCIRT stipulates a minimum of 40% of all contracted work to each of the five subcontractors. Currently, over 60% of the work is subcontracted (Interview 6, 2016; Steeman, 2013), meaning that the revenue is shared with local businesses in practice, thereby supporting the recovering economy.

Nevertheless, it will be appreciated that one significant difficulty is that many of the specific project costs are impossible to know before the commencement of the task. Due to the complex geology underlying the city, the scale of the damage is often unknown until repairs are started. Hence, performance metrics and adjustments of outcomes are vital.

Performance metrics and incentives

Critical to the development of cooperation in what is a competitive environment of the rebuild are the incentives established through Key Performance Indicators (KPIs) and the gain share/pain share payment model. The right incentives promote the desired behaviour, and SCIRT has created a series of incentives linked directly to their performance metrics. However, co-opetition took a while to establish itself as the dominant behaviour; the CEO noted, "*...it took probably 18 months to 2 years before we got everyone to understand how and why they had to behave as they do*" (Interview 1, 2014). These KPIs have evolved as the rebuilding progress. Still, they focus mainly on bringing projects under budget and within time frames whilst ensuring quality, safety, and other non-monetary KPIs. As a project is scoped, designed, and cost by SCIRT, a 'targeted outturn cost' (TOC) is established. The estimated repair cost plus a fixed margin for the contracting construction companies' profit and overheads. It was noted, *"...cost allocation at work that was the big one, you know the better you perform, the more work you will be allocated, and it was so prevalent and important*" (Interview 6, 2016).

The Limb payment mechanism built into the TOC provides the incentives to collaborate. These TOCs are verified (legitimised in the eyes of the contractors) through independent reviews and audits. All five contracting companies have the same agreed profit margin under the alliance agreement with SCIRT, meaning that company returns can only be improved through project delivery efficiencies rather than contract renegotiation. Actual payment is made to the five contracting companies using a three-step (Limb) process outlined in Table 3 below with an example. The starting figure is the estimated Targeted outturn costs (TOC) worked out by the IST before allocating to the five construction companies.

Insert Table 3 about here

It will be noted that these Limb payments establish economic incentives for the desired inter-organisational behaviours. "*...we would look at the delivery performance scores that came out every month – which determined the allocation of work, how much work you got, and that was all we were focused on. It was like cocaine every month, you know, it came out, and that's all you are focused on, how you can get your numbers up. Where you sat against the other delivery teams, and it was just in the DNA of all the teams for so long*" (Interview 6, 2016). The contractors are guaranteed to be reimbursed for their actual project costs and their fixed margin and overhead expenses. What is variable is the gain share/pain share of the equation. Here the actual outturn costs (AOC) are compared to the fees targeted (TOC), and if the project comes in under budget, then the clients (funding agencies) get 50%. All five contractors share the other 50% at 10% each, while any cost overruns are shared between the client and contractors on the exact percentages (see example in Table 3 above). These progressive payments are made during the project by comparing what has been spent to date with what the TOC

says should have been paid. There are more details on Limb calculation, but this is currently outside the scope of our research.

What is critical for the development of co-opetition is the commercial incentives established through the gain/pain sharing agreement inherent in the Limb3 payments or deductions and the competition to be awarded more projects than the others. While the Limb3 costs/surplus are split 50/50 between the clients and the five contractors, there are modifications to this split based on other non-cost KPIs. The Limb3 payments are pooled, and if one company's share of the work falls due to poor performance (i.e. failure to meet non-cost KPIs), its share of the pool falls proportionally. For example, if the KPIs around health and safety injuries are poor for one contractor, then the split is weighted against the offender, decreasing their returns and the total pool for the others. Similarly, if one contractor overruns the budget, the entire pool available for distribution for all contractors also shrinks. In addition to the pain/gain cost-sharing, a contractor's overall performance score will also impact future work allocation, with more work being allocated to the better-performing contractors. Given that the work allocation originally started at 20% for each contractor (100% / 5), variable performance over time has seen the work allocation split go as low as 16% for one contractor and 25% for another. This work allocation split strongly encourages competition between the contractors to be the best, hence achieving simultaneous cooperation and competition that reflects the concept of 'co-opetition' as described in the literature (Nalebuff and Brandenburger, 1996).

One outcome of this incentive structure is the potential for animosity/conflict between the five contractors, with the other four applying undue pressure on the non-performer (Interview 12). However, it is reported that there have not been any serious disputes so far that have necessitated the intervention of the SCIRT Board (Interviews 1, 5 & 6). Rather, what has emerged are strong incentives for all parties, including the client, to collaborate and share their ideas, innovations and resources to increase the total pool to be shared. This high level of collaboration within the SCIRT project has emerged between what was traditional, fierce rivals pre earthquakes. Indeed, the CEO noted that "*...the reality is out in the open world these five contractors are fierce competitors"* (Interview 5, 2016). Hence, these competitors have now become more overtly collaborators in a hybrid behaviour, we argue it is a form of co-opetition.

Our research objectives focus on describing the organisational form and incentive mechanisms appropriate for the disaster rebuild phase. We argue that SCIRT is such an organisation and differs meaningfully from other forms of construction alliancing. Instead of prime/lead contracting, the delivery companies are directly embedded within the organisation, and work parcels are allocated rather than competitively contracted. Further, it embodies a mix of humanitarian and commercial values that make this case somewhat unique. Indeed, CEO2 described it this way, *"...it was a grand experiment really*" (Interview 5, 2016).

DISCUSSION

In setting out to research this key rebuild organisation, we attempted to assess if this model would be suitable for future disaster rebuild situations. In particular, could it accommodate a mix of rebuild actors with the concomitant mix of humanitarian and commercial values? Nearly all the actors involved were from the commercial environment, but this was a harder test for the emergence of humanitarian values as manifested through the desire to collaborate for the greater good. What we found was strong evidence for both humanitarian/collaborative and competitive behaviours that were deliberately fostered and incentivised through the SCIRT model, inparticular through the Limb payment methodology.

Indeed, we argue that the concept of 'co-opetition' (Nalebuff and Brandenburger, 1996; Bengtsson and Kock, 2000; Kotzab and Teller, 2003; Barretta, 2008), drawn from organisational behavioural literature, could be appropriate for managing the value tensions between humanitarian and commercial actors for the rebuild phase. The idea of co-opetition being the driving behaviour was suggested, without

prompting, by the CEO of our case organisation (Interview 1, 2014). Co-opetition seeks to explain how organisational actors can demonstrate both behaviours simultaneously. The relationships between actors exist on the vertical and horizontal planes and at several levels simultaneously, and opportunities for co-opetition are bound to exist (Schmoltzi and Wallenburg, 2012). It is amongst the myriad of these relationships that both cooperative and competitive values manifest. Co-opetition has been argued to reduce the negative externalities of competition whilst creating synergies from cooperation (Barretta, 2008). While research on co-opetition has progressed in a business context (Bengtsson, Eriksson and Wincent, 2010), we find virtually nothing in the disaster relief and humanitarian logistics fields. In the rebuild phase, co-opetition is understood as the desire:

- Collaboration for humanitarian and commercial reasons,
- Eliminating wastes and duplications
- Making the scarce resources go further for the affected region,
- Providing value for donor money,
- Competing with other agencies (especially commercial) for greater profit.

This is the outworking of both commercial and humanitarian values. Indeed, we have observed that business cooperation is no different to cooperation in humanitarian logistics (Tomasini and van Wassenhove, 2009). What changes is the motivation to cooperate, moving from philanthropic to commercial (Balcik *et al*., 2010)? In the response phase, actors are predominantly disaster relief organisations strongly motivated by humanitarian values. When commercial organisations increasingly undertake the recovery phase tasks, then commercial values will predominate, and disaster relief and humanitarian logistics need models that permit these. While humanitarian values are still important in the recovery phase, the behaviour morphs into a form of cooperation and competition enacted simultaneously by the same actors. Figure 2 below illustrates these changing values and motivations.

Insert Figure 2 about here

The disaster relief and humanitarian logistics literature are bereft of an organisational model that nurtures cooperation beyond the universal imperative for all actors to collaborate, often desired but little achieved (Thomas and Fritz, 2006). As a rebuilding phase progresses, commercial incentives emerge alongside humanitarian values as the number and type of actors involved change. Infrastructure rebuild is one of the biggest tasks and perhaps one of the most critical phases of disaster relief. Certainly, quickly re-establishing sanitation, fresh water, and clean food supply chains can significantly mitigate famine or the outbreak of diseases. But beyond that is the longer-term recovery of the community and economy. As we have argued earlier, a disaster-struck region's adaptability impacts how optimally the new normal is achieved rather than sliding into aid dependency. During the rebuild phase, local autonomy and 'buy-in' from the local community and businesses are significant for a sense of 'ownership' and wellbeing derived from active participation, all key lessons learnt from Hurricane Katrina (Boettke *et al.* 2007). Humanitarian relief efforts need new organisational models when dealing with commercial motivations in the rebuild phase. Hence, deploying the model that SCIRT has developed would be important to meld what were *ex-ante* competitors into an *ex-post* cohesive (if somewhat reluctant) group of collaborators to deliver the tasks of the rebuild phase.

Authoritative command and control models directing actor cooperation, while suitable in emergencies, will be untenable for rebuilds (Rogers, Burnside-Lawry, Dragisic and Mill, 2016). Instead, actors in the rebuild phase engage for both humanitarian and commercial reasons. Indeed, philanthropic relationships occur when private sector companies support or collaborate with relief organisations in ways that do not include profit-making, thereby supporting Haigh and Sutton's (2012) contention that private enterprises should engage in meeting humanitarian stakeholder expectations. In the case of the Christchurch earthquakes and the evolution of the alliance relationships that underpin the SCIRT model, we see a form of cooperation and competition mixed in the same relationship.

The collaborative culture formed through the colocation of contracted personnel throughout SCIRT and the incentive structure established by the KPIs and Limb payments strongly foster collaborative actions that reward the whole rather than an individual company's self-interest. Unlike typical construction alliances where the actors remain quasi-independent and collaboration often fails (Jefferies et al., 2014), we argue that SCIRT offers a model that demonstrably fosters the right sort of co-opetitive behaviour for the rebuild phase. Indeed, it should be one of the critical behaviours when humanitarian organisations select potential partners (Lu, Goh & De Souza, 2013). The CEO of SCIRT summarises the applicability of this organisational model to the disaster recovery phase: "*…this type of relationship is perfect for those scenarios because alliance contracting is all about where you need to respond quickly, where you have got unknown scope or uncertainty of scope. You have a risk that you can't quantify, and you can't allocate to a client or a contractor, and you need to share it appropriately. That's perfect for disaster response because you have got this all of a sudden – gee, we have got to deal with this, and we need to bring resources together quickly to do it."* (Interview 1, 2014). Drawing from the results of our two year action research, we argue that the concept of co-opetition is indeed a suitable mechanism that can cope with both humanitarian and commercial values simultaneously.

However , while working well for a well-developed democratic economy, we also acknowledge that this model may not be suitable in other contexts or countries, particularly those that are weak in governance and legislature. A further limitation was that primarily the staff of SCIRT were professional engineers who are used to a process-driven view of the world and dealing with discrete parcels of work within major projects. We note that other cultural approaches may manifest co-opetition differently. Perhaps critically, the funding system was not from private donors as per humanitarian organisations but from three key government agencies (Central Government, Land Transport Authority and the City Council). In effect, the rebuild was from taxpayers' dollars. Still, given the high level of scrutiny and interest from the public, there was an intense focus on the value derived from this spending, something familiar to the humanitarian sphere (Beamon & Balcik, 2008). Again, the data showed that many had been involved in SCIRT for 3-5 years, long enough for trust and collaborative behaviours to develop, and the staff turnover was low. Contrast this to the high turnover and fragmented nature of the humanitarian field (Tomasini and van Wassenhove, 2009: Tatham and Houghton, 2011).

Indeed, our findings, while pointing to some good insights, will need more data gathering and analysis to confirm these exploratory results. Hence we advise caution in their interpretation. We also argue that the recovery/rebuild phase of disaster relief needs considerable more research and hope that this paper offers an addition to the thin literature base that exists at present. Finally, while the recovery phase is not yet the 'new normal, for long-term balance, it is necessary to integrate humanitarian values into commercial participation during the rebuild phase of disaster relief efforts. We offer co-opetition as the critical behaviour and SCIRT as a suitable model of inter-organisational cooperation to achieve this.

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Tables and Figures

Table 1: Three-phase model and activities of disaster relief

Phase: (Safran, 2005)	**Prevention**	**Transition (response)**	**Recovery**
Purpose:	Preparedness to avoid the gravest possible consequences of a disaster and minimise the negative effects (Cozzolino *et al.,* 2012)	In the transition (response) phase, the preparedness strategy is working. Temporary structures are formed and activated (Jahre, Jensen and Listou, 2009)	Recovery involves the actions taken in the long term after the immediate impact of the disaster has passed to stabilise and restore the community to normalcy. (Altay and Green, 2006)
Examples of actions: (Altay and Green, 2006)	Planning, training, and pre-positioning of supplies.	Search and rescue, restoring emergency services, situational awareness	Debris removal, making safe buildings, short-term recovery transitioning into the rebuild phase
Command and Control Approach:	Hierarchical Collaborative	Centralised Authoritarian	Distributed Collaborative/Competitive
Duration:	Pre-event	First 7 days (approx.)	Ongoing (multi-year)
Infrastructure:	Building in resilience	Re-establishing basic services	Repair and permanent rebuild > resilience

Source: Authors

Table 2: Interviewees and roles

#	Title	Organisation	SCIRT Dept	Parent Org	Tenure with SCIRT	Interview	Previous roles within SCIRT/Parent
1	CEO1	SCIRT*	SMT**	Fulton Hogan	4.3 yrs	Jul 14	
2	Delivery Manager	SCIRT	IST***	Fletcher	3 yrs	14 August	
3	Value Manager	SCIRT	SMT	none	5 yrs	14 July	Employed directly
4	CEO2	SCIRT	SMT	Fletcher	5 yrs	16 August	
5	Value Manager	SCIRT	SMT	none	5 yrs	16 July	Employed directly
6	Delivery Team Manager	SCIRT	IST	Downer	4 yrs	16 August	Operations Mgr Downer
7	Project Director ChCh	Fulton Hogan	DT#	Fulton Hogan	4.5 yrs	16 August	
8	Construction Manager	McConnel Dowell	DT	McConnel Dowell	4.6 yrs	16 August	Previous Fulton Hogan /Delivery Mgr/ Office Mgr
9	Delivery Team Leader	Downer	DT	Downer	3.5 yrs	16 October	Previous Project and Office Mgr for 2.5 yrs in SCIRT
10	Professional Services and Design Manager	SCIRT	IST	Opus	5 yrs	16 August	
11	Delivery Team Leader	Fletcher Construction	DT	Fletcher Construction	6 yrs	16 August	Previous Project Mgr
12	Delivery Team Manager	City Care	DT	City Care	2.5 yrs	16 August	Transpower, previous GM City Care

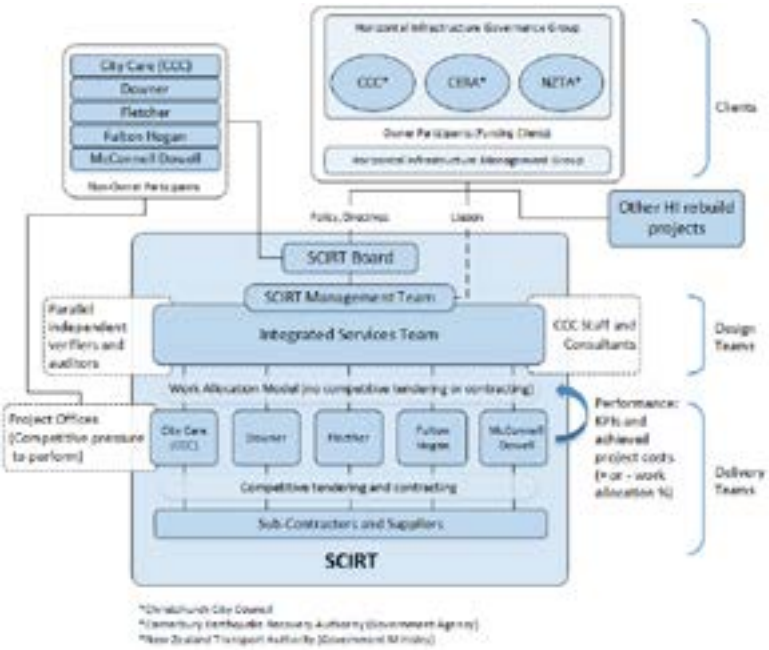
*SCIRT – Stronger Christchurch Infrastructure Rebuild Team
**SMT – Senior Management Team
***IST – Integrated Services Team
#DT – Delivery Team, these are the five independent construction firms within the SCIRT model

Table 3: Payment model – Three 'Limbs'

Limb	Payment Component	Explanation	Example
Limb1:	Actual Outturn Cost (AOC)	The actual cost of delivering the project (at each milestone and end of the project)	Actual costs of the project $6,000,000
	Plus		
Limb2:	Profit and Corporate Overhead (margin)	Agreed percentage margin as per alliance agreement (same for all five contractors)	+ profit margin 4% (example) $240,000 = $6,240,000
	Plus/Minus		
Limb3:	Gain share/Pain share (pooled)	The difference (+ or -) between total TOC and total AOC for all projects is split between the clients (50%) and all five contractors (10% each)	AOC $6,240,000 Less TOC $5,500,000 = $740,000 (over TOC)
Total:	**Plus/Minus payment to all parties**	Sharing the gain/pain between all parties (clients and contractors)	$370,000 pain for the Clients (50%) $74,000 pain for each Delivery Team (10% each x 5)

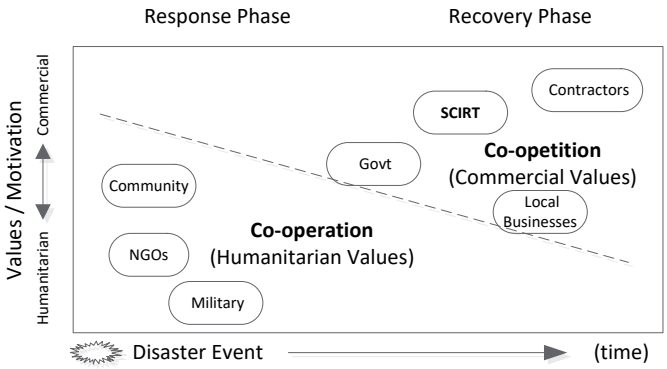
Source: Authors, Case Study data 2014 & 2016, SCIRT Presentation, (SCIRT, March 2014).

Figure 1: Stronger Christchurch Infrastructure Rebuild Team



Source: Authors, Case Study data, SCIRT (March 2014) Presentation, *'Beneath the hood: How SCIRT works'*; SCIRT (31 January 2014), *The value of SCIRT: Interim report*, p. 52.

Figure 2: Actor value configurations for the disaster recovery phase



Source: Authors. Note: Actors are represented approximately

Semi-structured Interview Protocol (Guide)

SCIRT Formation

- How did the idea start after the 2010 and 2011 earthquakes?
- Who were the key decision makers? (time, dates, roles etc)
- What where their motivations? Intent?
- Can you describe the behaviours present? (humanitarian vs commercial motives)

Co-opetition

- Describe how and why the people in SCIRT collaborate?
- Describe how and why these same people also compete with each other?
- How do you manage the conflict between the ideological views of competition vs collaboration?
- How did you manage the commercial expectations of the competitors?
- "A single powerful culture" describe this please? (from SCIRT mission statement)
- A comment was made that SCIRT takes 'ownership of the event' – how close are your people to those effected by the disaster?
- How has this effected their motivation?
- How would other non-for-profit NGO's (etc) impact the behaviour of SCIRT if they 'flew in' to help in a disaster event?
- How have these local connections impacted the desire to perform well?

Examples of Co-opetition

- Can you please provide specific examples of co-opetition (competitors working together)
- At what level in SCIRT does this co-opetition take place?
- What do you think motivates this behaviour?
- Are there any examples where competitive forces surface? If so under what conditions?
- What happens when you do not get the desired behaviour?
- Describe any conflict and how it was resolvd?

SCIRT as a Model for the Rebuild Phase?

- How can SCIRT be used for future disaster relief?
- What are the key lessons for disaster relief and rebuild management?
- Do you think the SCIRT model would work a less developed country?
- What parts do you think are transferable and what parts are just simply the 'local way' of doing things?
- What institutional and regulatory barriers are there in deploying the SCIRT model elsewhere?

Counter View

- Considering SCIRT – what keep you awake at night?
- What parts do you think can be improved on? Describe how?
- What works and what does not work?

7. Teaching and Learning

Exploring the impact of online global experiences on students' career development and employability

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Exploring the impact of online global experiences on students' career development and employability

ABSTRACT:

In the wake of the pandemic, universities' investment online global experiences (OGEs) grew exponentially. This preliminary study explores the impact of OGEs on students' career development and employability. Specifically, through the career construction model of adaptability, this paper explores how OGEs may influence students' adaptability and the subsequent impact it has on employability. The findings of 24 narrative interviews with OGE participants suggest that students' psychological adaptability resources of concern, control, curiosity, and confidence both influence and are influenced by their engagement in the OGE and lead to proactive career behaviours such as career exploration and planning. Overall, the findings support the inclusion of OGEs as an adaptability-enriching and employability-enhancing activity.

Keywords: online global experiences, higher education, adaptability, employability

One of the key aims of higher education institutions (HEIs) is to enhance graduate employability (Tomlinson, 2017). Employability is conceptualised as 'a form of work specific active adaptability that enables workers to identify and realise career opportunities' (Fugate et al., 2004, p. 16). In higher education, it is relied on to help graduates prepare for and successfully navigate a career in a labour market that is increasingly characterised by uncertainty, volatility, and unpredictable career pathways (Boyle, 2022; Reid et al., 2011).

To enhance graduates' employability, HEIs have traditionally focused on the acquisition of discipline-specific and transferable skills and knowledge, such as critical thinking, communication, and teamwork (Holmes, 2013). However, this possessive approach to employability is critiqued for being 'out of sync with the diverse student body and the demands of contemporary work' (Bennett, 2019, p. 49). Increasingly, HEIs are called upon to adopt a more processual approach to employability, which focuses on the *process* of students' employability development (Bennett, 2019; Holmes, 2013) that involves ongoing sensemaking, self-discovery and self-construction (Bridgstock & Jackson, 2019; Savickas, 2011). Two key metacompetencies that drive and enable this developmental process are career identity and adaptability (Hall, 1996). Career identity is a 'cognitive compass' (Fugate et al., 2004, p. 17) that motivates and directs a person to actively adapt to the work environment and create career opportunities. Adaptability reflects their ability to change their personal factors, such as knowledge, skills, dispositions, and behaviours, to meet the demands of the situation (Fugate et al., 2004). Combined, these metacompetencies 'equip people to learn from their experience and develop any new

competencies on their own' (Hall, 2004, p. 6). In other words, career identity and adaptability are essential facilitators for the process of lifelong learning and employability (Fugate et al., 2004; Hall, 1996; Hall et al., 2018).

Recent literature supports the importance of career identity and adaptability in enhancing employability. Studies report, for example, that the metacompetencies are positively associated with outcomes such as career and life satisfaction, promotability, self-reported work performance, and engagement (Hall et al., 2018; Johnston, 2018; Rudolph et al., 2017). However, while these studies have established relationships between career identity, adaptability and various employability-related outcomes, there are calls for research to examine the influence of specific interventions on these metacompetencies (Hall et al., 2018; Johnston, 2018). This paper takes a step toward this call by investigating the impact of a potential employability-enhancing activity, *online global experiences (OGEs),* on university students' adaptability.

In universities, OGEs resemble programs such as virtual exchange studies, remote international internships, and online study tours and grew exponentially due to pandemic-induced travel restrictions. For example, the International Association of Universities (IAU) estimated that in 2020, 60 per cent of HEIs globally increased their offerings of OGEs (Marinoni et al., 2020). This figure grew to 90 per cent in 2021 (Marinoni et al., 2022). Longstanding advocates for OGEs contend that they offer internationalisation and employability benefits historically limited to physically studying abroad while also serving as a more cost-effective and accessible option for diverse student cohorts (Helm & van der Velden, 2020; Jager et al., 2021). However, despite these claims, there is a shortage of studies that aim to examine these outcomes empirically. Moreover, emerging research tends to focus on the internationalisation benefits of OGE participation, such as the development of foreign language skills (e.g., Canals, 2020; Loch & Pal, 2020; Machwate et al., 2021) and intercultural competencies (e.g., Liu & Shirley, 2021). While these internationalisation outcomes are known to enhance graduate employability (Crossman & Clarke, 2010), they are but one aspect of the larger employability puzzle.

In this paper, we contribute to the discussion and discovery of OGEs as a potentially employability-enhancing activity by adopting a processual perspective on employability development. Guided by the career construction model of adaptation (Savickas & Porfeli, 2012),

we focus our attention on the sequence of *adaptability* and explore how OGEs may influence that process. In the following section, we review the relevant literature regarding employability, adaptability, and OGEs. Next is an overview of the research methodology and a presentation of the preliminary findings of this study. This is followed by a discussion of the findings in relation to the literature. Finally, we conclude this paper with the limitations of this research, the expected contributions, and suggestions for future research.

LITERATURE REVIEW

Employability

In line with the processual approach to employability (Holmes, 2013), educators have highlighted the importance of career identity and adaptability in enhancing students' employability (Bennett, 2019; Bridgstock, 2009). Career identity and adaptability are considered key process mechanisms that are required for 'learning how to learn' (Hall, 1996, p. 11). While both mechanisms are argued to be important in enhancing employability in the modern world of work (Hall et al., 2018; Savickas, 2013), in this paper, we focus our attention on *adaptability*. This is to allow for a sufficiently rich discussion on the concept and how it relates to OGEs and employability.

One of the most established theories within 21st century career development literature is career construction theory (Savickas, 2005, 2013). CCT asserts that individuals are active agents in their career development and seeks to explain 'the interpretive and interpersonal processes through which individuals construct themselves, impose direction on their vocational behavior, and make meaning of their careers' (Savickas, 2013, p. 147). A central feature of CCT is the career construction model of adaptation (Savickas & Porfeli, 2012), which breaks down adaptability into four distinct yet interrelated constructs: (1) adaptive readiness (dispositions and traits); (2) adaptability resources (the psychological resources of concern, control, curiosity, confidence); (3) adapting responses (behaviours, such as career exploration and planning); and (4) adaptation results (outcomes, such as career satisfaction). The research described in this paper is grounded in this four-dimensional 'chain of effects' (Brown et al., 2021, p. 190) for its potential utility in eliciting a richer understanding of the adaptability process. Specifically, we focus on students' adaptability resources and related adapting responses as they are, arguably, the most malleable

and can potentially be influenced by university experiences.

Adaptability resources are self-regulation mechanisms or capacities that an individual can draw upon to solve developmental vocational tasks (Savickas & Porfeli, 2012) and are represented by *concern*, *control*, *curiosity*, and *confidence* (Savickas, 2005). *Concern* reflects concern about one's vocational future and is demonstrated through a planning attitude and active planning. *Control* involves the intrapersonal factors of self-discipline, independence, and autonomy and is demonstrated through competencies such as decision-making and assertiveness. *Curiosity* reflects initiative toward exploration of the self and the world of work and the fit between them and is demonstrated through information-seeking behaviour, experimenting, and engaging in exploratory experiences. *Confidence* denotes feelings of self-efficacy concerning one's own ability to implement educational and vocational choices and is associated with problem solving, persistence, and industriousness.

According to CCT, adaptability resources operate as transactional competencies, which are changeable and develop through interactions between the person and their environment (Savickas & Porfeli, 2012). Further, they help an individual form strategies that they use to direct their adapting responses (Savickas & Porfeli, 2012). Adapting responses are coping behaviours and may include, for example, career exploration, career planning, and career decision-making self-efficacy (Hirschi et al., 2015; Savickas & Porfeli, 2012). They address changing career conditions and reflect the making of occupational choices (Savickas et al., 2018). However, despite the proposed transactional nature of adaptability, few studies have examined the impact of specific interventions on the development of students' adaptability. For example, Green et al. (2019) and Kim (2022) both investigated a training program specifically designed to enhance adaptability and found that it was effective. In another recent study, Kattiyapornpong and Almeida (2022) found that international internships enhance students' career adaptability. This paper contributes to the limited literature by focusing on the impact of OGEs as a potential adaptability-enriching and, subsequently, employability-enhancing activity.

Online global experiences (OGEs)

Among HEIs, there are countless terms and frameworks used to describe OGEs, such as

virtual exchange, online intercultural exchange, and collaborative online international learning. Compounding this vast dictionary of terms is the reality that educators, researchers, and practitioners have historically operated in 'blissful isolation' of one another (O'Dowd, 2018, p. 2). Consequently, the literature concerning OGEs is sporadic, spans different fields of interest, and involves a wide range of stakeholders. In this paper, we use OGEs as an umbrella term to identify programs that are characterised by the following three main components: (1) an *online* delivery mode; (2) a focus on the *global* learning environment; and (3) that a learning *experience* is taking place. Further, the OGEs included in this study were primarily 'ready-made' programs (Helm & Beaven, 2020, p. 3) developed by external organisations that specialise in the activity and which are promoted by the university's international office. This is in contrast to much of the existing literature on OGEs, which often focuses on 'co-designed exchanges' (Helm & Beaven, 2020, p. 3) that are developed by educators between different institutions and, consequently, are often centred on discussing program design, curriculum, and pedagogy.

Nevertheless, among this literature, educators have identified a suite of outcomes that are associated with participation in OGE during university studies. These include, for example, enhanced cultural knowledge, awareness of cultural diversity, intercultural sensitivity, and cross-cultural communication (see O'Dowd, 2021 for a review). Emerging research also suggests that, through OGEs, participants practise and improve their ability to be autonomous learners (Vurdien & Puranen, 2018); improve their technical skills and digital literacy (Andone et al., 2018; Firssova et al., 2019; Machwate et al., 2021; Wimpenny & Orsini-Jones, 2020); and gain a greater appreciation for the importance of soft skills, such as teamwork, critical-thinking, problem-solving and organisation (Barbosa et al., 2020; O'Dowd, 2021). Further, through the development of such skills and competencies, students consider OGEs to enhance their employment prospects (Bason et al., 2018).

While these studies provide promising evidence for the outcomes of OGEs, they predominantly prescribe to the possessive approach to employability. That is, they focus on the acquisition of skills, knowledge, and attributes. In the modern world of work, graduates must be able to navigate an unpredictable labour market. A key metacompetency for guiding this process and for enhancing lifelong learning is adaptability (Hall, 1996). The process of adaptability,

however, remains to be explored in the OGE literature, which limits our understanding of OGEs as a potentially high-impact employability practice. The research presented in this paper is timely as the longer-term integration of OGEs at strategic and policy levels remains to be seen (Jager et al., 2021), and theory-driven, empirical research may assist policymakers, educators, and practitioners with that decision-making process. Thus, through the career construction lens of adaptability, this paper explores the following research question: *What impact do online global experiences have on students' employability?*

METHODOLOGY

The data reported in this preliminary study is part of a larger mixed-methods research project that aims to deepen the understanding of the impact OGEs have on university students' career development and employability. In this paper, we describe the findings of 24 narrative interviews with students who completed an OGE in 2020 or 2021. Twenty participants were 'emerging adults' (Arnett, 2000) who had not yet entered the workforce. Four participants were older and already established in their careers, hereafter referred to as established adults. Fifteen participants were studying at an Australian university, and the remaining nine were from the UK (n=6), USA (n=1), Canada (n=1), and Fiji (n=1). The purpose of the cross-sectional interviews was to gain an in-depth understanding of what students perceived to be the outcomes of their experience and gain insight into how those outcomes may occur. This rich data is important as OGEs are a relatively new yet widely adopted phenomenon for many HEIs globally. Further, and in line with career construction theory, the students' perceptions are critical as they are likely to engage in self-directed career management and be active agents in their career development.

A purposive sampling approach was adopted, with participants recruited via invitations sent from universities and program providers on behalf of the research team. One online interview was conducted per participant and followed a narrative approach whereby the participants were asked to reflect and share their personal and career stories through four key open-ended questions: (1) Tell me a bit about yourself, (2) Tell me about your university experience, (3) Tell me about your career, and (4) Tell me about your online global experience. Compared to other methods which impose a more specific agenda (e.g., semi-structured or structured interviews), narrative prioritises the storyteller's perspective and privileges the meanings they assign to their own

stories (Anderson & Kirkpatrick, 2016). Significant to this research, narrative provides a framework to capture contextual factors (Hammack, 2008; McAdams & Olson, 2010), which may impact students' career development.

The interviews lasted between 18 and 64 minutes and the audio recordings were transcribed verbatim by the first author (primary researcher) and an external paid transcription service. To enhance the credibility of the data (Guba, 1981), participants were emailed a copy of their interview transcription, with three students requesting minor changes. The reviewed transcriptions were used for the analysis. The data were first analysed by the first author following a deductive approach by using codes from theoretical concepts or themes drawn from previous literature (Skjott Linneberg & Korsgaard, 2019). An advantage of deductive coding is that it helps the researcher to focus on the coding of issues that are known in the literature to be important (Skjott Linneberg & Korsgaard, 2019). For example, those relating to adaptability and employability. The data were then recoded using an inductive coding approach. This involved developing codes directly from the data and adopting terms or phrases used by the participants (Skjott Linneberg & Korsgaard, 2019), such as 'eye-opening' and 'awakening'. This blended approach (i.e., deductive and inductive) is commonly applied in practice, and the 'cycling back and forth between data and theory' allowed the researcher to stay attuned to existing theories while remaining open to surprises (Peirce, 1978, as cited in Skjott Linneberg & Korsgaard, 2019, p. 264).

FINDINGS

The outcomes (themes) highlighted by the participants covered a range of employability-related topics, such as the development of skills and knowledge. However, for this paper, we focus on the themes and sub-themes related to the process of adaptability in recognition of the influential role adaptability has on employability development. Through participants' storytelling, we identified salient adaptability resources and the associated adapting responses before, during, and after the OGE. While all four adaptability resources (i.e., concern, control, curiosity, and confidence) were evident in each temporal stage, their prominence differed. The dimensions of concern and curiosity were the most pronounced before their OGE, as indicated by their motivations to participate. When describing their actions during the OGE, participants primarily demonstrated and exerted behaviours related to the dimensions of control and curiosity. Finally,

when reflecting on their OGE experience as a whole and their intentions post-experience, participants emphasised the dimension of confidence. This temporal aspect is used to present each theme in this section.

Adaptability before the OGE

As the OGEs under investigation were primarily self-selecting, optional programs, participants demonstrated a sense of concern and curiosity regarding their career from the outset, which was evidenced by the act of participating. This was supported by several participants who demonstrated a future orientation and explained how they viewed the OGE as an opportunity to gain 'as much experience as possible' (Participant 35[1]), 'connections' and 'more confidence' (Participant 7) during their studies in preparation for securing a graduate role and enhancing their employability. However, the planning of the OGE as a career-building activity was primarily attributed to the emerging adults, whereas the established adults were less concerned about finding a job or enhancing their experience.

To a lesser extent, participants also reflected on their decision to participate in the OGE as a result of career curiosity. Particularly for the emerging adults, curiosity was associated with a sense of inquisitiveness and exploration of the fit between themselves and the world of work that they would soon enter. This was most evident in OGEs that were centred on topics related to global sustainability, such as the United Nations Sustainable Development Goals (UNSDGs). For example, Participant 39, a fashion design student, described the OGE as an opportunity to 'get some experience in a sustainable project' and 'be able to make a difference and still do what I love.' Similarly, Participant 31, a first-year science student, said the OGE 'kind of just popped up, and it piqued my interest … I think being a part of a global community and doing your part as a global citizen is something that I've always wanted to do.'

Adaptability during the OGE

Whilst concern and curiosity were the most dominant adaptability resources prior to the OGE, participants primarily demonstrated control and curiosity during their OGE. When it comes to career control, most participants described drawing on their self-discipline, organisation, and

[1] Although this study is focused on 24 interviews, the participant identifiers are labelled based on their position within the broader mixed-methods study.

autonomy to successfully navigate the OGE. Due to the limited opportunities for real-time interactions and time zone challenges, they employed tactics such as adjusting their routine and preparing for meetings. For example, as these participants said:

> I'll get up at like, really early hours. I will definitely get up at least an hour before my meeting. That's to make sure I'm ready on time, but also to make sure that I'm awake enough to make sense and comprehend what they're saying. – Participant 7

> …it really taught me to manage my own time by myself at home. … I had to really be like, strict with myself, like, "No, sit down, put your phone away. Do this, do that. Take a break for a half an hour and get something to eat. You can watch an episode of this or whatever it is on Netflix. And then you have to get back to it." – Participant 8

> So you've got to be quite concise, make sure you've got everything as organised as you possibly can, to ensure that you're not wasting anyone's time. – Participant 45

Further, as a result of engaging with diverse others during the program, some participants described an enhanced career curiosity and learning more about their degree discipline and being open to new experiences and possible selves. For example, as Participant 38 explained:

> I mean, just the fact that you come together with people from very different countries and very different backgrounds in itself already changes the way you do things also because many of them studied psychology in different countries, in Egypt or in South America. And it's the things we get taught, even though we end up having the same degree and we could apply to the same job are super different. And I think I wasn't aware of that in a way. I just thought since we all just come out with an undergrad in psychology, we'll kind of have the same knowledge, but we don't.

Participant 32, who comes from rural Australia, described how learning from their peers in more populated areas, such as Germany and Mexico, encouraged them to 'take a step back and go, "Why am I thinking so small? I can think way bigger than this."' These reflections support the notion that an OGE can serve as a career exploration activity, whether or not the students are motivated to participate for that reason.

Adaptability after the OGE

When reflecting on the impact of the OGE overall, one of the most prominent adaptability resources to emerge from the interviews was *confidence*. Several participants described how the program increased their self-confidence, although they attributed the boost to different sources. For example, Participant 32 explained how the comparison of their quality of work compared to others made them feel more confident:

> This sounds arrogant, it actually gave me a lot of confidence, working in a group of students, we're all doing the same things. … it gave me a lot of confidence, because you're all presenting in a public forum so you can see the quality of everyone's work. … I thought it actually made [Home University] stand out really well, the quality of what we'd had.

For others, increased confidence was an outcome of completing a specific task during the OGE:

> …it's been really good doing it by myself and then seeing, "Wow, I can actually do this." – Participant 7

> I'm quite passive. So I was sometimes nervous [to ask questions] and whatever but it made me feel more confident. – Participant 45

> I've built more confidence actually talking on Zoom. … because at the start I was very nervous … that doesn't bother me anymore. – Participant 29

Some participants also reflected how engaging with their peers increased their confidence:

> …it did give me a lot of self-confidence, just because you meet a lot of other people that think alike to you and that have a passion for the same thing you do. Participant 38

> It boost my confidence too … I'm talkative, but not to this kind of thing, to the people I know. But with internship, it allows me to come out of my comfort zone – Participant 40

Relatedly, several participants described a sense of achievement or accomplishment as a result of completing the OGE:

> So, it was a huge learning curve, and I think it showed that, actually I can do a lot more than I think I can. – Participant 39

> I'm so proud of what I did as well. I actually had no idea I could sort of come up with the things I came up with. – Participant 4

Adapting responses

Participation in an OGE can be considered an adapting response in and of itself. That is, by participating in the OGE, students are exercising a career choice that results from a combination of career concern, control, curiosity, or confidence. At a more granular level, participants provided examples of adapting responses (coping behaviours) during their program in order to succeed. These include, for example, being organised; engaging in effective time management; working autonomously; learning more about diverse others and discussing different worldviews; and increasing formal and informal networks. When reflecting on the OGE overall, the participants hinted at future adapting responses, which are yet to be realised but signified that the OGE influenced their adaptability resources of concern, control, curiosity, and confidence. For example, as these participants reflected:

> …it has really impacted the location and how flexible I will be. I think it's opened my eyes, really, to what the world will be. – Participant 7

> [Before the program] I wanted to become an academic in the field of linguistics, so become a linguist and teach and lecture as well. I've since had a bit of a shift in that, towards language teaching, for a few reasons but the virtual program itself opened me up to potential opportunities to work in linguistics within the Pacific. – Participant 43

> …even the skills that will come from my fashion promotion degree, I don't necessarily have to use them within the fashion sector. … I can use the skills from my fashion promotion degree possibly for charities and things like that. – Participant 39

> …that subject, that virtual experience I took, was so enjoyable for me. I loved every single day. It was great. So, just makes me realise more than ever that I really should choose a career path that I enjoy that much. – Participant 36

Examples of future adapting responses may include further exploration of new career opportunities, planning around how to get more experience, developing networks in the field, or engaging in specific job search behaviours. Nevertheless, while the longer-term behaviours remain to be seen, the findings of this study suggest that participants engage in adaptability cycles. Further, OGEs as an employability-enhancing activity may influence that process.

DISCUSSION

This paper outlined preliminary findings on the impact of participation in an OGE on students' career development and employability. Specifically, it focused on the process of adaptability in recognition of the formative role adaptability plays in employability development (Fugate et al., 2004). The overall findings suggest that students' career adaptability resources of concern, control, curiosity, and confidence (Savickas, 2013), both influence and are influenced by their engagement in the OGE. By analysing students' adaptability before, during, and after their OGE, this research provides empirical support for the theoretical proposition that adaptability resources are transactional between a person's interaction with their environment (Savickas & Porfeli, 2012) and, subsequently, are malleable. Further, it supports claims that the components of adaptability are in varying states of activation (Savickas & Porfeli, 2012). To this end, our findings suggest that the development of adaptability occurs in cycles, as exemplified by participants who increased in career concern or curiosity following their experience, which in turn, may lead to subsequent adapting responses, such as career exploration. While career construction theory points to this cyclic occurrence across the lifespan (Savickas, 2005, 2013), our study shows that this cycle can occur at a more granular level as a result of specific, time-bound experiences.

This research joins a small handful of studies that have focused on the influence of a specific university activity on students' adaptability (Green et al., 2019; Kattiyapornpong & Almeida, 2022; Kim, 2022). Moreover, to our knowledge, it is the first study grounded in career

construction theory (Savickas, 2005, 2013) to examine OGEs from a qualitative approach, which led to richer insight into participant experiences and the relevance to developing student employability. In particular, through narrative storytelling, participants, in their own voice, pointed to various antecedents and contextual factors that influenced their adaptability—for example, interacting with peers through technology led to increased confidence. As called for in previous research (e.g., Chen et al., 2020), this study resulted in a deeper understanding of career adaptability compared to the quantitative methods that dominate the literature. In doing so, it provides preliminary support for the inclusion of OGEs as an employability-enhancing activity.

LIMITATIONS AND FUTURE RESEARCH

This paper provides insight into the impact of OGEs on students' career development and employability. However, there are several limitations of this study, which impact our inference of the current findings. First, OGEs were analysed as one type of program. Participants experienced different pedagogical factors, such as varied forms of classes, teaching styles, levels of support, course content, and technology. Future research should consider programmatic differences and their influence on the outcomes of OGEs and the process of adaptability. Second, participants were from a mix of countries. Although regional differences in terms of adaptability were not detected in the data, future research may want to specifically examine the influence of culture on adaptability. Third, as participants primarily self-select into OGEs, it can be argued that they are more likely to achieve these outcomes regardless of the OGE. Therefore, there is cause for more experimental research with a comparison group to help identify and isolate the effects of the OGE. Fourth, this paper focused on the process of adaptability to be able to present an in-depth examination of adaptability before, during, and after an OGE. Future research should investigate the influence and interplay of other important employability-related constructs, such as human capital, social capital, and career identity. Finally, combined with the aforementioned limitations, the findings from this qualitative study cannot be generalised to the broader student population and care should be taken when interpreting the findings. While the other phases of this broader study address some of these concerns through additional data, a key contribution of this study is its ability to demonstrate the perceived impact of university activities, and specifically, OGEs, on students' career development and employability.

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Active Connection Driving Social Inclusion through Sport and Physical Activity

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Driving Social Inclusion through Sport and Physical Activity: A case study of women from refugee and migrant backgrounds

ABSTRACT:

This study focused on a project funded by a Commonwealth agency to increase refugee and migrant women's social inclusion through physical activity in regional New South Wales, Australia. The study used data from group interviews with twenty-six women from migrant or refugee backgrounds who engaged in the program and focus group discussions with eight volunteers and staff who ran a physical activity program. The findings highlight how the community organisations that managed the program used a care-based approach that facilitated the participating women's bridging and bonding behaviours, which helped them cultivate a sense of social inclusion within their new home in regional Australia.

Keywords: Social inclusion, wellbeing, social capital theory, ethics of care theory, refugee women, qualitative research

INTRODUCTION

Australia is one of few countries that offer resettlement to refugees and humanitarian entrants from across the globe. The World Health Organization (WHO, 2020) argues that regular physical activity is a well-established protective factor for preventing and treating multiple diseases. The health benefits of physical activity can be particularly beneficial for population groups where economic and social disparities exist (Macniven et al., 2019).

Extant literature shows that physical activity and sports can influence health and social outcomes. For instance, D'Isanto and Di Tore (2016) reported that organised physical activity positively impacts social inclusion at schools in Italy. Similarly, McDonald, Spaaij, and Dukic (2022) discussed asylum seekers' experiences of social inclusion through their participation in an asylum seeker football team in Melbourne. Furthermore, a scoping review by Macniven et al. (2019) showed that physical activity and sport positively impact the social outcomes of Aboriginal and Torres Strait Islander people in areas such as education, employment, culture, self-esteem, and social and emotional wellbeing. Van Dijck and colleagues (2016) reported that physical activity positively

impacts quality-of-life outcomes such as fatigue, physical functioning, and emotional and social wellbeing. Furthemore, Masanovic (2019) indicated that physical exercise and social activity programs influence young people's public health and social inclusion. Popovic and Masanovic (2019) contend that physical and social activity significantly influence physical health and social inclusion among elderly people.

Although the extant literature has established the impact of physical activity on health and wellbeing as well as social inclusion of individuals, most of the data come from students (D'Isanto & Di Tore, 2016), elderly people (Popovic & Masanovic, 2019), young people (Jeanes et al., 2015; Masanovic, 2019), and indigenous people (such as Aboriginal and Torres Strait Islanders) (Macniven et al., 2019). Maxwell et al. (2013) discussed how organisational practices facilitate and inhibit the social inclusion of Muslim women in community sports. Few studies have provided programs designed to support women from refugee backgrounds with settlement efforts in Australia. Hence, we have a limited understanding of how physical activity can influence the wellbeing and social inclusion of refugees and humanitarian migrants in Australia.

In effect, this research intends to uncover the gap and respond to a call by Dowling et al. (2019) to understand the health and settlement needs by examining how bridging and bonding behaviours developed through physical activities can influence the wellbeing and social inclusivity of migrant women from refugee backgrounds living in regional areas in Australia. The phenomenon is examined considering the social capital theory and ethics of care theory.

LITERATURE REVIEW

Social Inclusion and role of the Social Capital Theory

A socially inclusive society is one where all citizens feel valued and have opportunities for full social and economic participation in the life of their community (Australian Government, 2011). Social inclusion entails a form of acceptance of people in a mutually respectful environment, without infringement on identity, religion, and culture (Walker et al., 2011). The intuitive core of social inclusion is that every member of society should be able to participate fully in it (McDonald et al., 2022). Researchers have argued that social inclusion promotes happiness, self-esteem, confidence, mental health (Forrester-Jones et al., 2006) and wellbeing (Johnson et al., 2010).

Simplican et al. (2015) define social inclusion from different dimensions: (1) the scope of the inclusion, (2) the settings of inclusion and (3) the depth of inclusion. The scope of the definition refers to the activities, relationships, and environments that social inclusion encompasses (Simplican et al., 2015). Settings of social inclusion can be interpersonal relationships and community participation. The interpersonal dimension of social inclusion includes social interaction, relationships, and social networks— which could take place in a private setting such as the person's home—and researchers have thus measured the number and quality of a person's friendships (McVilly et al., 2006). In contrast, many definitions encompass access to community facilities and community participation, which gives social inclusion a public dimension. Hence, even if someone had a high number of friendships, their level of social inclusion would be deficient if they had no access to the community. By emphasising community settings, researchers underscored the value of forming relationships with non-disabled people in mainstream settings (Bates & Davis, 2004).

Social capital refers to the links and bonds formed through friendships and acquaintances, as networks, together with shared norms, values and understanding which facilitate cooperation within or among groups (OECD, 2001). The social capital theory indicates that resources can be acquired through networks of social relationships among individuals (Warren et al., 2015). Social capital is a multi-dimensional concept that consists of relationships that can be categorised into bonding, bridging, and linking social capital (Bhandari & Yasunobu, 2009).

Woolcock (2001) describes bonding as the relationships that we have with people who are like us and typically refers to the relations among members of families and ethnic groups. Bonding offers both material and emotional support to a group or community members and is more inward-looking and protective (Bhandari & Yasunobu, 2009; Van Oorschot, Arts, & Gelissen, 2006). This may include age, hobbies, relationships, sports teams, or other variables that help to create a bond between two people or a group of people.

Bridging social capital is outward-looking, civically engaged relationships that connect people across a factor that typically segregates society, such as race, class, or religion (Claridge, 2018). Bridging social capital differs from bonding in the fact that the ties are not so strong, but promotes links between diverse individuals (Claridge, 2018). Putnam (2001) suggests that bonding

social capital is good for "getting by" and bridging is crucial for "getting ahead". Bridging allows for different groups to share and exchange information, ideas, and innovation, build solidarity and pursue common goals since there is greater diversity among the groups (Vann Oorschot et al., 2006).

The Role of the Ethics of Care Theory

Ethics of care highlights the importance of attitude and activities involved in caring as our fundamental human orientation toward, and relationship with, others and society at large (Nicholson & Kurucz, 2019). Care is defined as "everything that we do to maintain, continue, and repair our 'world' so that we can live in it as well as possible" (Fisher & Tronto, 1991, p. 40). Ethics of care conceptualises relation as ontologically basic and the caring relation as ethically basic (Noddings, 2013).

Accordingly, care ethics refers to the core of all moral reasoning and action, and its value is tied to an active relationship with and caring for others in a manner that improves their wellbeing (Gabriel, 2015; Noddings 2013). For this research, we view caring as a social practice as indicated by Tronto (1993); thus, care is socially constructed and co-defined by members of a group.

As part of viewing care as a practice, Tronto proposed four phases of caring which are related to four elements of care (Edwards, 2009; Tronto, 1993). More recently, Tronto (2013) introduced a fifth phase and element of care. There are distinctions between taking caring of, caring about, care-receiving and caregiving, these phases and their corresponding elements of care are discussed as follows.

First, there is the phase of caring which involves recognising the needs of people and appreciating the fact that there is a need for care (Zembylas, Bozalek, & Shefer, 2014). The underlying element of care for this phase is attentiveness – recognising a need and that there is a need to be cared about (Edwards, 2009). Promoting attentiveness is crucial in ensuring that the people are cared for. The antithesis of attentiveness is ignorance which is an active state and not harmless neglect; thus, ignorance of others' needs reinforces the status quo and maintains conditions of inequality (Tronto, 2012; Zembylas et al., 2014). For example, in the context of this study, social exclusion or issues of inequalities are maintained because the needs of others from different

backgrounds (i.e., persons of refugee background and humanitarian entrants) are not recognised, nor understood and perhaps ignored.

The second phase is caring 'for' and describes how a person or group of people recognise the needs of others and take responsibility to ensure that these needs are met and determine how the needs are to be handled (Zembylas et al., 2014). This phase goes beyond the obligation and duty to focus on what is done or not done in a particular situation (Tronto, 2013). Responsibility is the corresponding moral element of this phase (Zembylas et al., 2014). Concerning our study, once individuals and institutions recognise the needs of others (i.e., the social inclusions of migrant women from refugee backgrounds), they work out the best way to respond to the needs (i.e., in this case, using physical activities to promote social inclusion via increasing refugees' social capital).

The third phase is related to 'caregiving' and hinges on the idea that once others' needs are recognised, someone must do the actual work of caring for others (Zembylas et al., 2014). Competence is the corresponding moral element, and it is not just a technical consideration but a moral quality (Tronto, 2012). In this case, competence assumes that persons/institutions have the resources and knowledge to do a good job (Zembylas et al., 2014). For example, concerning our research, we believe the partners of the project have the knowledge and access to the various resources needed to care for the inclusivity needs of migrant women from a refugee background.

'Care receiving' is the fourth phase of caring and it entails responding to the care that is offered by the caregiver (Zembylas et al., 2014). This recognises that the object of care will be impacted by the care it receives from the caregiver (Edwards, 2009). The element of care is responsiveness which involves examining whether the care offered has been effective or not (Zembylas et al., 2014). In the case of this research, we assessed whether the migrant women from refugee backgrounds have acquired the knowledge and resources they set out to gain to ensure their inclusivity in the community.

The last phase is 'caring with' which refers to the recurrence of the care process, where habits and patterns of care are developed over time, and where the moral qualities of trust and solidarity are developed (Tronto, 2012; Zembylas et al., 2014). The condition of trust is developed when reliance is promoted through the caring practices of others. For example, as the project offers care to the

participants the notion of reliance may be developed; thereby, creating a condition of trust in the project and caregivers. In addition, the participants can create conditions of trust among themselves as they recognise the needs of each other and offer the needed care throughout the project; thus, developing that reliance on each other (and even beyond it).

METHOD

Research Approach and Design

We used the interpretive case study approach which is based on a theory of knowledge that assumes reality is socially constructed through language and meaning-making practices while showing how those practices configure to generate observable outcomes (Silverman, 2010). Data collection and analysis can proceed simultaneously and iteratively in interpretive research, and simultaneous analysis helps researchers correct potential flaws in the interview protocol or adjust it to better capture the phenomenon of interest (Silverman, 2010).

The case study research was used because it has been adopted widely in social inclusion research (e.g., Kelly, 2011). It provides descriptions of the operations of a case with multi-perspective analysis from various sources (Crabbe et al., 2006). This allows the voices of all the relevant actors and the interaction between them to be included. The overall study used a mixed-methods longitudinal design to collect both cross-sectional survey and group interviews/focus group data concurrently. However, this paper only reports on the qualitative data. The project spanned two years and was implemented in two phases: phase one (2021) and phase two (2022).

Physical activity program for women from a migrant or refugee background

The program was funded by a commonwealth agency in Australia to deliver a program to a community group (particularly 204 visa-holders (women-at-risk)) who have been identified as vulnerable and disadvantaged. Challenges faced by this group are social isolation and a lack of community connections. The community organisations that received the funding (ORG 1 and ORG2) collaborated with academics from the regional university to evaluate the program. The funded program aimed to deliver a range of physical activity programs specifically targeting newly arrived migrants and refugee women. The project was co-facilitated by Health Promotion Officers and multilingual community workers. The program was scheduled over 2 years, with the program delivery

following the New South Wales school terms structure. Introductory activities focused on low barrier activities, including walking and gentle exercise (i.e. group-based outdoor fitness). Progression activities with higher barriers were introduced, which included beach volleyball and bike riding lessons in culturally appropriate environments.

Recruitment

Before joining the project (and before any data collection exercise), prospective participants were given participant information sheets (PIS) that detailed the purpose of the project and the data collection method. Besides, the participants were given consent forms (CF) at each data collection exercise to explain their rights and responsibilities. The study recruited migrant women from refugee backgrounds between 18 and 70 years who have resettled in regional areas in Australia. Participants included women from various ethnic and cultural backgrounds such as Syria, Iraq, Myanmar, Afghanistan, Iran, and the Democratic Republic of Congo. The prospective participants were approached about the project through advertisements, newsletters, flyers, emails, telephone calls, text messages and personal conversations. Two external stakeholders (ORG 1 and ORG 2) assisted with recruiting participants by advertising the project flyer in person and via email.

Participants and Procedure

The data was collected from 26 women from refugee backgrounds who were recruited to participate in the physical activity program, 3 staff members, 2 interns, 4 community mobilisers and many volunteers (i.e., the staff from ORG 1 and ORG 2). Both ORG 1 and 2 assisted with the data collection process. The ORG 2 helped with the translation process of the onboarding survey, post-activity survey, and interview discussions for participants. ORG 2 community mobilisers acted as interpreters to participants who did not speak English.

All participants were invited to participate in group interviews about this project during the celebratory events at the end of each term. Semi-structured group interviews that lasted between 30–60 minutes were used to collect data on participants' perceptions of the program and how it met their needs. A total of 8 group interviews were conducted with 26 women from refugee backgrounds who participated in the physical activity program.

The staff who facilitated the activities completed an observation sheet at the end of each term. They provided reflections on their experiences of delivering the program and their experinces with the women who participated in the study. These reflections helped with triangulation—using multiple data sources in qualitative research to develop a comprehensive picture of the project. The participants consisted of staff, interns, and volunteers from ORG 1 and community mobilisers and volunteers from ORG2. This provided in-depth discussions on the areas of interest, allowing the participants to discuss the topic in greater detail using one of the researchers as a facilitator (Liamputtong & Ezzy, 2005). The focus group was flexible, informal, and lasted for approximately two hours and collected data on staff's prior expectations, descriptions of their experience (including challenges or rewards), and observation of the project participants.

FINDINGS & DISCUSSION

Bonding & Bridging amidst Language barriers

Bonding social capital exists within a community when participants share a common identity and understanding and forge a bonding relationship that permits a sense of belonging. It seems that our participants engaged with one another in relational ties that hold together peer-to-peer networks and a shared subjectivity of what it means to be a woman of migrant or refugee background in contemporary Australian society.

"Interesting to hear that one participant mentioned that 'We are all together. More people, we feel safe.'" [2T1GI]

Drawing from the social capital approach, the participants engaged in socio-physical activities such as walking, volleyball or dancing, which are activities that generally enable new relationships and networks to form, hence increasing their social capital.

"Participants said that they had shared the same pain after the physical fitness class. It made everyone laugh and feel closer." [2T1GI]

"People did play beach volleyball with their friends more, but also joined in with new people." [5SuOS-Bh]

Commonalities that bind people within geographical and linguistic categories or nodes, what was once a loose or non-existent relational tie in their country of origin, are now forming new ties. As such, the women in the program seemed to forge social connections with women from different cultural backgrounds, thereby creating a relational subjectivity of women who have now made Australia their home (Wachter & Snyder, 2018). Therefore, we suggest that bonding is a type of social capital that describes connections within a group or community characterised by high levels of similarity in demographic characteristics, attitudes, available information, and resources but also "as a continuous and relational process rather than a fixed construct" (Hajdukowski-Ahmed, 2008, p. 29). In our context, women were venturing outside their boundaries and familiarities to connect to a wider network.

"One participant mentioned that she did not feel comfortable to talk to people from other countries. It took time, but she got over it and met good friends afterwards." [2T1GI]

Bonding exists between people like us who are in it together and who typically have strong close relationships (Claridge, 2018). A Persian woman born in Tehran, relates to the Syrian mother in this community event, whether walking or sharing a meal. Their children create relational ties just like their mothers, as they play together, speaking to each other in English. Bonding enables a new relational subjectivity here in regional New South Wales town, where Iranian and Syrian women find solace in being newly arrived migrants.

> *When they arrived at the venue, they said hello to each other. For examples, 'How was your week?' "What happened to you last week?" "I haven't seen you for a long time. How are you?" Mothers became friends because of their children as children also interacted with each other. [7FG]*

Bonding is the strongest type of social capital as a close relationship between two people is formed. The bonding can be enhanced when they continually interact among themselves with trust and reciprocity during the lifespan of the project. Again, bonding can be strengthened when migrant

women from a refugee background from the same ethnic groups further improve their relationship with trust and reciprocity.

Participants were collectively engaging in their own group of the same background. [5SuOS-BK]. Some stuck to known friends or women of same language [5SuOS -Fit].

People did play beach volleyball with their friends more, but also joined in with new people. [5SuOS-Bh]. Smaller group size and Covid measures did not encourage this very much [5SuOS-Fit].

Some participants who already knew each other had organised to meet before the activity time and have a picnic in the following weeks [1T1OS-Wk]

In this context, bridging social capital would be a relationship between two language groups. Women who are from different community groups have started building friendships. This form of social capital tends to differ from bonding because of greater diversity. In other words, bridging refers to relationships with people who are not like us (Woolcock, 2001). These may be people from a different socioeconomic status, generation, or ethnicity. The connection is 'bridged' in the fact that one person is introduced to another through an intermediary. That intermediary is effectively 'the bridge' that brings the two parties together.

"Great idea to have social time before and after the class, they communicate nicely after the activity. With small group size it is often one circle of all participants and chatting over food." [3T2OS- BB]

"One participant mentioned that the program helped her to build her network. This was an opportunity for her to meet more friends and might help her to find a job." [2T1GI]

They can further increase their social capital networking by building these bonding and bridging connections among themselves. The networks will serve as a source of support to help them 'get by', accept and adapt to people with diverse backgrounds and orientations, thereby improving their level of inclusivity in the community.

"One participant said she didn't have many friends in Australia, but she was making friends due to the Active Connections program, and it was allowing her network to grow." [4T2GI]

Bridging is more outward-looking, civically engaged, lessens the differences among communities, and is important in organising solidarity and pursuing common goals (Vann Oorschot et al., 2006). Similarly, since the migrant women from refugee backgrounds came from varied backgrounds and engaged in a physical activity facilitated the development of a bridging connection among them. The acquired social capital can help improve the wellbeing of the participants as reported studies show (e.g., Lau & Li, 2011).

A lot of funny comments while they do the exercises. I chatted and laughed with people during the activity this time, but most chatting was before and after. [3T2OS- BB]

Great idea to have social time before and after the class, they communicate nicely after the activity. With small group size it is often one circle of all participants and chatting over food. [3T2OS- BB]

Care based approach

The project highlights how the ethics of care guide the relationship between the participants and the staff and the ability and potential to 'care for' and 'care about'. The phase of 'caring about' which involves recognising the needs of people and appreciating the fact that there is a need for care (Zembylas et al., 2014).

"It was very helpful to have childcare provided and the kids were enjoying games with the volunteers." [5SuOS-BK]

The second phase is caring 'for' and this phase goes beyond the obligation and duty to focus on what is done or not done in a particular situation (Tronto, 2013). social capital).

"During the walking activity in term 1, we allocated volunteers to walk with women who were elderly or women who needed to user a walker." [7FG]

"Cultural sensitivity was taken into consideration in all activities. For example, the Arabic mobiliser has requested Burkinis for Arabic women if they need." [7FG]

"It was a very nice story that the bike trainers/workers gave a participant and her daughter bikes, this demonstrated generosity from the Australian community, supporting refugee women. [8RF-T1]

Many of the participating refugee background women also 'gave care to each other' and used food as a mechanism to show care for each other, including the volunteers. For example, some Arabic women brought coffee on several occasions. They were generous and very excited to introduce their special "Arabic" coffee, which cannot be purchased in Australia.

In terms of care receiving, one of the women noted how they learnt to ride a bike during the program, which made them feel that the new learnt skill would help them to interact and bond with their children in the new country.

"Women I spoke to said they had missed out on learning to ride a bike in their own countries, but they particularly wanted to ride with their children. Being able to learn with other adults and without needing to purchase a bike to practice was a big help." [5SuOS-BK]

Conclusion

The social interactions, relationships, and social networks accessed via commonwealth-funded programs (managed by the community organisations) provided avenues for social inclusion for women from refugee backgrounds within a public context. Notably, the care-based community environment enabled the women from a refugee background to feel a sense of inclusion within their new home community. This sense of inclusion was nurtured through the friendships and relationships between themselves and the volunteers. The findings highlight the complex bonding and bridging activities generated due to the care-based physical activity program delivered by two community organisations. Such an approach enabled the women in the program to bond with their peers, volunteers, and the regional community. The findings illustrate how women took time to build bridges to connect with women outside their community group and felt safe in their new community, which enabled them to feel a sense of belonging to their new host country. Future research could examine the long-term impact of such commonwealth-funded programs on settlement and inclusion of families from refugee backgrounds.

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3. Sustainability and Social Issues
Refereed Delivered Paper

Reshaping the credibility of audits for the new normal – a forensic accounting skillsets agenda

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Abstract

The high-profile cases of accounting scandals such as Wirecard, Tesco, Toshiba and HIH have embarrassed the accounting profession. The inability of auditors to detect these massive frauds has compounded the problem, which will likely increase in the new normal due to remote working. Auditors' roles and responsibilities have been questioned due to these frauds. As the world transitions into a remote working environment, the likehood of accounting scandals increasing is imminent This paper explores how the reshaping of auditors' education through forensic accounting skill sets can help increase the chances of fraud detection in the new normal. Forensic accounting with technology-assisted audit techniques can help reduce the incidence of financial statement fraud and help restore investors' confidence in the financial reporting process in the new normal.

Contextual background

The past two decades have seen a ramp-up in high-profile accounting scandals (e.g., Enron, Toshiba, Parmalat, HIH, 1MDB, Carillion and Wirecard) that have rocked financial markets and the economic wellbeing of nations. These accounting scandals have profoundly impacted governments' regulation of financial markets, resulting in legislation on governance, corporate disclosures, and audit requirements.

The 2002 Sarbanes-Oxley (SOX) Act of the United States is the most renowned of such legislation. Not surprisingly, the SOX Act has shaped the way audits are conducted and the accountability of auditors to avoid litigation risk (Duguay, Minnis, & Sutherland, 2020; Kim, Dandu, & Iren, 2019). In addition, audits, fraud, and financial statement reporting concerns have been researched from diverse perspectives.

For instance, research has examined audit quality indicators to determine the factors impacting the quality of financial statement audits in various jurisdictions (see DeFond & Zhang, 2014; Detzen & Gold, 2021; Knechel, Krishnan, Pevzner, Shefchik, & Velury, 2013). Others have investigated auditors and directors'

roles in financial statement fraud (Farber, 2005; Garrow & Awolowo, 2018; Hoos, Saad, & Lesage, 2018; Marcel & Cowen, 2014).

The contributions of academia in these fields have shaped (exploded) audit quality and the value of audits to the economic wellbeing of society (Bulau, 2021; Hay & Cordery, 2021). Undoubtedly, the rapid explosion of business and digital social platforms presents a challenge for commensurate agility in conducting financial statement audits in this new era (Müller, 2021; Otia & Bracci, 2022). This challenge of a shift to digital business implies an opportunity for auditors to embrace technology-enabled tools to improve audit quality (Sharma, Sharma, Joshi, & Sharma, 2022).

As (Ruggiero, 2022) puts it, technological advancements create an avenue for fraud because the solution technology offers generates "blind spots where conduct ceases to be precisely linked to the effects it causes" (p. 217). In other words, with more businesses primed on technology, there is a higher likelihood of fraudulent activities permeating undetected in the virtual sphere. A good example of a technology-enabled fraud is the recent collapse of Greensill Capital (Bloomberg, 2021).

Greensill Capital flaunted the use of technology to facilitate short-term loans to businesses to reduce credit terms on actual sales with their buyers (De Paoli & Rocks, 2021). The loans were backed by investors and covered by insurers. However, behind this supply-chain intervention, Greensill used artificial intelligence to predict future sales. With the predicted sales, Greensill obtained loans from investors fraudulently without actual sale transactions. The course of events changed during the pandemic when insurers refused to renew their coverage amid what De Paoli and Rocks (2021) referred to as Greensill Capital's 'fatal crisis of confidence' with German regulators.

It is noteworthy that the external auditors did not detect these technology-enabled fraudulent practices in the company (BBC, 2021). As it is, the auditors gave the company a clean bill of health through unqualified audit reports over the years. Consequently, globalisation, technological advancement, digitalisation,

borderless fraud schemes and remote working require a step-change in how audits can continue to protect stakeholders' interests, adding value to the future (Raphael, 2017).

Some progress has been made around corporate governance to protect investors and the financial market (e.g., the latest UK Corporate Governance Code (UK CGC, 2018)). Notwithstanding, the information asymmetry between organisation management and shareholders (Jensen & Meckling, 1976) remains a principal trust factor in ascertaining the completeness, truthfulness, and balance of financial reports (Rezaee & Crumbley, 2007; Rodgers, Guiral, & Gonzalo, 2019).

This information asymmetry places auditors in a strategic position to mediate the trust gap between shareholders and organisation leaders (Awolowo, 2019). Nevertheless, audit quality has remained a concern, with new failed audits coming into the limelight. This undermines the relevance of auditors' professional opinion to investors, creditors, and capital market decisions.

For instance, Germany's Wirecard fraud case shows the lapses in audits conducted by Ernst and Young (EY) over the course of ten years (Storbeck, 2021). Also, the Carillion fraud scandal in the United Kingdom (UK) reveals the unprofessional performance of KPMG on audits carried out over a period of nineteen years (Plimmer, 2018; Jolly, 2022; Izza, 2019). The depth of the Carillion collapse into the UK's public sector ecosystem has sparked an awakening into the need for deliberate interventions into corporate governance and audits; through regulatory reformations that may revolutionise the audit industry as we know it in the UK (BEIS, 2021; Coffee, 2019; Syal, 2020).

Auditors are familiar with their audit processes and practices. As Rezaee and Crumbley (2007 p.46) stated,

> "Many audit failures are not because of a failure to apply necessary audit procedures or because of misapplication of audit procedures. Deficiencies in the performance of audits do not cause the failures – they are caused by errors in interpreting the significance of the underlying issues."

This means that even with client industry experience, audits can become a formality, losing the cogency of auditors' role as independent trust mediators: who act on behalf of the owners and potential investors of the

organisation. Arguably, the issue with failing audits is not in the audit process but in auditors' competency to uncover fraudulent practices from all information and financial transactions of an organisation.

The opportunities to commit fraud in organisations are endless. Moreso, the rising connectedness of social and occupational worlds through technological development can enable fraudulent practices across the geographical divide. Then again, there is the current global direction towards embracing 'work from home' or hybrid or remote work patterns as part of normal business and organisational practices. Hence, the disconnection from a traditional work environment may present an open book to fraud possibilities that may not be fully recognised in the immediate post-pandemic era (De', Pandey, & Pal, 2020).

Traditionally, a work environment tends to present a sense of ethical uprightness in employees which, can curtail behavioural excesses that incline towards unprofessional practices. In other words, people tend to conform to professional standards or expectations when they sense the presence of others within a watchful distance (Al Halbusi, Williams, Ramayah, Aldieri, & Vinci, 2021). A possible challenge with the "work from home" or remote work culture may arise from the sense of 'individualism' that tends to set in when workers are isolated from an office community (Hanes, 2013). This can be present in several ways; within an organisation, from employees and management perspective, or with an external party, between the client organisation and its service providers. Taken in the context of client organisations and service providers, remote working poses a challenge to conventional financial statement auditing (Sharma et al., 2022).

Shift from conventional auditing to technology-enabled audits

The shift from conventional auditing has been evolving for some time now. This is particularly visible in audits of multinational corporations with global business presence. For such audits, the audit exercise is 'geographically distributed' to cover each location where the multinational company conducts its business operation (Hanes, 2013; Sharma et al., 2022). This means that the concept of 'auditing at a "distance" is not necessarily a new phenomenon arising because of post-pandemic organisational adjustments. Nevertheless, the reality of its prevalence, the implications to audit quality, and the new wave of fraud

vulnerabilities in the current dispensation make distant auditing a relevant developing issue (Sharma et al., 2022).

Matching the expansion of multinational businesses in the rapid growth in globalisation and technological advancements over the past two decades. Auditors have since relied on technology to facilitate their access to data, conducting interviews and management reviews as part of their audit arrangement with multinational clients. While this can be recognised as transformational business improvement practices, the complexities of remote work can heighten the tendency for suboptimal audit performance (Fischer, 2020; Hanes, 2013). Moreover, Fisher (2020) argues that audit practices in a conventional state cannot be deployed 'as is' into a remote audit environment.

Sharma et al. (2022) explored audit seniors' perceptions to understand the pandemic lockdown's challenges and the resort to technology for auditing processes. Their findings reveal that auditors are more inclined to embrace technology enablement for audit processes post-pandemic. Further, they found this acceptance for technology-enabled audits across all categories of audit firms (i.e., the top 4 and others). Sharma et al. (2022) and Fisher (2020) align on the need for modifications and process redesign for technology-enabled audits to uncover fraud successfully as part of auditors' assurance responsibility to shareholders.

Auditing and the challenge of remote and hybrid working

The mandate of auditors to provide comfort to investors and creditors on an organisation's financial integrity remains unchanged, whether in a conventional or remote auditing arrangement. As part of this mandate, auditors are expected to attest to the absence of material misstatements in an organisation's financial report (Awolowo, 2019). If auditors fail to identify such misstatements, the client organisation is severely exposed to capital market reactions: which may lead to shareholder value erosion or irredeemable corporation collapse (Awolowo, 2019). Such were the cases of HIH (Australia), Enron (United States), Parmalat (Italy), Olympus (Japan), Wirecard (Germany), Tesco, BHS, and Carillion (United Kingdom). Like a conventional audit premise, the concerns of auditors' competency in identifying and subsequently

reporting financial statement fraud are prevalent in this new dispensation of remote and hybrid working (Sharma et al., 2022).

As earlier established from Rezaee and Crumbley's (2007) explicit definition, audit failures can be attributed to an erroneous judgement call on a client organisation's data and documents on the part of auditors. Hence, for remote audits, the detachment from client location and source of data can reduce the tendency of auditors to probe or critically evaluate the underlying context of client financial activities. On the other hand, Sharma et al. (2022) suggest that the use of technology facilitates audit quality through effective and efficient client interviews and evidence gathering. Notwithstanding, the ease of conducting interviews or gathering information does not imply competency in probing and interpreting financial and non-financial information.

Conceptualising the competency perspective, Hanes (2013) argues that the mechanisms of remote auditing require a carefully considered strategy that outweighs auditors' inclination towards a 'status quo' disposition to the audit process. For this to happen, Hanes (2013) suggests concerted efforts in the area of 'communication and coordination, knowledge sharing, work design and social identity.

While these four concepts have been evaluated from auditors' perspectives in diverse geographical jurisdictions, they remain representative in understanding the key challenges of auditing an organisation in a remote working environment. Nevertheless, without disregarding the viewpoints of Hanes (2013), Rezaee and Crumbley (2007) and Sharma et al. (2022), this paper argues that auditors need forensic accounting education to improve their competency in fraud detection in the new normal.

In sum, the discourse on auditors' credibility regarding fraud detection in audits precedes the global pandemic. With the continued spate of high-profile fraud-led corporation collapses, academics have consistently investigated the causes and effects of poor audit quality and its effect on society (see Awolowo, 2019; Coffee, 2019; DeFond & Zhang, 2014; Rodgers, Guiral, & Gonzalo, 2019). With the upsurge in digitalisation of businesses and the increased shift to remote working post-pandemic (De'et al., 2020), the

sufficiency of auditors' training to detect financial statement fraud remains relevant to achieving high-quality audits.

This explains the need for more than technology to improve auditors' credibility in fraud detection. Consequently, we argue that equipped with appropriate forensic accounting skillsets, auditors will be better positioned to probe the underlying context of client financial transactions and make accurate judgement calls on client management information.

The need for more than technology enablement

Several recent studies have investigated using technology-enabled methods, such as artificial intelligence, data analytics and machine learning, to detect financial statement fraud. For instance, Goh, Lee, Pan, and Seow (2021) examined the application of cluster analysis implemented on Tableau software to detect irregular patterns in large and complex data. The authors recognised that discovering irregular patterns or transactions does not automatically indicate fraudulent practices. Consistent with Rezaee's (2007) assertion, the authors suggest the need for further critical evaluation of the details to reveal the underlying context of the transaction before concluding the legitimacy of fraud.

The use of data analytics in audits appears to improve efficiency, reducing cost and time for auditors and their clients. In a synthesis of existing literature on the use of data analytics in audits, Li (2022) discussed auditors' mindsets and the potential challenges of technology-enabled techniques to audit practice. The author asserts that analysing textual information (for instance, email messages) from client organisations can be challenging for auditors because of the multiplicity of interpretations. Hence, by not having the skills to decipher possible context from the textual information, auditors can restrict the use of data analytics to just numeric data analysis (financial entries). As a result, they miss the opportunity to gain a wider range of insight into the underlying drivers of client management activities. Ultimately, utilising data analytics in such cases cannot be said to have been optimally deployed to detect fraudulent practices.

Also, Craja, Kim, and Lessmann (2020) also studied the use of advanced textual analysis system (a deep learning model) to extract textual information that predicts underlying fraudulent content and context in management communication. The authors established that textual analytical techniques could increase the detection of red flags or fraudulent tendencies in management information at various levels of impact. While these are laudable developments, formulating the programming rules and algorithms to facilitate the accurate detection of abnormalities requires the specialised competency of forensic experts (Hedley & Girgenti, 2021).

In essence, technology-enabled models and techniques are not autonomous to successfully uncover, probe and critically evaluate numerical and textual information irregularities. Auditors need to have the capacity to " think more broadly and incorporate information from a variety of sources … to improve audit quality…" (Griffith, Hammersley, Kadous, & Young, 2015). This means that, for technology to be effective, auditors must possess forensic accounting skillsets to be able to interpret, analyse and establish an accurate basis for their professional opinion.

A call for forensic accounting skillsets

Forensic accounting is a multi-disciplinary field of study, with distinct skill sets culled from its background disciplines of accounting, criminology, auditing, finance, psychology and information technology. By virtue of its connection with law enforcement and duty towards the court in its expert witness services, forensic accountants possess a differentiating competency in investigative and analytical skillsets (Awolowo, 2019; DiGabriele, 2009). This means that forensic accounting training specialises in identifying, analysing, interviewing, interpreting, connecting and confirming evidence of fraudulent practices. Consequently, forensic accounting skillsets are strategic to detecting and reporting fraud both in a conventional audit environment and for the post-pandemic remote working dispensation.

Over the last two decades, the report to the Nations published by The Association of Certified Fraud Examiners (ACFE) has reported that external auditors rarely discover fraud in financial reports (ACFE,

2020). In fact, of the 2504 fraud cases ACFE (2020) examined, external auditors, are reported to have only detected fraud in 4% of the cases. Therefore, it is unsurprising that auditors' credibility continues to be questioned over the continued spate of audit failures in the UK. Thus, for audits to flourish in the new dispensation of remote and hybrid work arrangements, the auditing profession must rise to the challenge of restoring their credibility. Therefore, training auditors in fraud detection skills become a significant milestone in changing the narratives on auditors' competency and restoring investors' confidence in the financial reporting process (Awolowo, 2019).

Kramer, Seda and Bobashev (2017) surveyed academics and forensic accounting practitioners in the US to determine recent opinions on forensic accounting education. The respondents were aligned in favour of incorporating forensic accounting modules in the accounting programme. This appears to attest to the realisation of a gap in auditors' education in fraud detection skillsets. Supporting this stance, one of the respondents expressed that forensic accounting should be "a necessary part of every auditor's education …" (p. 254). Also, a respondent commented that "it is … important to increase awareness … strengthen … forensic accounting knowledge of students entering the field of accounting, and … should be mandatory.." (p. 256). Another expressed that "forensic accounting will add value to the quality of auditing" (p. 261).

In another US-based study, Plumlee, Rixom and Rosman (2015) tested the effect of training auditors in creative and analytical thinking skills on their performance in reasoning when faced with abnormalities. Their study revealed that auditors exposed to creative and analytical thinking processes have better problem-solving capabilities. This makes auditors more thorough in sifting through possible explanations to get to the facts of an enquiry. Furthermore, Plumlee et al. (2015) argue that training auditors in these cognitive thinking skills increase their reasoning capacity, ultimately enhancing their effectiveness in brainstorming sessions. In other words, having the right skillsets to engage in a qualitative brainstorming session is important to fraud risk evaluation in audits.

Rose et al. (2020) further reinforce the need for auditors to have the right skillsets to detect fraud. In an experiment involving senior auditors, the authors investigated the likelihood of auditors deferring to client

management's explanations when asked to generate plausible scenarios for assessing fraud risk. Their study revealed that auditors find generating multiple plausible reasoning challenging when brainstorming. This means that auditors tend to accept client management explanations for anomalies rather than objectively exploring other possibilities. This is not surprising in that traditional audit education, and training are limited in their capacity towards cognitive thinking skills (Plumlee et al., 2015). Consequently, the implications of a narrow scope of plausible reasoning in fraud risk assessments, leading to auditors' unquestioning acceptance of management information, can be seen in retrospect when audits fail.

The findings of Kramer et al. (2017), Plumlee et al. (2015), and Rose et al. (2020) are consistent with earlier studies into the value of forensic accounting skillsets to financial statement audits. For instance, Carpenter, Durtschi and Gaynor (2011) conducted a longitudinal study of Master's level students in the US, who attended a forensic accounting module as part of a series of auditing courses. The study included a control group of students who had completed the same auditing courses but not the forensic module. The authors found that students with forensic accounting training exhibited a higher fraud sensitivity upon completion of the forensic accounting training. In addition, these students retained the ability to make fraud judgement calls several months after completing the course. In effect, Carpenter et al. (2011) argue that the value of forensic accounting skillsets to auditing education is sustainable for fraud detection.

Also, Brazel, Carpenter and Jenkins (2010) tested the effect of the quality of auditors' brainstorming on their judgements on fraud considerations. The results suggest that when auditors explore a wider scope of explanations, their reasoning in consideration of fraud is enhanced. In effect, auditors can approach the audit with more suspicion. Conversely, diminished auditing rigour may ensue when brainstorming quality is low. The outcome of Brazel et al. (2010) can be linked to the value of the right skillsets to achieve a high-quality brainstorming session which appears to be established by Plumlee et al. (2015).

Overall, the studies summarised in this section reveal several distinctive skills inherent in forensic accounting training and can improve auditors' competency in fraud detection. Interestingly, DiGabriele

(2009), from a survey of academics and forensic practitioners, articulated several distinctive skills that separate forensic accounting from conventional accounting and auditing education.

Significantly, the creative and analytical cognitive skills examined in Plumlee et al.'s (2015) study can be linked to DiGabriele's (2009) categorisation of deductive and analytical proficiency. As already established in this paper, these skills can extend the reasoning capacity of auditors such that they can think outside the box, looking beyond numbers and texts to unravel the underlying context of a client's financial activities.

In addition, having deductive and analytical proficiency can have the complementary effect of developing auditors' evaluative and problem-solving mindset. These skills can enhance auditors' capacity to probe information, identify unusual trends and patterns and separate facts from opinions. Brazel et al. (2010) and Carpenter et al. (2011) portrayed these skills in their study findings. In a remote working dispensation, critical thinking and problem-solving skills become even more significant to auditors assessing the completeness and truthfulness of client information. With this, auditors may be better tuned to bridge the physical and potential psychological detachment that may result in a complacent approach to the audit process (Hanes, 2013).

Another fundamental skill identified by DiGabriele (2009) is 'investigative flexibility'. Forensic accountants are able to follow the trail in an investigation with an open mind. This means that they can adjust their inquiring process, giving attention to details, to achieve the highest level of thoroughness. On the contrary, auditors are inclined to abide by guidelines and standard practices defined by the Generally Accepted Accounting Standards (GAAS). However, with investigative flexibility, auditors stand to complement their knowledge of the standard procedures with due attentiveness that goes beyond the motion of a checklist process. The complexity of remote auditing demands a higher degree of alertness in the audit approach (Fischer, 2020). Hence, auditors should have the bandwidth to follow through on any seemingly inconsistent transaction or information. And this can only be possible with adequate skill sets similar to those used in forensic accounting.

So far, a few key forensic accounting skill sets have been discussed. Nevertheless, Table 1 below summarises a concise view of some of the most frequently discussed skills.

Table 1:

Outline of key distinguishing forensic accounting skills to improve auditors' competency in fraud detection

DiGabriele (2009)	Davis, Ogilby, and Farrell (2010)	Bhasin (2016)
Deductive analysis Critical thinking Unstructured problem-solving Investigative flexibility Analytical proficiency Oral and written communication skills Legal knowledge Composure	Oral and written communication Simplify information Critical/strategic thinking Investigative intuition Analytical and interpretive capability Interviewing Relevant legal knowledge - rules of evidence and civil procedures	Oral and written communication Investigative intuitiveness Organise unstructured situations & information-analytical Legal knowledge Critical/strategic thinking

In summary, audits play a crucial role in the stability of the financial markets. Before the global pandemic, there were growing concerns about auditors' competency to detect and report financial statement fraud. These concerns are even more critical in the post-pandemic era due to the wider acceptance of digitalisation and a technology-centric approach to work. With more organisations embracing remote and hybrid working cultures, the changing landscape of work practices calls for reevaluating auditors' conventional auditing process. Technology has played a vital role in auditing multinational corporations with associated companies and branches in various countries and continents. With technology, auditors gain access to client

data and interviews and can exchange real-time communication without a physical presence at the client's office. Regardless, the quality of audits has remained a subject of debate owing to the failures in audits which are exposed as a result of corporation fraud scandals.

This paper has therefore contributed to the limited literature on the improtant role forensic accounting skill sets can play in enhancing audit quality and hence reducing financial statement fraud. This has become even more necessary in a post-pandemic environment because of the crucial role audit plays in the financial reporting process and its mediating role in an agency relationship.

Conclusion

The unrelenting series of embarrassing failed audits heighten the concerns over auditors' preparedness to plug in effectively for a wider scale of remote auditing in the new normal. Forensic technologies have been proven to support the audit process in handling large data and textual information in an efficient, timely and cost-effective way. However, technology enablement is only a step in the right direction. Auditors need to be trained with the appropriate skillsets to recognise, analyse and interpret the underlying context of irregular patterns in numeric and textual information obtained from their clients. In short, for auditors to flourish in this new dispensation, a revamp of their education and training is expedient. Consequently, equipping auditors with forensic accounting skillsets offer auditors the tools to rebuild public trust in their relevance to the economic wellbeing of the capital market.

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Dualities, Ambivalence, and Ambivalent Leadership (Context of NMO)

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Dualities, Ambivalence, and Ambivalent Leadership (Context of NMO)

This ethnographic study first applies Farjoun's (2010) duality model of stability and change and then Ashforth et al.'s (2014) framework of responses to ambivalence to explain the findings obtained from the fieldwork conducted in the context of network marketing organisation (NMO) and conceptualises them as ambivalent leadership. The research identifies NMO dualities as the trigger for ambivalence and argues that ambivalent leadership was a strategy applied by the organisational leaders to respond to the dualities. Ambivalent leadership is defined as applying different and even contradictory leadership behaviours to simultaneously lead others in the organisation. Our study has significant theoretical and practical implications. It serves as a template for generalising the theory of ambivalent leadership and assisting organisational leaders in responding to challenges derived from complicated issues.

Keywords: Ambivalence, leadership, Duality, Network Marketing, entrepreneur.

INTRODUCTION

This paper presents an ethnographic study of the leadership behaviours in the context of Network Marketing Organisation (NMO) and proposes the concept of ambivalent leadership style. Network marketing is a system wherein a manufacturer (or direct selling firm) pays people outside the firm to directly sell its products and services to ultimate customers (Harris, 2004). In return, each salesperson is allowed to build their NMOs by recruiting, training, and motivating others to sell the same products and services (Harris, 2004). Dai, Teo, and Wang (2017) refer to these salespersons as network entrepreneurs. According to Groβ and Vriens (2019), the main stakeholders of an NMO comprise its network entrepreneurs, the affiliated direct selling firm, prospective recruits, and customers. Evidence indicates that NMO has consistently contributed to the world economy despite attracting much public criticism (Groβ & Vriens, 2019; Harris, 2004; Koehn, 2001), demonstrating an ambivalence among the stakeholders (e.g., Ashforth, Rogers, Pratt, & Pradies, 2014).

Biggart (1989) asserts that running an NMO is like organising a social movement. Therefore, it is reasonable to argue that the leader in an NMO plays a critical role in business activities (Kaiser, Hogan, & Caig, 2008). Still, few researchers have investigated the leadership behaviours in NMO, leaving a gap in the literature on NMO studies. Therefore, this study aims to address this gap by examining NMO leadership behaviours and conceptualising the ambivalent leadership style in the context of NMO. This paper is structured as the introduction, literature review, ethnographic study, conceptualising ambivalent leadership, and discussions and conclusions.

LITERAATURE REVIEW

This literature review focuses the literature on NMO leadership and organisational ambivalence studies. It aims to serve the objective of this research, i.e., conceptualise the ambivalent leadership style in the context of NMO.

NMO Leadership

Although NMO first appeared in the US market in 1959 (Biggart 1989), it attracted little attention from researchers. For example, our recent literature review shows a small number of empirical and theoretical studies on NMO (e.g., Groβ & Vriens, 2019; Dai, Teo & Wang, 2017; Groβ, 2010; Dai, Wang & Teo, 2011; Sparks & Schenk 2006, 2001; Pratt & Rosa, 2003; Vander Nat & Keep 2002; Koehn, 2001; Pratt, 2000; Bhattacharya & Mehta, 2000; Biggert, 1989). The topics covered in these studies include examining ethics-related issues in NMO (Groβ & Vriens, 2019; Vander Nat & Keep, 2002; Koehn, 2001), investigating motivation-related issues (Dai et al., 2017;2011; Groβ, 2010; Pratt, 2000), and exploring the relationship between individuals in NMO and their business operations (Sparks & Schenk 2006, Pratt & Rosa, 2003; Biggart, 1989). Among these studies, we only found one empirical study by Sparks & Schenk (2001) on NMO leadership.

Sparks and Schenk (2001) argued that the critical leadership relations in NMO were between individual network entrepreneur leaders and their subordinate entrepreneurs recruited into the organisation by the leaders (i.e., their 'sponsors'). By applying transformational leadership theory and the cross-sectional research approach, Sparks and Schenk (2001) examined the leadership relations in the NMO. However, we identified four limitations by reviewing Sparks and Schenk's (2001) study. First, this study did not consider the impact of the compensation plan (Appendix 1) on NMO leaders' behaviours. Evidence indicates that network entrepreneur leaders and their subordinate entrepreneurs earn the primary incomes in NMO are commissions produced by selling products (services) for their affiliated direct firm. The amount of the commission is calculated based on the compensation plan (appendix 1), which influences leadership behaviours (Daduya, Domingo, Redondo, & Supnet, 2016; Pratt, 2000; Biggart, 1989).

Second, Sparks and Schenk's (2001) study was a cross-sectional research design. "A cross-sectional design entails the collection of data on more than one case (usually quite a lot more than one) and at a single point in time to collect a body of quantitative or quantifiable data in connection with two or more variables (usually many more than two), which are then examined to detect patterns of association" (Bryman & Bell, 2007; p. 55). However, Leadership is the process of directing, controlling, motivating, and inspiring followers toward realising the organisational goals (Clegg et al., 2016). Therefore, the data collected at a single point using the cross-sectional approach may not appropriately address the leadership process in NMO.

Third, Sparks and Schenk's (2001) study examined the leadership relations based on the connection between the individual network entrepreneur leader and her subordinate network entrepreneur. However, the evidence suggests that running an NMO is like organising a social movement (Biggart, 1989). Skills and resource sharing through teamwork are critical approaches to running the business in NMO (Dai et al., 2011; Sparks and Schenk, 2006; Biggart, 1989). The model established by Sparks and Schenk (2001, p. 853) is an individual-based leadership relation, which may not appropriately describe leadership relations in NMO.

Fourth, Sparks and Schenk (2001) recognised that the subordinate network entrepreneurs had no obligations to comply with their leader's instructions (Groβ & Vriens, 2019). However, they still examined the leadership relations from an employment relations perspective. In employment relations, the followers must comply with their leader's instructions (Clegg et al., 2016). Therefore, the validity of Sparks and Schenk's (2001) examining result might be questionable. Thus, much research into NMO leadership needs to be done.

Organisational Ambivalence Studies

Sociologists define ambivalence as "incompatible normative expectations of attitude, beliefs, and behaviours assigned to a status (i.e., a social position) or a set of statuses in a society" (e.g., Merton, 1976; p. 6). Merton (1976) argues that "the ambivalence is located in the social definition of roles and status, not in the feeling-state of one or another type of personality" (p. 6). Ashforth et al. (2014) define organisational ambivalence as "simultaneously positive and negative orientations toward an objective"

(p. 1454), which includes cognition and (or) emotion (Ashforth et al., 2014). Ashforth et al. (2014) also point out that ambivalence occurs when cognitions clash, emotions clash, or cognitions and emotions clash (p. 1454). Similarly, Rothman, Pratt, Rees, and Vogus (2017) define organisational ambivalence as "the simultaneous experience of opposing orientation toward an object or target, where 'orientation refers to the actor's alignment or position with regard to the object'"(p. 35). The recent growing body of researchers studied the outcomes of ambivalence (e.g., Gatti, Bligh, & Cortese, 2019; Herr, Harreveld, Uchino, Birmingham, Loerbroks, Fischer, & Bosch, 2019; Zhao & Zhou, 2021) unveil the ubiquity of ambivalence (Rothman, Pratt, Ree, & Vogus, 2017).

Rothman et al. (2017) asserted that there were at least four primary sources of ambivalence such as 1) individual propensities toward ambivalence, 2) relationships, 3) organisational events, and 4) structural conditions, but they focused their study on exploring the positive and negative outcomes of ambivalence in an inflexibility-flexibility dimension and a disengagement-engagement dimension rather than on the causes of ambivalence. They also argued that ambivalence historically was emphasised as physiological and psychological distress; therefore, people should avoid it (Rothman et al., 2017). Rothman et al.'s (2017) argument was supported by the evidence in literature (Holt-Lunstad, Uchino, Smith, &Hicks, 2007; van Harreveld, Rutjens, Rotteveel, Nordgren & van der Plight 2009). For example, Hass, Katz, Rizzo, Bailey, and Moore (1992) suggest that the ambivalence was related to elevated physiological arousal, which might affect health and well-being by being a source of distress (Hass et al., 1992). Recent research indicated that ambivalence could benefit individuals, groups, and organisation creativity (Watkins, Lee, Yam, Zhan, and Long, 2021; Zhao and Zhou,2021; Herr et al., 2019; Gatti et al., 2019; Rothman et al., 2017; & Fong, 2006).

In their study, Ashforth et al. (2014) proposed a framework of responses to ambivalence (Figure 1) to describe organisation ambivalence and explored four different triggers for the ambivalence, which included (1) hybrid identities, contradictory goals, and role conflicts; (2) organisational dualities; (3) multifaceted objectives; and (4) temporal factors (Ashforth et al., 2014; p. 1456). In this study, we focused on investigating organisational dualities.

Figure 1 is Inserted about Here

Duality refers to the twofold character of an object of study without separation (Putnam, Fairhuust, & Banghart, 2016; p. 69; Ashforth et al., 2014; p 1456; Farjoun, 2010; p 203). It resembles dualism, which retains the idea of two fundamentally interdependent contradictory and complementary elements (Farjoun, 2010; p 203). With the evidence of the paradox of stability and change (e.g., Poole & Van de Ven, 1989), Farjoun (2010) proposed a duality model of stability and change (Figure 1A) to explain the relationship between exploitation (stability) and exploration (change) and demonstrate duality in the organisation.

Figure 1A is Inserted about Here

In recent years, studies on ambivalent leadership that focused on investigating the outcomes appeared in the literature (Watkins et al., 2021; Gatti et al., 2019). However, few (if not none) of these studies have addressed the causes of ambivalent leadership in organisations, which left a research gap in the literature. By investigating dualities faced by NMO leaders, this study addresses the causes of ambivalent leadership and fills in this research gap.

ETHNOGRAPHIC STUDY

This ethnographic study comprises fieldwork and ambivalent leadership conceptualisation. It started in 2008 and was completed in 2022 and went through three stages, 1) observation (fieldwork), 2) identifying leadership patterns (fieldwork), and 3) conceptualising ambivalent leadership. This ethnographic study suggests that NMO leaders lead their NMOs by organising various social events, such as family events, weekend events, monthly events, and annual events (appendix 2). The finding also indicates that NMO leaders try to achieve different goals by organ1ising various social events and showing multiple leadership behaviours (some even contradict others) simultaneously, causing dualities, which in turn trigger ambivalences among their subordinates (appendix 2). This study applies the theorise of organisation duality, ambivalence, and organisation paradox to theorise NMO leadership behaviours and proposes ambivalent leadership.

Fieldwork

Research Setting and method

We conducted this ethnography at the NMO affiliated with a Designated Direct Selling Firm (DDSF), one of the significant direct selling firms in the United States. This DDSF was founded by the father of one of the CEOs several decades ago. The businesses of its affiliated NMOs extended to different countries, including Australia, involving hundreds of thousands of network entrepreneurs. These network entrepreneurs consistently built their NMOs to distribute worldwide products for the DDSF and earned their incomes through the compensation plan (appendix 1) designed by the DDSF. The compensation plan is about network entrepreneurs making commissions and other revenues from selling the products for the DDSF (Pedrood, Ahmadi, & Charafeddine, 2008). One of the important concepts included in the compensation plan is the group sales volume. Group sales volume is the primary source for a network entrepreneur to earn her commissions (Groβ and Vriens, 2019; Vander Nat and Keep, 2002; Koehn, 2001). Under the different compensation plans, the group sales volume is calculated differently (Pedrood et al., 2008). The compensation plan used by DDSF was Binary Compensation Plan (Pedrood et al., 2008). Under this compensation plan, NMO leaders at different levels of the organisation would be paid differently (appendix 1). To ensure the validity of the data, we initially located 56 network entrepreneur leaders at different levels of the organisation, including one matured leader, two co-operating leaders, twenty expanding and developing leaders and thirty-two starting leaders (figure B in appendix 2). We examined their leadership styles through observations, chatting, and interviews (appendix 2).

Figure B in appendix 2 is inserted about here

Findings

One of our significant findings confirmed that running an NMO was like organising a social movement (Biggart, 1989). The leaders in an NMO play a critical role in business activities (Kaiser, Hogan, & Caig, 2008). It also revealed that at the different stages of the business development, NMO leaders applied different leadership styles to organise the various social events. In this ethnographic study, we found NMO leaders running four different types of social events (appendix 2). The first social event was the family event.

When a network entrepreneur started her business by recruiting two people (Figure B, Appendix 2), she would become the lowest level of NMO leader. She started building her NMO by encouraging the two subordinate network entrepreneurs recruited by her to bring their friends or/and family members to participate in a weekly family gathering party (named the family event) at her family place. The main goal for the leader running the family event was to create opportunities to attract as many as possible potential customers and prospective business partners. Our observation suggested the leadership style presented by the family organiser (NMO leader) was servant leadership (Greenleaf, 1977). We also found that the central discourse controlled and promoted by the event organiser in her NMO was "my success relies on your accomplishments." From findings in the family event, we identified the first duality in NMO (*independent network entrepreneurs with competitive relationships vs. relying on each other to build their own network entrepreneurial business*).

The second social event we found was the weekend event (Appendix 2). The weekend event was an extension of the family event. As the business developed, the family event expanded to too big for a private family place to accommodate all participants. So instead, the family event organiser would pursue other network entrepreneurs' support to find a public venue and run the weekend event there.

Our observation indicated that the organiser operated the family event privately. In contrast, the weekend event was organised collectively by a panel with the leadership of the previous family event organiser. Therefore, the weekend event was much more formal and stable than the family events. With the primary objective of encouraging participants to bring more new friends to participate in the event, the main activity in the family event was the social interactions between participants in the relaxed atmosphere. Of course, participants could still interact with others during the weekend event. However, the main activity of the weekend event was listening to and watching the presentations related to the business and the products. In addition, all panel members in weekend events were required to comply with the business dress code because the primary objective of the weekend event was to build the business by opening the venue to the public.

Contrary to the servant leadership style (Greenleaf, 1977) applied by the family event organiser, the leadership styles used by the weekend event organiser in leading her subordinate network

entrepreneurs were controversial. She applied the servant leadership style (Greenleaf, 1977) to show some of her subordinate entrepreneurs and provide them with all possible services. Simultaneously, she tried to entirely ignore the request for bits of support from other network entrepreneurs and occasionally even damaged their business during her explaining the business and products. The leadership style presented by the weekend event organiser in leading this ignored group of network entrepreneurs was like laissez-faire leadership (Judge and Piccolo, 2004). Our observation shows that the cause of the NMO leader's change her leadership style was DDSF's compensation plan (Appendix 1). Under this compensation plan, all subordinate entrepreneurs' sales would contribute to the leader's income during her business development in the early stage. Once the leader's business reaches a specific scale, some subordinate entrepreneurs' sales still contribute to their leader's revenue. Others will not contribute to the leader's income and even becomes their leader's competitors. From the weekend event, we found that the discourse promoted by the leader was "we must build our entrepreneurial network businesses as professional businesspeople do. It is our blessing to get help from others, and it is our duty not to get help from others. Therefore, never take help from others for granted." From findings in the weekend event, we identified another duality in NMO (*servant leadership* vs. *laissez-faire leadership*). One of the significant challenges in the weekend event was the high level of conflict between the leader of NMO and some of her subordinate network entrepreneurs.

The third social event we observed was the monthly event, held in the daytime of the first weekend every month at a decent venue (Appendix 2). Compared to the weekend event, the scale of the monthly event was much more extensive and had more influence on the community. Furthermore, the quality and the content of the monthly event were directly related to the reputation of DDSF, which significantly impacted DDSF's business performance. Therefore, the management of DDSF applied its power of controlling the information on the binary compensation plan (Appendix 1) to influence the monthly event organiser to select the public speakers from her subordinate network entrepreneurs and design the event's program. We found that the speakers usually perceived their public speaking opportunities as their business favours offered by the decision-makers. By speaking publicly, the speaker could enhance her influential power to attract more attention from the public. Our observation

suggested that the monthly event's purpose was to respond to the conflicts derived from the weekend event, maintain, and increase the influential power by accommodating the network entrepreneurs with different business interests and promote the products and business opportunities through organising entertainment-oriented events (Appendix 2).

We found the benefits of the monthly events to network entrepreneurs included enjoying the influential power to attract more prospective network entrepreneurs from the community, spreading legitimate information about products and businesses in the community, and selling more products. However, in the monthly event, the conflicts caused by differences in business interests still existed. Our observation indicated that the event organiser applied her right to select public speakers to exchange the compromises with different network entrepreneur leaders and ensure the conflicts were under control. Therefore, the leadership style presented by the monthly event organiser was trade-off-oriented. It is like transactional leadership (Burns, 1978), which involves an exchange relationship between leaders and followers such that followers receive interests or prestige for complying with a leader's wishes (Rafferty & Griffin, 2004; p. 330). We found the discourse promoted by the leader in the monthly event was "we build the business for ourselves, not by ourselves." This finding indicates the third duality in NMO (*competed independent network entrepreneurs vs. working as a team*).

The last social event we observed was the annual event. The annual event was the most critical business activity organised by the management of DDSF to attract as many as possible people and shape them into highly productive organisations (Sparks & Schenk, 2006; Biggart, 1989). We found that DDSF invested heavily in planning, designing, and hosting the annual event at the most luxurious venue in one of the big city centres in the World every year. As a result, running a yearly event was costly and the ticket price to attend the event was expensive. However, attracting many attendants was crucial for the event's success (Biggart, 1989). Our observation indicated that most matured leaders of NMO (Appendix 1) were actively involved in DDSF's activities in planning and organising the yearly event. They promoted the event, sold the tickets within their NMOs, and arranged accommodations and traffic for the event participants. By doing these, the matured leaders worked with DDSF to respond to the competition from other direct selling firms and their network entrepreneurs.

Our observation indicated that the content of the annual event in different years was varied, but the theme of the events was always the same. It focused on promoting the founder's vision, mission and business opportunities and product excellence that represented the core values of the DDSF. DDSF had successfully attracted several hundred thousand network entrepreneurs to sell its products in different countries. Of course, individual network entrepreneurs and their top leaders might have various business interests, and their views on the business vary. To attract a maximum number of participants joining the annual events, the matured network entrepreneur leaders endeavoured to accommodate these differences and address different network entrepreneurs' interests by promoting the core values of their direct selling firms using the collaborative approach (Rahim, 1983). They tried to link the DDSF founder's vision and mission to individual network entrepreneurs' daily lives and encouraged them to change by acquiring the information from the annual event. They also explained how the message given by the annual event would be relevant to their career lives. According to the behaviours demonstrated in organising the annual event, the current study argues the leadership presented by these matured leaders was transformational leadership (Bass, 1985; Sparks & Schenk, 2001). We found the discourse promoted by the matured leader in organising the annual event was "sharing the founder's vision to achieve health freedom and financial freedom. " The significant challenge faced by the matured leader was to maximise her income, which caused her a duality (*maintaining the existing business vs. continuously developing the new business*) (refer to Appendix 1, and 2 for details).

Conceptualising Ambivalent Leadership

From the fieldwork, we found different dualities in NMO. To conceptualise ambivalent leadership, we applied Farjoun's (2010) duality model of stability and change (Figure 2) to analyse the duality of *maintaining the existing business* vs. *continuously developing the new business* faced by the matured network entrepreneur leaders when organising annual events. We argue that the concept of *maintaining the existing business* is like that of the exploitation (stability) and *continuously developing the business* is like the exploration (change) in Farjoun's (2010) model (Figure 2). According to Farjoun (2010), *maintaining the existing business* and *continuously developing the new business* in an NMO are conceptually distinct but not separated. Instead, they are interdependent and potentially compatible -

mutually enabling and a constituent of one another. *Maintaining the current business* relates to the stable maximised commission earned from the established business centre (appendix 1), like the static efficacy and stability in Farjoun (2010). *Continuously developing the new business* relates to leadership bonuses, a substantial proportion of incomes for matured leaders (appendix 1), like innovation and change (Fajoun, 2010). Even though the relationship between *maintaining the existing business* and *continuously developing the new business* is oppositional, they must be balanced. Whilst over-*maintaining the existing business* may excel, *continuously developing the new business* will not be beneficial, leading the mature network entrepreneur leader to lose her leadership bonus, a substantial part of income (appendix 1). In addition, over-*continuously developing the new business* will negatively impact the maximisation of commissions earned from different business centres, eventually negatively impact on the matured network entrepreneur leader's performance. Our observation demonstrated that the matured network entrepreneur leader applied a transformational leadership style to *maintain the existing business*. Simultaneously, she used servant leadership, laissez-faire, and transactional leadership to *develop her new business* centres continuously. Our observation shows that the leadership styles applied by the matured network entrepreneur leader can be described as that presented in Figure 3, simultaneously using different leadership styles to the people in the same organisation. We name this type of leadership as ambivalent leadership. In this study, we define ambivalent leadership as applying different and contradictory leadership behaviours to lead others in the same organisation simultaneously. The theme of ambivalent leadership is consistent inconsistency.

The ambivalent leadership we conceptualised is an unavoidable phenomenon in the NMO. In this study, we observed various subordinate entrepreneurs' responses to the ambivalent leadership and applied Ashforth et al.'s (2014) framework of responses to ambivalence (Figure 1) to describe these responses (Figure 1A). It demonstrates that ambivalent leadership impacts subordinate network entrepreneurs in an NMO and enables the leaders to lead NMO in a complicated environment, such as one full of various dualities.

DISCUSSIONS AND CONCLUSIONS

This ethnographic study examined network entrepreneur leaders' leadership behaviours and analysed dualities in the context of NMO. By applying Farjoun's (2010) duality model of stability and change to explore the leaders' responses to the duality caused by compensation plan, we first conceptualised the leadership behaviours of matured network entrepreneur leaders as ambivalent leadership. We also applied Ashforth et al.'s (2014) framework of responses to ambivalence (Figure 1) to describe the possibilities of subordinates' responses to ambivalent leadership (Figure 1A). Our study contributed to the literature on organisational leadership, organisation ambivalence and NMO.

We defined ambivalent leadership as applying different and contradictory leadership behaviours to simultaneously lead others in the same organisation. We also confirmed that ambivalent leadership impacts subordinates positively and negatively and enables the leaders to lead an organisation effectively in a complicated environment, such as one full of various dualities. This research may benefit future researchers who intend to explore complex organisational issues. It can serve as the template for future research in areas related to organisation ambivalence. The research methodology used in this study is another contribution to the literature. It may benefit future researchers who intend to explore complicated organisational issues creatively (Rothman et al., 2017; Rothman Melwani, 2017). Managers may apply our ideas of ambivalent leadership to lead their organisations and pursue innovative changes.

This study lasted for over ten years; therefore, some empirical data may not be current. Thus, future researchers may need to test our ambivalent leadership theory. Furthermore, the development of the ambivalent leadership theory is a prolonged and complicated process. Therefore, it may be difficult for future researchers to replicate it. Consequently, we suggest future researchers decompose the ambivalent leadership theory and test each part of them in different context. Nevertheless, we believe that there is incredible promise in what can be built from here.

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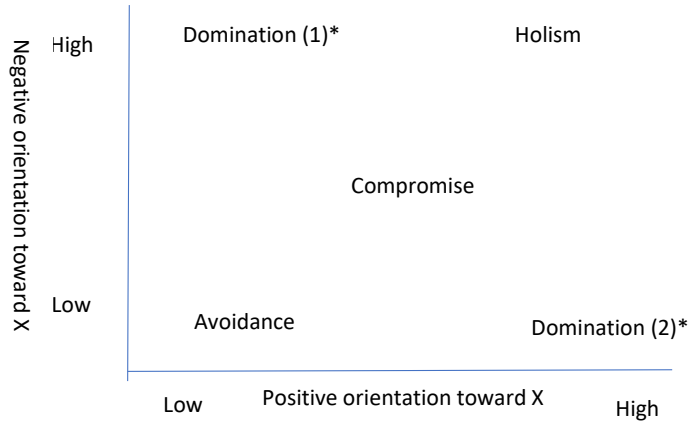
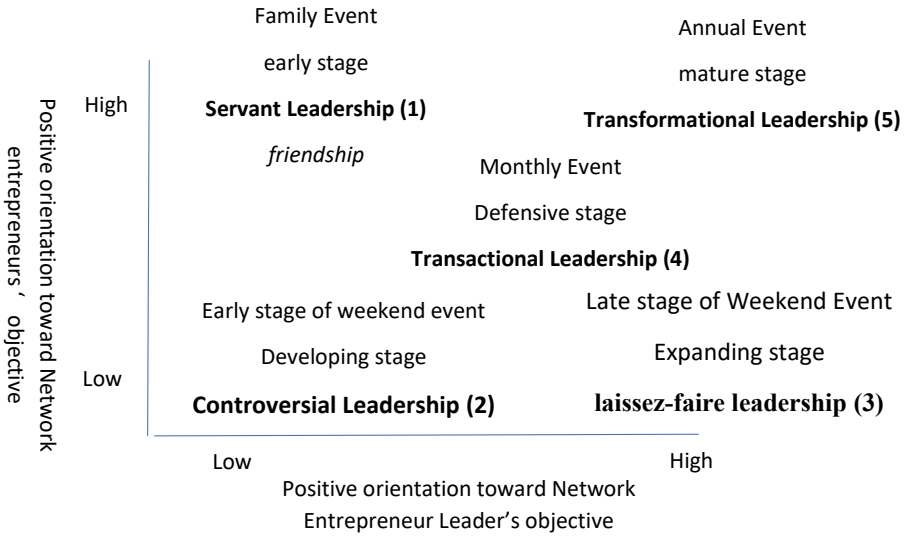
Figure 1. Actor Reponses to Ambivalence



Note: The axes reflect the focus or emphasis that the actor places on the orientations in responding to ambivalence (e.g., in avoidance, the actor places little on either axis)

Source: Ashforth et al. (2014), page 1460

Figure 1A. Network Entrepreneur Leader Reponses to Ambivalence



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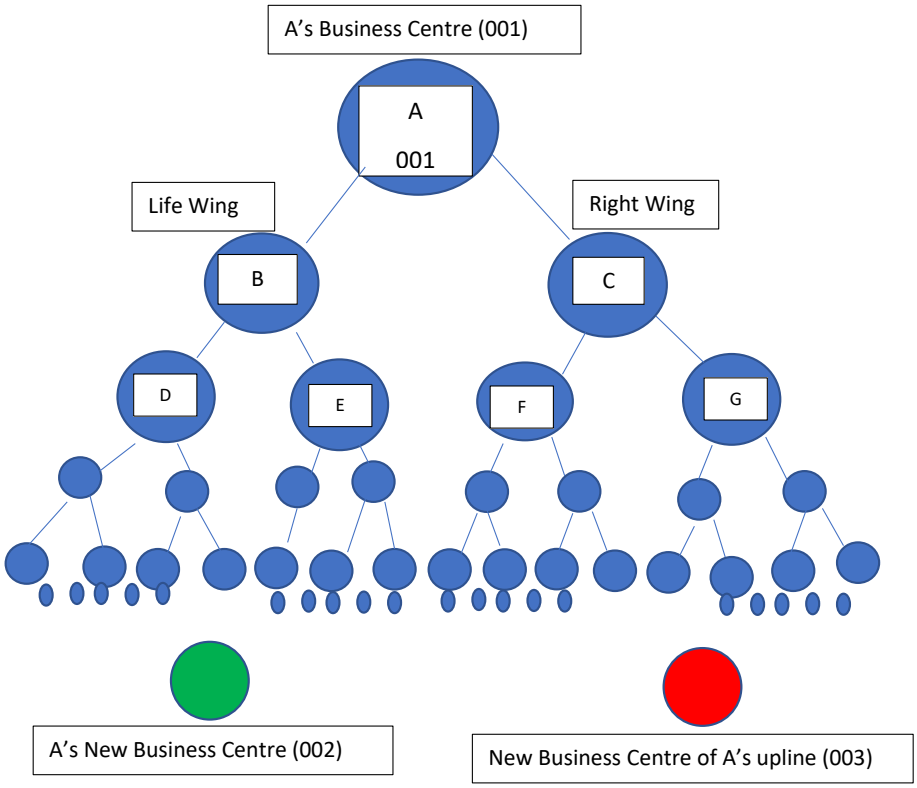
Appendix 1

Compensation Plane

The compensation plan is about the procedures of network entrepreneurs earning commissions and other incomes from their selling the products for the affiliated direct selling firms (Pedrood, Ahmadi, & Charafeddine, 2008). One of the important concepts included in the compensation plan is the group sales volume. Group sales volume is the primary source for a network entrepreneur to earn his/her commissions (Groβ and Vriens, 2019; Vander Nat and Keep, 2002). The compensation plan used by the DDSF was the Binary Compensation (Figure A)

Figure A Concept of Binary Compensation Plan



Sources: ***Pedrood et al. 2008 and designated direct selling firm, 2005*** (The structure of the compensation has been modified to protect informant's privacy)

Binary Compensation Plan (Pedrood, Ahmadi, & Charafeddine, 2008) is a multilevel marketing compensation plan which allows a network entrepreneur to have only two front-line (left-wing and right-wing) network entrepreneurs in his (her) Business Centre (Figure A). If a network entrepreneur recruits more than two new network entrepreneurs, the excess falls below the recruiting entrepreneur's front line (Figure A). Every week, the group sale volume is generated from the left-wing and the right-wing. Therefore, the primary weekly commission paid to a network entrepreneur is based on his (her) weekly group sales volume (Pedrood et al., 2008). It is claimed that a binary compensation plan provides a lucrative opportunity for network entrepreneurs to earn attractive incomes because it allows anyone to start building his (her) business by recruiting two people (Daduya, Domingo, Redondo, & Supnet, 2016). For example, in figure A, person A starts his (her) business by recruiting two people (person B and C). Then, as person A does, persons B and C start their businesses by recruiting another two people (person D and E; Person F and G).

However, the binary compensation plan may put the direct-selling firm facing financial and legal risks (Direct Selling Star, 2021). To avoid these risks (Pedrood et al., 2008; Groβ & Vriens, 2019), DDSF puts five restrictions on its Binary Compensation Plan.

- First, the network entrepreneur will receive his (her) weekly commissions based on where the Group Sales Volume on the left-wing of his (her) Business Centre matches the Group Sales Volume on the right wing. The extra unpaid Group Sales Volume (up to 10,000 points per side) will roll over into the next commission period.
- Second, a network entrepreneur will be paid a maximum of 10,000 Group Sales Volume commission in each Business Wings. One Business Centre has two Business Wings, which means that a network entrepreneur will be paid a maximum of 20,000 Group Sales Volume commission in one Business Centre every week.
- Third, suppose a Business Centre earns maximum commission from the 20,000 Group Sales Volume consecutively for four times. In that case, the owner (network entrepreneur) will be qualified to have the right to open another new Business Centre anywhere within his (her) organisation (Figure A) and enjoy the leadership bonus*.

- Fourth, each Business Centre has one chance to open a new Business Centre (Designated Direct Selling Firm, 2005).
- Fourth, once a new network entrepreneur's Business Centre is placed in a particular location of the NMO, the network entrepreneur can hardly relocate his (her) Business Centre.
- Fifth, the calculations of the commission points generated from the Group Sales Volumes are listed in Table 1. To comply with relevant regulations (Groβ & Vriens, 2019), all network entrepreneurs, who have successfully built his (her) business and earned the commission generated from 20,000 Group Sales Volume, are required to conduct a certain number of retails proven with the receipt.

Table 1. Commission Calculation

Group Volume points		
Left	**Right**	**Commission Points**
1,000	1,000	100
2,000	2,000	200
4,000	4,000	400
6,000	6,000	600
7,000	7,000	700
10,000	**10,000**	**2,000**

Leadership bonus*: Under the binary compensation plan designed by the designated direct selling firm, network entrepreneurs have two ways to earn their income, 1) commissions earned by selling the products, 2) leadership bonus earned by constructing and leading their NMOs (network marketing organisations).

Source: designated direct selling firm, 2005 (the data has been modified to protect the privacy of informants)

Note* A leadership bonus is another significant payment comprised in the binary compensation plan designed by DDSF (designated direct selling firm, 2005). Any network entrepreneurs who have successfully built at least one business centre would have the opportunity to earn the leadership bonus as far as they met the criteria of

- Monthly retail,
- Recruiting new network entrepreneurs monthly, and
- Personally providing new entrepreneurs with training regularly.

(Designated direct selling firm, 2005). The leadership bonus paid to a network entrepreneur leader was calculated based on the number of business centres he (she) had successfully built up (reached the maximum income). Initially, the leadership bonus was not a significant income for a network entrepreneur leader. However, as the number of successful business centres increased, the leadership bonus earned by the leader would increase exponentially. Therefore, leadership bonus is an important part of a matured leader's income.

Note **: Definitions for the network entrepreneur leaders in different stages

Matured network entrepreneur leader: has successfully built a solid business with three Business Centres and started building the business in the fourth Business Centre.

Co-operating network entrepreneur: has built a solid business with two Business centres and started building the business in the third Business Centre.

Developing and expanding network entrepreneur leader: has built a reliable business in one business Centre and started building the second business centre.

Starting stage network entrepreneur leader: has begun building the business in the first Business Centre.

Appendix 2

3.2 Ethnographic Study

We initiated this ethnographic study at the NMO affiliated with the designated direct selling firm, which went through three stages: 1) understanding, 2) confirmative, and 3) completion. The first two stages (understanding and confirmative) mainly focused on the fieldwork conducted by one of our researchers (initial researcher). In the third stage, i.e., completion, the other researchers joined in and completed the whole project. In the first stage, the initial researcher spent ten to fifteen hours per week doing the ethnographic study from August 2008 through February 2011. After that, the fieldwork continued at a less intensive level through July 2015 (the confirmative stage). In this stage, the initial researcher talked with network entrepreneurs of this NMO each week for two to three hours. Then, from August 2015 through December 2020, the initial researcher stopped doing the fieldwork for about six years. Finally, from January 2021, the initial researcher restarted this ethnographic study in the final stage to review the literature and check the relevance of the understanding of NMO and its leadership relations. Meanwhile, the other researcher joined the project and made substantial contributions.

This ethnographic study was divided into three different stages for three reasons. First, the initial researcher was employed by the designated direct selling firm at the same time when he started this project. His duties in this employment included checking the network entrepreneur leaders and their organisational financial performance and reporting the results to the management of the direct selling firm. Therefore, the advantage for the initial researcher doing the fieldwork was getting insight into the affiliated NMO and its leadership relation. However, the disadvantage was that the initial researcher could neither guarantee his perception would not be affected by his mental models (Senge, 1992) developed from his employment nor ensure his view on the leadership relation in the affiliated NMO was free from bias. Therefore, to acquire the capacity to observe the NMO and its leadership relations objectively and ensure the validity of the data collected, the initial researcher completed his employment relationship with the designated direct selling firm in March 2011 to make the ethnographic study more objective. Second, the initial researcher used his former employer's resources and time to conduct the fieldwork. Therefore, all notes taken, and data collected from the field in the first stage of the

ethnographic study were owned by his former employer. Thus, the initial researcher could not take them when he left the organisation. To maintain the memory, we needed to do the study in the second stage to rescue the information and confirm our understanding of the NMO and its leadership relations. Third, the initial researcher signed a confidentiality agreement with his former employer when he started employment with this firm. According to the agreement, he should never release any information related to his work to a third party within five years of leaving the organisation. To confirm the information regarding NMO and its leadership relations was still relevant, the initial researcher conducted the third round of study six years after completing the second stage of the ethnographic research by reviewing relevant documents and literature.

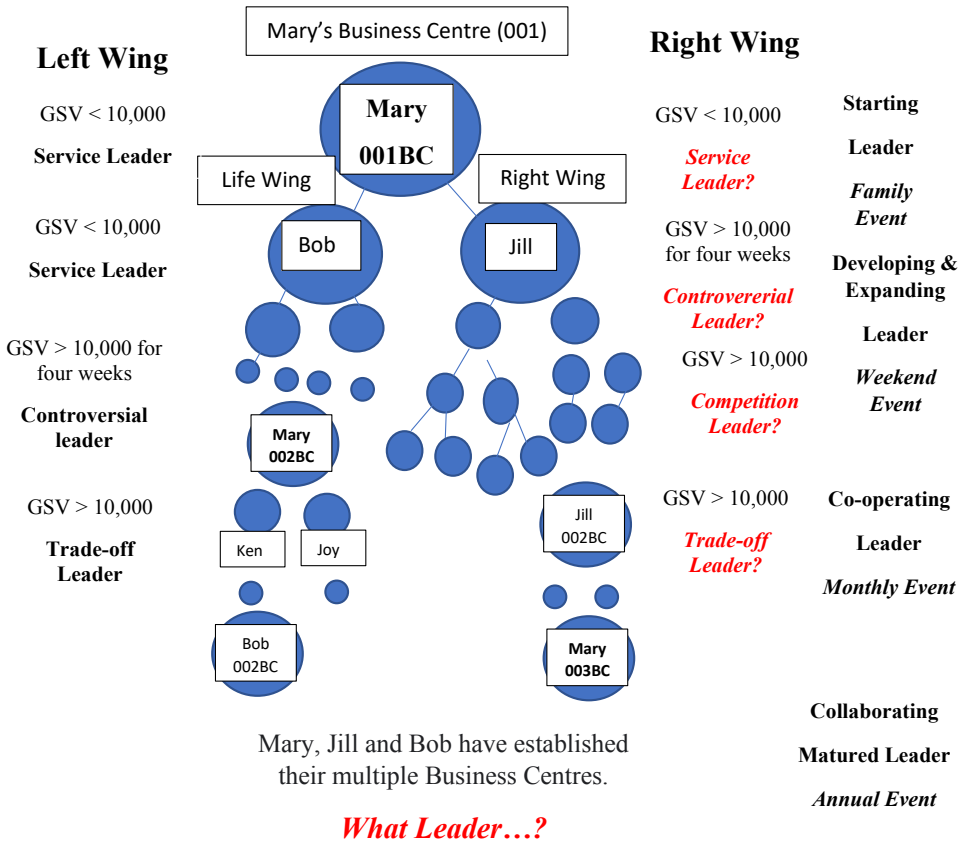
We began this ethnography with a vague research question: how did network entrepreneurs leaders lead their network entrepreneurs and manage their NMOs? Although the initial researcher often checked the network entrepreneur leaders' and their organisational financial performance, the data collection focused on watching and talking to network entrepreneurs and their leaders and observing and taking notes to record their events activities in terms of promoting business and motivating their follower network entrepreneurs. We adopted this focus because our primary aim was to understand how network entrepreneur leaders lead their follow network entrepreneurs and experience managing their NMO. Following the suggestions for doing ethnographic research (Myers, 2009), the initial researcher recorded his field notes, which included his observations, impressions, feelings, hunches, and so forth, regularly and wrote up interview notes after each interview immediately. He also used Hargadon and Sutton's (1997) approach to describe his observations and results obtained from interviews and chatting with network entrepreneurs repeatedly until significant themes emerged. When a promising theme like leadership pattern emerged, the initial researcher focused on data collection, read pertinent literature, and did a preliminary analysis to decide if it was worth pursuing.

Our interest in the network entrepreneur leadership pattern sparked in 2009. We noticed that different network entrepreneur leaders showed similar leadership patterns when they led the entrepreneurs in their NMOs. This inference guided our descriptions and the prediction that network entrepreneur leaders followed the development of their NMOs to change their leadership styles. From

our observation, we also identified four milestones in the process of a network entrepreneur's NMO development, which were named as 1) starting stage, 2) developing and expanding stage, 3) co-operating stage, and 4) mature stage. We inferred that in each stage of their NMO development, the leader of the NMO applies a different approach to lead their NMO. We named this type of leadership as Four-Stage Pattern of Leadership Style (Figure B).

To examine the four-stage pattern of leadership style, we adjusted our strategies of ethnographic study. Our observations focused on four types of network entrepreneur leaders—the first type of network entrepreneur leaders is those who started building their NMOs in the starting stages. The second type of leader was on the developing and expanding (competing) stage. The third type was in the co-operating stage, and the fourth type was in the matured stage. The purpose of investigating the entrepreneur leaders based on these different types of network entrepreneur leaders was to confirm our observation of the four-stage leadership style pattern and explore why network entrepreneurs apply different leadership styles to lead their NMOs on various stages of their NMOs development. The current study defined the matured network entrepreneur leaders as those who had successfully built a solid business with their three Business Centres and started building the business in the fourth Business Centre (Collaboration Stage. Figure B). The co-operating network entrepreneur leaders had built a solid business in their two Business centres and started building the business in the third Business Centre (Co-operating stage, Figure B). Developing and expanding network entrepreneur leaders built a reliable business in one business Centre and started building the second business centre (Developing & expanding stage, Figure B). Finally, the starting stage network entrepreneur leaders just started building their businesses in the first Business Centre (Starting stage, Figure B).

Figure B, Four Stage Pattern of Leadership Styles



Source: designated direct selling firm, 2009 (the data and name have been modified to protect the privacy of informants)

Based on these concepts, we located **56 network entrepreneurs** who were belonged to different types of entrepreneur leaders (one matured leader, two co-operating leaders, twenty expanding and developing leaders and thirty-two starting leaders) initially, and examined their leadership styles by observations, chatting, interviews.

Biggart (1989, p.9) suggests operating the business of NMOs is very much like running a social movement. We noticed that network entrepreneur leaders ran their businesses related to social activities by organising business events. We also saw that network entrepreneur leaders, who were at different

stages of their business development, focused on organising different business events. For example, the matured leaders worked together with their affiliated direct selling firm to organise annual events in luxury venues (annually events), and co-operating leaders focused on monthly events in decent public venues (monthly events). Expanding and developing leaders worked together and focused on weekly events on the weekend in budget venues rented from a local club (weekend events). Finally, starting leaders focused on family events held in their private family places during weekday evenings (family events). The event organisers (network entrepreneur leaders) endeavoured to promote their business agender in these circumstances. To investigate network entrepreneur leadership styles, we consistently attended various weekly, monthly, and annual business events to interact with network entrepreneurs and their leaders before and after the events for over two years (2009 - 2011).

3.3 Four Types of Business Events

The family event could be understood as a type of family gathering. The initial researcher's observation suggested that family event was a starting point for most network entrepreneurs building their network entrepreneurial businesses and NMOs. By organising the family event, a new network entrepreneur could pass business and product messages to the audiences and identify prospective product users or (and) business partners without annoying others interested in neither products nor business. Therefore, the primary purpose for a network entrepreneur to organise the family event was to attract as many as possible people to attend the family event, create opportunities to attract potential customers and business partners, and build the NMO quickly.

After sponsoring two persons to join him (her) in pursuing network entrepreneurship, the network entrepreneur (the family event organiser) started inviting these two sponsored network entrepreneurs, their friends, colleagues, schoolmates, etc., to his (her) family place to participate in the bring-your-own dinner party and chat with each other. The event usually ended with the organiser's sharing his (her) experience in using the products and pursuing the business opportunity for ten to fifteen minutes. Anyone interested in the products or business opportunity might stay a bit longer after the event and have a further chat with the organiser. Most others would leave immediately. My observation indicated that family events were informal, more like social events than business events.

One Saturday evening, my wife and I carried homemade dumplings and attended a family event in Sydney. Over ten couples participated in this event. The hostess friendly provided us with lovely teas and coffee (it was an Alcohol-free party), and we shared our food. At the event, we talked about cooking food, which areas were the excellent places for shopping and travelling, how to eat food healthy, etc. Everybody seemed to have a lovely time at the party. Before the end of the event, the hostess briefly shared the nutrition (the products she sold in her business) she was taking and the business she was pursuing. After that, everybody left, except three couples who stayed back and asked the hostess more questions about the nutrition products and the business.

---the initial researcher's personal experience

Our observation also indicated the family event included three types of people. The first type of people were pure participants whose only goal to attend the event was to have a good time, nothing else. The second type of people were network entrepreneurs who brought their friends to participate in the event. Their goal was to take advantage of the family event to influence their friends and change their attitudes toward the products and the business. Finally, the event organiser was the third type of person. The event organiser's goals included 1) ensuring everyone had a good time, 2) influencing the pure participants by sharing his (her) experience of using products and engaging the business, 3) training other network entrepreneurs about how to organise family events.

Our third observation indicated that the family event was an informal event and unstable. Most family events would last for a short period and stop. However, an interesting phenomenon we observed was that old family events disappeared, and the new family events appeared continuously at the same time. Like boiling water, bubbles emerge, and beads break always happens simultaneously. Among these family events bubbles, a small number of family events would last for a while, and the even smaller number of them would expand to too big for a private family place to accommodate all participants. In this circumstance, the organiser would do two things. Firstly, he (she) would pursue the public venue and run the weekend event there to maintain the momentum of business expanding

consistently. Secondly, he (she) would encourage and help other network entrepreneurs to run their family events in their family places.

As a network development officer employed by the designated direct selling firm, our initial researchers' one duty was watching these family event bubbles and reporting them to the management because these bubbles were directly related to the performance of the designated direct selling firm. Therefore, we intensively participated in and observed many different family events for two years and tried to understand the family events.

> *Between early September and early December 2009, I attended and watched 33 different family events. However, when I called the organisers of these family events in the middle of December, I found only three family organisers were still running their family events, but the rest had stopped. At the same time, I found many new family events appeared.*
>
> *The initial researcher's personal experience*

Our investigation suggested that the family event organiser's social skills (such as public speech, leadership, and organising skills) would determine how long the family event would last. The family event organisers with good social skills would organise high-quality family events that enabled the pure participants to have a good time and positively influence some uninfected participants' attitudes towards the products and business. In addition, high-quality family events encouraged network entrepreneurs to consistently bring their friends (the pure participants) to attend the event, enhancing the event organisers' and relevant network entrepreneurs' business performance. If a family event organiser possesses good social skills and actively trains other network entrepreneurs to obtain these skills and encourages them to organise their family events independently, this family event had an excellent opportunity to expand to weekend events. In most cases, the family event organisers trained their follower network entrepreneurs to obtain these skills by encouraging them to organise family events and offering them opportunities to share their experiences of using products and operating the business in the family event. If any one of his (her) follower network entrepreneurs intend to organise the family events independently, he (she) would fully support him (her).

A friend of mine invited me to Amy's house and took part in a bring-your-own family gathering. I accepted her invitation without hesitation because I thought this was an excellent opportunity for me, a new immigrant, to start enjoying the local social life…. It was how I first knew Amy. … Amy helped me a lot when I started doing my business initially. I still remember… After listening to her share her business experiences at the family gathering, I was impressed. When I asked her how I could start my business, she suggested I attend the free Monthly Training Event (later, I found I should buy the ticket for attending this event, but Amy paid for the entrance ticket for me) on the coming weekend. From there I could find all details about the business and products. When I told her I would not be available on the weekend because my husband would work in the restaurant, I would take my son to the training school. Amy told me that she could pick up my son from my home, send him to the training school free of charge, and make me available to attend the event…. Amy helped me a lot when I started my business.

Chatted with Li Lian Fang

(Translated from Mandarin into English by one of our researchers)

Family event organisers played two roles, the event leaders and the participants' servants. The central discourse controlled and promoted by the event organiser was "*my success relies on your accomplishments*". We found three different perspective answers when we asked family event participants about their attitudes toward the family event organisers. Those who were not interested in the business introduced by the family event organisers said that "the event organiser was a nice person but too naïve", or "it was okay for him (her) to do what he (she) wanted. I had no comment". On the other hand, those interested in the business appreciated the family event organisers many things. They admired the family event organiser as a friendly, selfless, caring person.

Our observation suggested the leadership style presented by the family organiser was servant leadership (Greenleaf, 1977) because "the servant-leader is servant first…. It begins with the natural feeling that one wants to serve, to serve first. Then conscious choice brings one to aspire to lead" (Eva,

Robin, Sendjaya, van Dierendonck and Liden, 2019, p. 114). Servant leaders intend to adopt humble behaviours to lead their followers (Morris, Brotheridge, and Urbanski, 2005; Graham, 1991). The objectives of servant leaders are to focus on serving their followers (Greenleaf, 1998) and put their followers in more critical positions than themselves (Sparks & Schenk, 2006; Pratt & Rosa, 2003).

The weekend event was an extension of the family event. As mentioned before, once a family event expanded to too big for a private family place to accommodate all participants, the family event organiser would pursue other network entrepreneurs' support to find a public venue and run the weekend event there. Our observation indicated that the organiser operated the family event privately. In contrast, the weekend event was organised collectively by a panel with the leadership of the previous family event organiser. Compared to the family events, the weekend event was much more formal and stable. With the primary objective of encouraging participants to bring more new friends to participate in the event, the main activity in the family event was the social interactions between participants in the relaxed atmosphere. Of course, participants could still interact with others during the weekend event. However, the main activity was listening to and watching the presentations related to the business and the products. In addition, all panel members in weekend events were required to comply with the business dress code because the primary objective of the weekend event was to build the business by opening the venue to the public.

Our observation showed that under the leadership of the previous family event organiser, the panel members worked together and tried to create a positive business atmosphere within the environment of the NMO by running weekend events. However, the conflicts between the panel members caused by the Binary Compensation Plan (Pedrood, Ahmadi, & Charafeddine, 2008) designed by the designated direct selling firm were unavoidable. During the panel's decision to select the public speakers for the events, conflicts caused by the differences between the members in terms of their interests, agenda and values occurred frequently. For example, some members might like to apply the conservative approach to build their businesses, and others might intend to use the more aggressive approach to run their businesses. Therefore, selecting traditional public speakers or aggressive speakers for the event might trigger the conflict between different panel members.

By presenting the information about products and the business opportunity at the weekend events, the presenters had excellent opportunities to build their charismatic powers, a valuable resource for the presenters to attract people from the public and develop their businesses. Therefore, the speakers usually perceived their public speaking opportunities as their business favours offered by the decision-makers. In the family event, the organiser was the only person who decided to appoint the speakers. Therefore, those who did not like the organiser's decision might leave the event without any comments. Thus, the family event could be perceived as a "place politics-free". Unlike the family event, the panel members faced political challenges when assessing and nominating the public speakers for the weekend event. In addition, each panel member wished the speaker was one of their follower network entrepreneurs because their performance positively affected the panel member's business interests (refer to Figure B).

Because the weekend event was an extension of the family event, the panel's decision process was established during the transition from the family event to the weekend event. During the transition from the family event to the weekend event, the event organiser enjoyed a high level of influential power accumulated from his (her) organising the family events. Therefore, the weekend event organiser automatically became the most critical person who influenced the decision made by the panel members. As a result, the politics caused by the interest conflict between the event organiser and other panel members were inevitable.

Our observation also showed that the discourse promoted in family and weekend events differed substantially. As this article mentioned before, the central discourse promoted by the organiser of the family event was "my success relies on your accomplishments". Whereas the central discourse promoted in the weekend event was "we must build our entrepreneurial network businesses as professional businesspeople do. It is our blessing to get help from others, and it is our duty not to get help from others. Therefore, never take help from others for granted." "Discourse refers to language and behaviours that a specific to a social issue…" (Allan 2006, p. 295). It" 'rules in' certain ways of talking about a topic, defining an acceptable and intelligible way to talk, write, or conduct oneself" (Hall, 2001; p. 72), and" 'rules out' limits and restricts other ways of talking, of conducting ourselves concerning the topic or constructing knowledge about it" (Hall, 2001; p. 72). Thus, discourse, text, and

action are mutually constructed (Phillips, Lawrence, & Hardy, 2004; Phillips & Hardy, 2002). According to Foucault, discourse is a power determining organisational members' behaviours (Hall, 2001). From the differences between the discourses promoted by the event organiser in the family event and the weekend event, we could see the leadership styles presented by the organiser in the family event and the weekend event were different.

Contrary to the servant leadership style (Greenleaf, 1977) applied by the family event organiser, the leadership styles used by the weekend event organiser in leading his (her) follower network entrepreneurs were controversial. He (she) applied the servant leadership style (Greenleaf, 1998) to show some of his (her) follower entrepreneurs and provide them with all possible services. Simultaneously, he (she) tried to entirely ignore the request for bits of support from other network entrepreneurs and occasionally even damaged their business during his (her) explaining the business and products. The leadership style presented by the weekend event organiser in leading this ignored group of network entrepreneurs was like laissez-faire leadership (Judge and Piccolo, 2004). According to Judge and Piccolo (2004), laissez-faire leadership is the avoidance or absence of leadership. Therefore, leaders, who demonstrate laissez-faire leadership behaviours, avoid making decisions, hesitate in acting, and are absent when needed (Wong & Giessner, 2016; Judge & Piccolo, 2004). Thus, the laissez-faire leader's behaviour is characterised by avoiding decisions, hesitating to act, and being absent when needed (Sosik & Dinger, 2007), which is destructive to the followers. To explore the reasons that caused the weekend event organiser's treating his (her) follower network entrepreneurs differently, this study examined the impact of the binary compensation plan on the weekend organiser's leadership behaviours (refer to the case presented below).

The case presented in Figure 2 shows Mary started her network entrepreneurship business by opening her first Business Centre (001BC) and recruiting Jill (right wing of the 001BC) and Bob (left wing of the 001BC), established the smallest NMO and became the lowest level of NMO leader. According to the binary compensation plan, Mary's business performance entirely relies on the success of Jill and Bob. Therefore, Mary fully supported Jill and Bob in building their business by organising the family events and encouraging Jill and Bob to take their prospects to

attend the event. Under the binary compensation plan, the relationship between Jill's business and Bob's business was competitive. Still, under Mary's leadership, both Jill and Bob worked as a team harmoniously and supported each other (Dai, Wang, Teo, 2011).

The binary compensation plan also indicated that Mary's profit was determined by the balanced achievements made by Jill and Bob (designated direct selling firm, 2005). However, consider the reality of the differences between Jill's and Bob's cognitive capabilities in operating their network entrepreneurship business (Boogert, Madden, Morand-Ferron, and Thornton, 2018; Helfat and Peteraf, 2015), it is unlikely for both Jill and Bob to build their businesses at the same pace. For example, Jill demonstrated much more robust cognitive capabilities in building her network entrepreneurship business than Bob did and brought many more people to attend the family event organised by Mary. At this time, Mary would put much more effort into running the family event without extra income because Bob could not build his business. Under this circumstance, Mary had two options, 1) close the family event, 2) replace the family event with the weekend event. The initial researcher's observation showed that most network entrepreneurs intend to select the closing family event. In the case presented in figure 2, Mary replaced the family event with the weekend event. In the weekend event, Mary continuously applied servant leadership style to lead Bob and support his NMO. However, she would demonstrate laissez-faire leadership behaviour when she led Jill and her NMO. Under Mary's full support, Bob finally built his business, which benefited Mary's business and enabled her to establish her first business centre successfully and maximise the income generated from the 001BC. Having done her business in the 001BC successfully, Mary started repeating her approach, building her second business centre 002BC (refer to figure 2), and applying the laissez-faire leadership style to lead Jill and Bob. Without Mary's Leadership, Jill and Bob, the competitors, started competing for business resources offered by the weekend event, such as public speaking opportunities to promote their agendas, which unavoidably caused the conflicts publicly.

Our observation shows that the weekend event organiser's controversial leadership caused many issues that ruined his (her) reputation, negatively impacting his (her) business performance. For example, one of the essential strategies implemented by the event organiser to attract public attention and expand the business was to encourage the public speakers to publicly promote his (her) successful experiences. However, the information presented by public speakers in the weekend event was not necessarily aligned with the organiser's intentions.

7:00 pm, 4th July 2009 Saturday (RSL Club Burwood: Yearning for a Better Life)

"…When I first heard the story about Mary, I was so moved. A mother, a wife, and a new immigrant had neither English nor local experiences. The only thing she had was a dream. By working hard and consistently helping others, she has built her business successfully and achieved financial freedom. ...Mary is a great leader. She always tells me, 'My success relies on your accomplishments.' I believe that we will build our successful business as long as we work together with Mary…."

Presenter: Lily Ma

(Translated from Mandarin into English by the initial researcher)

7:30 pm, 4th July 2009 Saturday (RSL Club Burwood: Yearning for a Better Life)

"...With the motivation of Mary's story, I joined this business. Initially, I did receive her support and help. When my business reached a certain scale, she began to ignore me. Sometimes, I need her help desperately, and she pretends not to see it. I think she helped me at first because she wanted me to help her build her own business. Once she found that it was not profitable to help me, she immediately walked away from me. I don't believe what she said, 'my success relies on your accomplishments'" In my view, we must stand on our own feet to build our own successful business. ..."

Presenter: May Tan

(Translated from Mandarin into English by the initial researcher)

Evidence suggests that over conflict within the NMO is a poison to the network entrepreneurship business as it would ruin the harmonious social environment within the NMO (Sparks & Schenk, 2006). The empirical study proved the unified social environment was an essential factor positively related to the network entrepreneur's performance (Dai et al., 2017; Dai et al.,211). Therefore, the weekend event organiser (e.g., Mary in the case of figure 2) must control the conflict. Our observation showed the favoured solution to the conflict adopted by the weekend event organiser was to encourage and support his (her) follower network entrepreneurs (such as Jill and Bob in the case of figure 2) to organise their weekend events separately. However, when the event organiser divided the weekend event into two or more different weekend events, the number of participants in each of the weekend events reduced substantially, which dramatically reduced the influential power of the event. The leader's significant ability demonstrated by the business event was a critical factor for the success of network entrepreneurship (Biggart, 1989). Therefore, to maintain the leader's influential power and business momentum, the weekend event organiser (such as Mary in the case of figure 2) replaced the initial weekend event with a monthly event simultaneously.

The monthly event was held in the daytime of the first weekend every month at a decent venue. Compared to the weekend event, the scale of the monthly event was much more extensive and had more influence on the community. Furthermore, the quality and the content of the monthly event were directly related to the reputation of the direct selling firm with which the event organisers were affiliated and significantly impacted its business performance. Therefore, the management of the direct selling firm would apply its power of controlling the binary compensation plan to influence the monthly event organiser and the panel to select speakers and design the event's program. The monthly event's purpose was to maintain and increase the influential power by accommodating the network entrepreneurs with different business interests and promoting the products and business opportunities through organising entertainment-oriented events. The benefits of the monthly events to network entrepreneurs include enjoying the influential power to attract more prospective network entrepreneurs from the community,

spreading legitimate information about products and businesses in the community, and selling more products. However, in the monthly event, the conflicts caused by differences in business interests still existed. The initial researcher's observation indicated that the event organiser applied his (her) right to select public speakers to exchange the compromises with different network entrepreneur leaders and ensure the conflicts were under control. Therefore, the leadership style presented by the monthly event organiser was trade-off-oriented. It is similar to transactional leadership (Burns, 1978), which involves an exchange relationship between leaders and followers such that followers receive interests or prestige for complying with a leader's wishes (Rafferty & Griffin, 2004; p. 330). Transactional leaders "approach their followers with an eye to trading one thing for another: Jobs for votes, subsidies for campaign contributions" (Burns, 1978; p. 4). Under the transactional leadership exhibited by the monthly event organiser, network entrepreneur leaders, who had different business interests, agreed to make a compromise in exchange for the favours (public speaking opportunity) offered by the organiser in her managing the agenda of the standardised business event (Bass, Avolio, Jung, & Berson, 2003). Therefore, the relationship between the event organiser and their followers is professional, with little involvement of personal friendship.

> ***Monthly event organiser****: You keep criticising me publicly and ruin my reputation whenever possible. Could you please tell me how I can stop you from doing this?*
>
> ***One of the fellow network entrepreneurs****: If you treat me fairly and provide me with the same public speaking opportunities as others, I will stop doing this.*
>
> *Conversation between Amanda Shen and Mary Yang*
>
> *(Translated from Mandarin into English by the initial researcher)*

The initial researcher's observation suggested the monthly event significantly influenced the community and created business opportunities for the direct selling firm and its affiliated network entrepreneurs. However, the monthly events stimulated responses from other direct selling firms and their related network entrepreneurs and intensified the external competition in the marketplace. Therefore, one of the essential strategies implemented by network entrepreneur leaders to respond to

the external competitions was to work together with their affiliated direct selling firm in organising the annual event.

The annual event was one of the most critical business activities organised by direct selling firms to attract as many as possible people and shape them into highly productive organisations (Sparks & Schenk, 2006; Biggart, 1989). Therefore, the direct selling firm invested heavily in planning, designing, and hosting the annual event at the most luxurious venue in one of the big city centres in the World every year. As a result, running a yearly event was costly and the ticket price to attend the event was expensive. However, attracting many attendants was crucial for the annual event's success (Biggart, 1989). Our observation indicated that most top network entrepreneurs' leaders (matured leaders) were actively involved in their direct selling firm's activities in planning and organising the yearly event. They promoted the event, sold the event tickets within their organisations, and arranged accommodations and traffic for the event participants. By doing these, the top leaders worked together with their direct selling firm to respond to the competition from other direct selling firms and their network entrepreneurs.

As a Network Development Officer, the initial researcher worked for the designated direct selling firm for eight years and participated in or witnessed the annual events eight times. His observation indicated that the content of the annual event in different years was varied, but the theme of the events was always the same. It focused on promoting the founder's vision, mission and business opportunities and products excellence that represented the core values of the designated direct selling firm. The designated direct selling firm had successfully attracted several hundred thousand network entrepreneurs to sell its products in different countries. Of course, individual network entrepreneurs and their top leaders might have various business interests, and their views on the business vary. To attract a maximum number of participants joining the annual events, the matured network entrepreneur leaders endeavoured to accommodate these differences and address different network entrepreneurs' interests by promoting the core values of their direct selling firms by using the collaborative approach (Rahim, 1983). They tried to link the designated direct selling firm founder's vision and mission to individual network entrepreneurs' daily lives and encourage them to change by acquiring the

information from the annual event. They also explain how the message given by the annual event would be relevant to their career lives. Furthermore, these matured leaders also provide special travelling services, such as arranging transportation, booking hotel rooms, etc.

Considering the behaviours demonstrated in organising the annual event, the current study argues the leadership presented by these matured leaders was transformational leadership (Bass, 1985; Sparks & Schenk, 2001). The transformational leadership theory explains the unique connection between leaders and their followers that account for extraordinary performance and accomplishment for the organisation (Yammarino & Dubinsky, 1994; p. 790). Transformational leadership includes four critical dimensions such as 1. idealised influence, 2. inspirational motivation, 3. individualised consideration, and 4—intellectual stimulation (Bass, 1985). Transformational leaders arouse heightened awareness and interest in the organisation, increase confidence, and move followers from existence concerns to achievement and growth concerns (Yammarino & Dubinsky, 1994; p. 790). In addition, they motivate followers to achieve performance beyond expectations by transforming followers' attitudes, beliefs, and values instead of simply gaining compliance (Rafferty & Griffin, 2004; p. 330). Sparks and Schenk (2001) argued that transformational leadership was the only effective leadership approach in leading the network entrepreneurs within the NMO because network entrepreneurs are independent small business owners who have no obligations to comply with their leaders' instructions (Groβ & Vriens, 2019). The empirical evidence derived from previous studies shows that network entrepreneurs leaders applied transformational leadership style to lead the other network entrepreneurs and established a strong positive relationship with their following network entrepreneurs (Sparks & Schenk, 2006; 2001; Pratt & Rosa, 2003).

Our observation indicated that the most significant difference between annual event organisers and other events organisers was that the formers were matured leaders who thoroughly understood building network entrepreneurship and fully enjoyed the benefits of leadership bonus. The other leaders had neither fully understood the business development process nor wanted the leadership bonus (Designated direct selling firm, 2005). A leadership bonus is another significant payment comprised in the binary compensation plan designed by the designated direct selling firm (designated direct selling firm, 2005).

Any network entrepreneurs who have successfully built at least one business centre would have the opportunity to earn the leadership bonus as far as they met the criteria of 1) monthly retail, 2) recruiting new network entrepreneurs monthly, and 3) personally providing new entrepreneurs with training regularly. (Designated direct selling firm, 2005). The leadership bonus paid to a network entrepreneur leader was calculated based on the number of business centres he (she) had successfully built up (reached the maximum income). Initially, the leadership bonus was not a significant income for a network entrepreneur leader. However, as the number of successful business centres increased, the leadership bonus earned by the leader would increase exponentially (Designated direct selling firm, 2005). Therefore, the leadership bonus substantially impacted the matured network entrepreneur leaders' behaviours. To meet the criteria of earning a leadership bonus, the mature leaders operated their entrepreneurial network business by organising different business events, such as family, weekend, and monthly events, and promoting the annual event using different leadership styles simultaneously. For example, we observed some leaders who applied servant leadership style (Greenleaf, 1998), controversial leadership style (servant leadership laissez-faire leadership), transactional leadership style and transformational leadership to organise family, weekend and monthly and promote annual events simultaneously. The leadership style presented by these mature leaders caused ambivalence in their follower network entrepreneurs. So, when our initial researcher was chatting with a network entrepreneur, who had been in the network entrepreneurial business for quite a while, he asked her to comment on the leadership behaviours presented by her top leader (Mary). She made the following comments.

> *I know Mary very well. We went to the same primary and high schools from an early age in China. I followed my husband, and she followed her husband to come to Australia. So, we helped each other a lot when we just came to this country for the first several years. When Mary joined the current network entrepreneurial business, I was the first person recruited by her. At the very beginning, I thought Mary was an excellent leader and friend. She helped me a lot when I started my business. Now, I have changed my view of Mary. For some people, Mary is a good leader. For others, Mary is a hypocritical person, an*

interest pursuant, a conflict coordinator, or maybe a visionary. If you ask me to comment on Mary's leadership, I will say that Mary is a leader mixed up with good, bad, constructive, destructive, and visionary. Her leadership is ambivalent.

Zheng Guo, December 2010

(Translated from Mandarin into English by the initial researcher)

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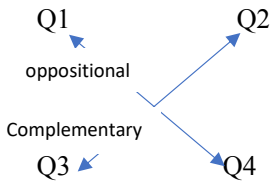
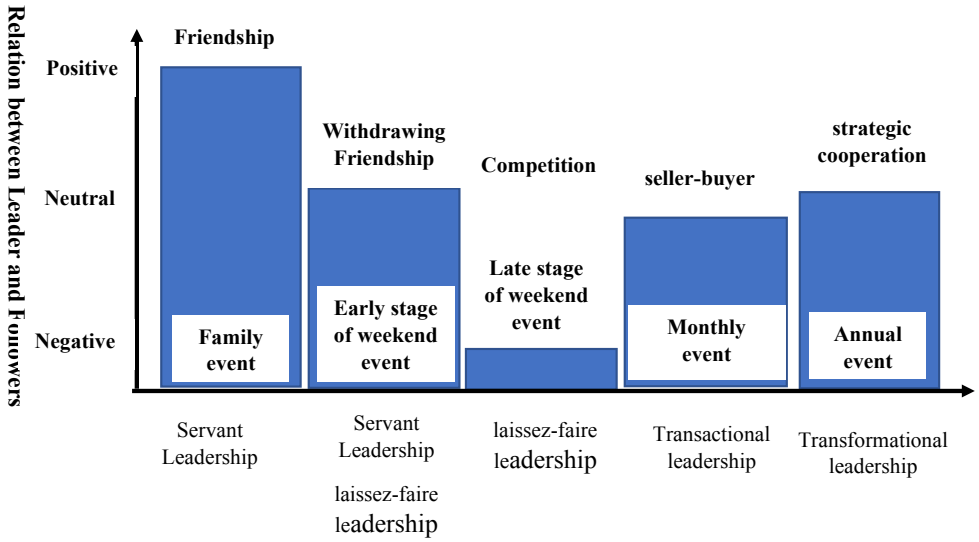
Figure 2
Classification of Stability and Change Relationships



	Stability	Change
	Habits, Rutines, Institutions, discipline, tight, coupling, limits, commitments, control, and low variance	Search, mindfulness, redundancy, openness, preoccupation with failure, imagination, and variety
Stability	Continuity, low varance, predictability, regularity, and reliability	
Outcomes (performance, objectives)		
Change	Adaptability, high variance, Innovation, and flexibility	

Q1 Exploitation	Q2 Change enables Stability
Selected manifestations: • Control reduces variation • Standardised rutines and for formalisation leads to efficiency and undermine innovation • Commitment and specification enhance reliability and reduce adaptability	Selected manifestations: • Redundancy and loose coupling increase reliability • Moderate experimentation mitigates drastic • Doubt and minffulness foster security and continuity
Q3 Stability enables change	**Q4 Exploration**
Selected manifestations: • Control enables design and invention • Routine and formalisation help manage the nonrountine • Commitment and specification enhance adptability	Selected manifestations: • Redundancy and loose coupling promote flexibility and innovation • Experimentation promotes adaptability and undermines reliability • Doubt stimulates discovery and change

Figure 3: Leadership behaviours and Relation between the Leader and the Follower Network Entrepreneurs



Professional working mothers' experience of COVID-19 in South Australia: an interpretative phenomenological analysis

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Professional working mothers' experience of COVID-19 in South Australia: an interpretative phenomenological analysis

ABSTRACT: *This paper applies work-life boundary and enrichment theories to explore the experiences of working mothers in South Australia during the COVID 19 pandemic and lockdowns. Interpretative Phenomenological Analysis (IPA) was conducted, with six participants interviewed while pandemic restrictions continued. IPA is a qualitative psychology method that generates richly idiographic accounts of human experiences based on relatively small samples. The data highlights the benefits and challenges that participants associated with working from home. Participants described a greater intertwining and blurring of work and non-work roles. Although generally resilient, they felt particularly vulnerable to pandemic related effects due to existing gender inequalities, calling for more supportive organisational cultures if working from home is to facilitate the work-life enrichment they seek.*

Keywords: COVID 19; working from home; work-life boundary; work-life enrichment.

The COVID-19 pandemic led to sudden and dramatic changes to the way we work. One such change was a shift from office to working from home (WFH) in many organisations (Palumbo, 2020). This was a particular challenge for parents, especially women who continue to shoulder the major burden of childcare and other domestic work (Frize et al. 2021). Working conditions in and out of pandemic lockdowns were very different to normal working circumstances. During lockdowns, home-workers often shared domestic spaces with other family members, while even out of lockdown, hybrid working had considerable impact on work-life interactions and relationships. The impact of these changes on working mothers appears substantial but remains under researched. Thus, this paper explores working mothers' lived experiences in South Australia during the pandemic. It uses Interpretative Phenomenological Analysis (IPA) to investigate participants' perceptions of how WFH influenced their productivity, wellbeing and work-life balance (WLB). It also considers practices that could be adopted to contribute to work flexibility, gender equality and work-life enrichment.

WORK AND LIFE IN THE CONTEXT OF COVID-19 PANDEMIC

Australian scholars have used different methods in researching WFH experiences. For example, Couch et al. (2020) presented their own personal reflective narratives, analysing how these stories reflect different dimensions of WFH. They suggest that COVID-19 affects women in complex ways, arguing that the flexibility of WFH enables working mothers to increase work participation

(Couch et al. 2020). Williamson et al's (2020) survey of 6000 public sector employees and managers shows how the pandemic has changed traditional models and expectations of future work across Australia, despite some resistance to flexible work practices.

Worldwide, the literature discusses the changes to work and life brought by the pandemic and the sudden transition to working from home (Allen et al. 2021). Key areas of concern include the challenge of virtual teamwork for homeworkers and managers, the need to cope with a demanding work-family interface and increasing job insecurity (Rigotti et al. 2020). Researchers emphasise the need to develop positive flexible working cultures that support employees' WLB and protect their health and wellbeing (Darouei and Plutt 2021, Vyas and Butakhiero 2021). Although the pandemic has led to more organisations implementing WFH policies, our understanding of the lived experience of homeworkers and their work-life interactions remains limited.

Various conceptual frameworks seek to illuminate work and life domains, including 'resources, segmentation, enrichment/enhancement, facilitation, spill over, social identity, compensation, conflict, border and boundary' (Rincy and Panchnatham 2014, p.1). In this paper, WLB refers to 'an overall appraisal of one's effectiveness and satisfaction with work and nonwork roles' (Allen et al. 2021, p.63). This paper also draws on boundary theory and enrichment theory to conceptualise and examine the work and nonwork interface surrounding work and life domains (Wepfer et al. 2018). Boundary theory concerns the ways that individuals define, maintain, manage, and change boundaries between work and other life domains to help navigate the world around them, including the multiple roles they play in the society (Cruz and Meisenbach 2017). Working mothers' role boundaries can vary from highly segmented to highly integrated, influenced by personal preferences, individual behaviour, and environmental conditions (Kreiner 2006; Allen et al. 2021). Work-life enrichment explores how far 'experiences in one role improve the quality of life in other roles' (Powell and Greenhaus 2006, p.72). Lapierre et al. (2018) suggest that employees experiencing greater work-life enrichment tend to be more satisfied in work and life, which increases job commitment, mental and physical wellbeing.

This paper seeks to draw from these two theories to help explore the experiences of a small sample of working mothers in South Australia. It will particularly focus on how they balanced work and home activities in different stages of the pandemic and what influenced their WFH experiences.

METHODOLOGY

Participants

IPA uses 'small, purposively, and carefully situated samples' (Smith et al. 2009, p.29) to enable a thorough, detailed, comprehensive, and case-by-case analysis (Larkin et al. 2006). Six working mothers were interviewed, and three of these with individual biographies below provide the focus of this paper. Smith (2011) suggests extracting material from 3 participants in studies sampling 4-8 interviewees, to ensure a balance between depth and density of evidence. Such sampling is crucial to double hermeneutics, providing a balance of idiographic and cross-case analysis (Smith 2009). All participants worked from home with family members during the pandemic.

Biographies – a sample within the sample

Julia is in her 30s and lives with her 3-year-old daughter and her husband. Before the pandemic she worked for a private law firm in South Australia and never worked from home. She joined the public sector in the beginning of 2021 as a part time lawyer. She worked with her family members during the pandemic. Her husband shared parenting duties because of the flexible nature of his work and her extended families were also very supportive in babysitting. She described that part of her experience in detail and provided explicit examples. She compared the cultural differences in different organisations and expressed her expectations about future WFH arrangements.

Kate is a single working mother who lives with her 15-year-old child in South Australia. She has 100% custody of her child who has serious mental illness. She works for the government as a full-time consultant. Kate is the only participant who worked from home before and during the pandemic. She has been working from home 3 days per week on fixed days. Kate truly enjoys WFH and discussed how critical it is to have this flexible working arrangement. It helped her to survive and thrive as a single mother. She has established her own WFH routine having received training. She

used colourful adjectives to express her satisfaction, such as 'amazing', 'fantastic', and 'awesome'. She discussed how WFH increased her wellbeing and reduced her stress. She compared the cultural differences in flexible working with different organisations with detailed examples. She expected to continue her hybrid working model – two days in the office and three days at home. She briefly discussed the challenges of WFH. Overall, she had quite successful WFH experiences.

Monica is in her mid-30s and is a manager working for the government. She lives with her 5-year-old daughter and her husband in South Australia. Her husband shared parenting duties when they both worked from home. She works part time (0.9) with a team of seven staff and never worked from home before the pandemic. She now works from home for a half day per week. She described how the lockdown affected her WFH experience with a young child. Out of lockdown, she spoke mainly of the benefits of WFH and raised the challenge of communicating in a hybrid workplace. She discussed the benefits of WFH for employers and her understanding of organisational working from home policy and culture change. Monica believed the resistance to WFH comes mainly from senior managers. She shared her experience in managing her hybrid team and approving staff WFH.

Semi-structured interviews

Semi-structured interviews began with a broad question ('can you please tell me a bit about your experience of working from home and your working conditions at home?') and followed by questions more explicitly seeking a focused narrative ('what is a typical day working from home like?'). They were then largely participant led, with the interviewer sensitively probing to re-direct or further explore the participants' story. This ensured that the key issues were covered, namely, lived experiences, feelings, thoughts, emotions, benefits, challenges, and expectations about flexible work arrangements. Participation was voluntary and all names used in this paper have been anonymised.

Data Analysis

Smith et al. (2009) encourage researchers to deeply explore the participants' 'lived experience' and analyse the data case by case. The interview recordings were transcribed, followed by multiple cycles of analysis and coding in accordance with IPA guidelines as the following steps:

(1) **Full immersion in the data** by reading and re-reading the verbatim interview transcripts while listening to the recording and highlighting the key words. This step helped the researcher to enter the participant's world by immersing herself into the original data (Smith et al. 2009).

(2) **Initial Noting** involves developing interpretative notes in NVivo, followed by coding, highlighting and contextualising key words. This developed into narrative notes and a mind map for each individual case, helping to draw on concepts developed across the transcripts.

(3) **Discovery of themes and connections across the themes** involves identifying and examining the phenomena relating to WFH. The idiographic analyses helped categorise further emerging codes and patterns that developed into cross-case themes.

(4) **Moving to the next case – e**ach case was coded independently before combining them into an overall picture.

(5) **Looking for patterns and drawing the big picture** involves moving from individual cases to seek broader themes. Developing a tree structure helped illustrate and reveal the broader factors that influenced participants' experiences and WFH outcomes. The emergent themes identified and elaborated on the subjects that concerned participants.

The analysis followed the guideline of 'trying to make sense of the participant and trying to make sense of their experience' (Smith 2011, p. 24), focusing on both convergence and divergence, drawing on three key tools of qualitative research: reflexivity, reflection, and journaling (Vicary et al. 2017). The emergent themes are presented and synthesised in the following sections.

FINDINGS

This section outlines the two main themes that emerged from the analysis. These represent: 1) changes to working practices for mothers, and 2) perceived success factors of WFH.

Changes of working in a new context

The data showed how working mothers' work and lives became more vulnerable to disruption during the pandemic. This resonates with Frize et al's 2021 finding that a higher portion of women than men worked from home during the pandemic. They also spent more time on childcare, although

men did share more parenting duties than in the past. This was particularly challenging in families with children requiring home-schooling and young children requiring constant attention. The overlapping work and domestic responsibilities were a major concern. Julia explained, 'It is very different from when they are in childcare… over COVID, we pulled Emily out of Childcare, and that was HELL. My husband and I were both working from home that week, otherwise, it would be completely unmanageable.' Emphasising its 'horrific' and 'really, really, really stressful' nature demonstrates the strong emotions aroused by the challenges. Monica compared her WFH experiences when her daughter was in kindergarten (2020) and in school (2021). The latter was 'much harder' for her because kindergarten had no home-schooling.

Out of lockdown, participants had more positive experiences with hybrid work models. Julia explained 'if you do part from home, part from work, you get all the benefits.' She could integrate work with domestic duties more flexibly so 'you get the best both worlds. So, I think, part office, part home… that's my preferred model'. Similarly, Kate said, 'I think I get lots of work done, I still have interactions.' From an alternative perspective, Monica pointed out that managers were tempted to use flexible working to increase employee workloads. She explained 'so, you're actually getting more hours out of an employee who was like, "No, I need to work part-time, it's too hard"'.

Outcomes in work and life domains

COVID-19 has blurred the boundaries between work and nonwork roles confronting most participants with an unexpected change to their work arenas. The sudden shift from office to home made it harder for those working mothers who prefer clear work-life segmentation to enact their preferred boundary management. Julia's story provides a good example; Julia preferred to separate work-life spheres, but in her new situation pressured 'on my days off, if my phone would ring and I would have to answer it' even when looking after her three-year-old child who would ask her "mummy, mummy, who is that?"' She then shared her feelings, 'that just distracts you for the rest of your day, because you think about it and worry about it.'. When working from home, Julia uses a baby gate to separate work and life zones. She has gradually learned to manage her work-life boundary, 'so, if I have work from home that day, and I have finished my hours, when I finish, I go

get my child, and then that's it!' Some employees do seem more comfortable with blurred boundaries if they value the resultant flexibility. As Kate said, 'I feel privileged to be able to work from home and have that sort of flexibility, so I put in extra responding right away'. All the participants adopted dedicated areas to facilitate physical work-life segmentation at home. Those with older children established clearer boundaries than those who have young children requiring constant attention, home-schooling or close supervision.

Work-life balance: WLB has been a key measurement for examining work demands (adaption to using online tools) and life demands (lack of childcare resources) in the novel pandemic context. These demands have shifted and increased for many workers. Participants described how WFH improved their WLB. Segmentors, like Julia, avoided installing work email on her smart phone and used her baby gate to differentiate work when working at home. She also valued the chance to do 'practical small things', such as clothes washing, cooking and dishwashing at more convenient times than would be possible working in the office. Julia explained, 'it definitely helps with work and life balance; it just makes these errands that much easier.' Flexible working hours gave all participants more freedom when attending to personal tasks. This is particularly important for parents who have children with health needs. Kate, as a single mother, saw working from home as the only way to balance her work, life and financial needs with her son's health needs. Monica, as a manager, observed,

> work-life balance is much better when people can work from home when they need to. Whether that's because you've got a tradesperson coming, whatever. It stops people taking sick leave, taking annual leave which is supposed to be for rest and relaxation…it just helps people live more comfortably and under less pressure and less stress when you can have that flexibility to work from home when you need to.

Adaption: Most participants reported high levels of stress during short-term lockdowns. Initially it was difficult to 'switch off' from work modes. Monica's account reinforced Felstead and Henseke's (2017) finding linking remote working with an inability to switch off. She explained, 'it does mean work is always there and you never actually get away from it, which I'm not sure is healthy for anyone.' During longer lockdowns they learned to adjust to more appropriate hours gradually adapting to new work demands, somewhat restoring wellbeing (Allen et al. 2021).

Wellbeing: The data reinforces the claim that WFH can enhance female employee's wellbeing if they can exercise more control over their work-life balance' (Avis 2018; Vyas and Butakhieko 2021). For Julie and Monica, WFH allowed them to do big jobs and focus on more strategic jobs. Beyond lockdown, hybrid models also contributed to participants' perceptions of health and wellbeing. Julia enjoyed the choice to 'finish work a bit earlier; I can take the dog for a walk at lunch time…so, life is better. When there's a small dog sitting on your lap no matter what you are doing… it's like a mental health boost.' Similarly, Monica 'found it better, because I could go for a walk. I live around the river and was doing bike riding. I was fitter and healthier.' Kate also felt 'definitely less stressed and a big increase in wellbeing – and it is fantastic! For me, I am happy, I am happy with my own.' In relation to social wellbeing, she pointed out, 'there's also a social thing, you can feel a bit excluded when you work from home.'

Thoughts and expectations about working from home

Benefits and challenges: During lockdowns, WFH with children who require attention created various problems. However, out of lockdown, WFH flexibility was seen as a major benefit by all participants. It provided flexibility and convenience when arranging domestic-related appointments, allowing them to exercise more control of their own workloads and personal priorities. Happy and joyful words such as 'amazing', 'fantastic', 'luxury', 'incredibly helpful', 'feeling privileged' and 'beneficiary' were used by most participants. They enthusiastically discussed 'flexibility in arranging work and life', 'less distractions', 'less needs to take leave', 'saved childcare fees', 'saved travel cost and hours', 'shorter days and more quality family time' and 'practical little things'. This is consistent with the literature, where scholars emphasise the potential benefits of WFH of greater autonomy and flexibility in work and life schedules (Crawford et al. 2011; Beauregard et al. 2013). However, participants did also raise possible drawbacks, such as 'a lack of social interactions', 'IT problems', 'proof of availability', 'lack of learning opportunities', and 'worrying about career progression'.

Hybrid work models and work-life enrichment: The accelerating digitalisation during the pandemic has enabled some employees to mix WFH days with office days creating hybrid working models (Darouei & Pluut 2021) based on flexible approaches to workplace and time (Gratton 2021;

Nelke 2021). During the pandemic, personal places have increasingly been used as workplaces, while the pandemic has also triggered an adjustment to at least some applications of asynchronous time (not existing or occurring at the same time), again largely facilitated by digital workspaces (Gratton, 2021). Hybridisation has also enabled employees to take more control of their time (autonomy over working hours). Participants demonstrated this when describing how they could better fit their work into personal schedules and how it allowed them to align with their main work needs of 'focus' and 'teamwork'. They saw this as contributing to greater work-life enrichment.

Hybridisation enables participants to benefit from working in offices to maintain social interactions with colleagues, while enjoying a comfortable and quiet working environment when WFH. With more control over working time, the hybrid model boosted the participants' physical energy by enabling exercise and recreation, and emotional energy from spending more quality time with their families. This also boosted concentrated hours through uninterrupted hours of labour that allowed participants to 'work on big and strategic jobs' (Monica). This is consistent with Power and Greenhaus' (2006) work-life enrichment theory, which is 'the extent to which experiences in one role improve the quality of life in other roles' (2006, p.72). All participants gave examples of how the resources and support they gained in the work role helped fulfil family roles and contributed to family life quality. Similarly, resources they felt they gained from family enhanced their job performance, aligning with discussions in the bidirectional enrichment literature (Chan et al. 2016).

Expectations: most participants expect to continue the hybrid model after the pandemic. Monica and Kate hope they can keep their negotiated WFH arrangements. Julia would 'LOVE to have a day in a week… if I work 5 days, I maybe want to work from home 2 days.' However, some participants are less enthusiastic about WFH in the future because of an expected negative impact on their career advancement. Kate worries, 'I am not sure if I am progressing my career if I am not there in person, because there are still expectations because there might be people above the directors who think, 'I would like to have people who would be here for most of time.''

Success factors

Parenting needs: Participants' WFH experiences largely depend on their parenting needs, children's age, schooling and health. Julia stated 'everything depended on where Emily [her young child] was'. Similarly, with her child moving from kindergarten to school in 2021, Monica compared her experiences of different stages of the pandemic. Lockdown was 'much, much harder. When she is home, being so young, she actually needs focused attention'. She found home-schooling challenging and her daughter would sometimes interrupt work calls. However, out of lockdown, Monica's half days WFH enabled her to accomplish 'more than I do in a full day at the office, when Anna's at school. When she's home, that's harder'. Kate with a teenage son with mental health issues found 'the most difficult thing was the home-schooling stuff, to have to manage at the same time'.

Work types and work roles: These are important factors affecting WFH experiences. One participant (a lawyer) explained, 'on my non-working days, I'm taking phone calls… because clients don't know that I'm off on a Monday, and if something is urgent, you know you've got a court deadline you've got to do it'. Participants in administration and business roles have more flexibility. Kate as a full-time consultant stated, 'the work I do now is purely on the computer… you've got emails, you've got phones ringing, you got MS Teams…' She has been able to work from home three days a week and successfully established her WFH routine.

Family circumstances: Participants' WFH experiences were influenced in different ways by their families. Monica and Julia received support from their husbands. Monica partnered with her husband, saying 'I tag teamed with my husband if we had meetings or got my daughter to do something else. I'd be in a meeting, and she'd be with my husband, or if he had a meeting, I'd be providing the care.' Kate, being a single mother with 100% custody of her son, pointed out, 'I would say that I wouldn't cope mentally, all the things I am thinking is all the things I manage. I was still capable of doing my work, it was just not easy to balance watching over my son because he was basically threatening to kill himself'. Clearly, single parents were more likely to struggle more during the pandemic.

Organisational and social factors: The interview data suggests that the attitudes, social culture of working in the office and the managers' trust issues can be a key barrier to WFH

(Williamson et al. 2020). Some participants described resistance from their line managers, because 'they are not used to the virtual accountability', and others perceived that resistance originated from organisational culture and executive management teams (Julia, Monica and Kate). Related to this, communication and trust are key factors for WFH management. Julia suggested 'I think, it's all to do with communication, that's the key factor.' In relation to trust, she added,

> for me, it's all about – trust your staff. If you trust your staff, they are more likely to respond to that, they want to do the best for you… when I work from home, I feel the pressure to get the work done and be productive, that I don't feel like that in the office, that's internally driven.'

Social and environmental factors: All participants believed that the shift to WFH was triggered and normalised by the COVID-19 pandemic. They described this as breaking the cultural and technological barriers that had limited WFH in the past. As Julia said, 'the pandemic has just made that much easier to ask for WFH, because it's normalised a lot more quickly.' Culturally reinforced gendered parenting roles continue to frustrate the participants. Most suggested a need for greater equity in parenting responsibilities to improve WFH experiences. Kate said, 'I don't' mean it to just be parent, fathers or whatever, everyone's got a reason for why they need some type of flexibility, they might have an elderly mother… case by case, work out what's what… as long as it's not halting your business.' Monica argued that it would be less of a stigma for women to request WFH if social attitudes of men working from home were normalised. This indicates that fathers also need to have greater access to WFH in the future.

CONCLUSION

This paper investigates working mothers WFH in different circumstances and different stages of the COVID-19 pandemic. It explores their perceived work-life boundary management, productivity, wellbeing, thoughts, and expectations of future work arrangements, suggesting that the sudden and unanticipated WFH during lockdowns contributed to increased employee stress. Beyond lockdown, hybrid working models provide benefits to employees and employers. The bi-directional resources hybrid workers gained from work and home increased their WLB and work-life enrichment.

Participants emphasised the importance of supportive organisational cultures for work-life enrichment, with considerable implications for employer policy. Managers can potentially develop WFH options that promote flexible working cultures to attract talent, improve gender equality and enhance competitiveness. Nelke (2020) stresses the need for organisational digitisation and agility within new working models. However, it is not clear how far the changes caused by COVID-19 will be taken forward after the pandemic. This would require managers to trust and engage their employees, exploring new working models together. For example, empowering employees to organise their work with flexibility of time and place offers great potential for future productivity. This could contribute to greater employee satisfaction, better work management and team coordination. It would also be crucial for remote workers to communicate openly and clearly with families and managers about the work-life challenges they face to receive the necessary support.

The pandemic has started to highlight the potential of WFH and how work-life interactions influence work engagement and performance when staff WFH (Darouei and Plutt 2021). Although research has explored the relationship between WFH and work-life interactions, there was a need to focus more on individual experiences. This paper starts to fill this gap, using work-life boundary and enrichment theory to qualitatively explore individual experiences and investigate the consequences of WFH for organisations and employees. The discussion of the relationship between work and life domains contributes to our understanding of hybrid working models. This also has implications for remote workers' WLB, family relationships and career advancement. More research into WFH is required, especially hybrid working models. Future studies may consider more diverse organisational settings, work types, gender types and varied countries to explore further remote work, organisational culture and public polices to obtain gender equality and work-life enrichment.

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Extending Understanding of the Leadership of Employee Wellbeing: A Healthy Leadership and Actor-Network Theory Approach

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Extending Understanding of the Leadership of Employee Wellbeing: A Healthy Leadership and Actor-Network Theory Approach

ABSTRACT: *Leadership is linked to both improving employee wellbeing and the causes of poor wellbeing. The healthy leadership literature is explored to understand how leaders can support and improve employee wellbeing. Several leadership practices are identified along, with three different workplace actors, followers, leaders, and the organisation, who each contribute to the leadership of employee wellbeing. Understanding of these and other workplace actors is limited. Actor-network theory broadens the concept of workplace actors by including human and non-human actors. By combining healthy leadership and actor-network theories, new framing is proposed to extend the current understanding of the leadership of employee wellbeing through developing a better understanding of who is involved and how they are involved in the leadership of employee wellbeing.*

Keywords: Leadership, Healthy Leadership, Employee Wellbeing, Workplace Actors, Actor-Network Theory

Introduction

Employee wellbeing is an important concept due to the wide range of significant impacts that employees can experience. Poor employee wellbeing contributes to psychological distress (Boddy et al., 2021; Maslach & Leiter, 2017), injuries (McHugh et al., 2020), the development of diseases (Bakker & de Vries, 2021), and at times, fatalities (Goh et al., 2016; Timming, 2020). In contrast, employees can also experience positive wellbeing, including feelings of pleasure, fulfilment (Jaskeviciute et al., 2021; Thorsteinsen & Vittersø, 2020), and engagement. Engaged employees experience energy and dedication (Sonnentag, 2015) and are enthusiastic about their work and life (Hamilton Skurak et al., 2021; Liu et al., in press).

The coronavirus disease 2019 (COVID-19) pandemic has negatively impacted employee wellbeing in several ways (Chen, 2021; Meyer et al., 2021); however, employee wellbeing has been declining for at least the past decade (Gallup, 2021). Workplaces continue to become more stressful (Koinig & Diehl, 2021; Rudolph et al., 2020) and Gallup (2021) highlight that 31% of employees in Australia and New

Zealand worry a lot each day, and 45% feel stress throughout their day. Understanding ways in which employee wellbeing can be improved is central to this conceptual paper.

In the following literature review, employee wellbeing is conceptualised and the importance of leaders and their leadership in improving employee wellbeing is highlighted. As such, significant leadership theories that have been used in employee wellbeing research are summarised, with healthy leadership explored and then combined with actor-network theory to better explore workplace actors and how they are linked to the leadership of employee wellbeing. From the combining of healthy leadership and actor-network theories, new framing is proposed to extend the current understanding of the leadership of employee wellbeing.

LITERATURE REVIEW

Conceptualising Employee Wellbeing

Wellbeing, the "science of happiness" (Thorsteinsen & Vittersø, 2020, p. 519), is a broad (Sonnentag, 2015) umbrella concept (Rook et al., 2021) which lacks a singular and consistent definition (Chan et al., 2021; Cooper & Leiter, 2017). Likewise, with its narrower focus, employee wellbeing also lacks consistent conceptualisation (Anderson et al., 2021; Brunetto et al., 2021). Instead, employee wellbeing encompasses many dimensions and ideas (Liu-Lastres & Wen, 2021; Rook et al., 2021), including satisfaction, fulfilment (Grant & McGhee, 2021; Thorsteinsen & Vittersø, 2020), negative, physical (Inceoglu et al., 2018) and social (Fisher, 2014) dimensions. This range of inter-related (Jaskeviciute et al., 2021), subjective and non-subjective dimensions (Burke, 2017; Rook et al., 2021) highlights a complex and dynamic concept that can impact employees in a range of different ways. For example, poor employee wellbeing can contribute to psychological distress (Boddy et al., 2021; Maslach & Leiter, 2017), injuries (McHugh et al., 2020), the development of diseases (Bakker & de Vries, 2021), and at times, fatalities (Goh et al., 2016; Timming, 2020). In contrast, employees can also experience positive wellbeing, including feelings of pleasure, fulfilment (Jaskeviciute et al., 2021; Thorsteinsen & Vittersø, 2020), and engagement. Engaged employees often experience energy and dedication (Sonnentag, 2015) and are enthusiastic about their work and life (Hamilton Skurak et al., 2021; Liu et al., in press).

Employee wellbeing is a dynamic and complex concept and to understand some of the ways in which employee wellbeing can be improved, identifying the causes of poor wellbeing may be useful.

Leadership and the Causes of Poor Employee Wellbeing

There are many causes of poor wellbeing and several scholars support the idea that working conditions such as job demands and stressors can lead to poor employee wellbeing (see for example Bakker & de Vries, 2021; Goh et al., 2016; Haver et al., 2019; Schwepker et al., 2021; Sonnentag, 2018). Brough et al. (2021) argue that the probable causes of workplace stressors include "excessive work demands, inadequate work resources, and exposure to psychologically unhealthy work environments predominately marked by interpersonal conflicts including 'toxic leadership'" (p.8). The practices of leaders are linked to both improving employee wellbeing (Inceoglu et al., 2018; Jimmieson et al., 2021) and the causes of poor employee wellbeing (Boddy et al., 2021; Brough et al., 2021; Goh et al., 2016). As leaders play a "pivotal role in organisations and their behaviour has a significant impact on the work behaviour, performance and wellbeing of their employees" (Inceoglu et al., 2018, p. 179). Goh et al. (2016) argue that creating a completely stress-free working environment is unlikely, however, through organisational leadership, some factors, such as workload, job control and support, can improve employee wellbeing. As such, understanding how leadership plays a role in improving employee wellbeing is vital and will be explored next.

Leadership of Employee Wellbeing

Several leadership theories have been used to research employee wellbeing, including leader-member exchange (LMX), authentic, and transformational leadership (Inceoglu et al., 2018). Despite the use of these leadership theories, each has limitations which may make them less suitable for exploring and extending understanding of the leadership of employee wellbeing. For example, when leaders use LMX theory and engage in different quality relationships with employees, some employees experience reduced wellbeing resulting from increased stress because of perceptions of organisational injustice (Liang et al., 2021). In addition, Gottfredson et al. (2020) indicate that LMX has so many fundamental issues that the theory should no longer be used within research; instead, new relational theories are needed. Limitations are also found with authentic leadership theory with Einola and Alvesson (2021a)

arguing that authentic leadership theory emphasises "not so much what the leader does but who the leader is, or should be" (p.488). They caution that the theory could lead to unrestrained, self-focused leaders (Einola & Alvesson, 2021a) which is unhelpful to improving employee wellbeing. Several different limitations are also found with transformational leadership theory. First, the original theory asserts that "the transforming leader recognises and exploits an existing need or demand of a potential follower [employee]" (Burns, 1978, p. 4). Exploiting employee needs appears at odds with a theory of motivation and lifting employees. Second, transformational leadership theory has also been criticised for being poorly conceptualised, overly ideological and leader-centric (Einola & Alvesson, 2021b), resulting in top-down leadership (Beerel, 2021). Third, the measures associated with transformational leadership may not be specific enough to assist leaders in influencing employee health and wellbeing (Arnold & Rigotti, 2021; Franke et al., 2014). Last, Klug et al. (2019) argue that as transformational leadership has been developed to improve performance, the theory may not be appropriate for use in health-focused leadership.

In contrast, a relatively new theory, healthy leadership, aims to provide an intentionally employee wellbeing focused (Krick et al., in press) leadership framework (Klug et al., 2019), which expands on traditional leadership theories (Yao et al., 2021). The theory was developed to help researchers understand and identify leadership behaviours that could influence and enable improved employee wellbeing and a healthy work environment (Jiménez et al., 2017). With its specific focus on employee health and wellbeing, healthy leadership theory will be used to explore leadership practices that may contribute to improved employee wellbeing.

Healthy Leadership

Healthy leadership is a relatively new concept in leadership studies and is the general term given to a cluster of health and wellbeing focused leadership theories (Rudolph et al., 2020). Healthy leadership has been conceptualised in several ways, including the intentional focus of leaders on employee health (Gurt et al., 2011; Horstmann & Remdisch, 2019; Koinig & Diehl, 2021). In addition to, enabling employees to control and improve their health (Eriksson et al., 2011) and the focus of leaders on

designing working conditions to improve health and wellbeing (Bregenzer et al., 2019; Klebe et al., in press). In this paper, healthy leadership is defined as,

> [A] health-promoting leadership culture not as a specific leadership strategy or leadership style but more as a set of leadership behaviours that is in continuous interaction with the working environment. The aim … should be to gradually design the working environment in a way that it is able to enhance health" (Jiménez et al., 2017, p. 4231).

Jiménez et al.'s (2017) definition provides a broad conceptualisation and moves away from prescriptive leadership styles which specify characteristics that leaders should have or need to have, to be successful (Einola & Alvesson, 2021a). Instead, as defined by Jiménez et al. (2017), healthy leadership is an ongoing process rather than an end state; leaders interact with the workplace and employees to develop an organisation where the meaning of wellbeing and the needs of employees are negotiated and monitored. For example, followers may have altered family circumstances that change their wellbeing needs, or the organisation may develop in new markets, creating different wellbeing impacts and subsequent needs. By viewing healthy leadership according to Jiménez et al.'s (2017) definition, the leadership of employee wellbeing involves contributions and influences from the work environment, in an ongoing process that recognises employee needs and stressors change. With a specific focus on health and wellbeing leadership, healthy leadership provides an ideal foundation for exploring ways that leadership may assist in improving employee wellbeing.

Exploring the Leadership of Employee Wellbeing with Healthy Leadership

With healthy leadership defined, the focus turns to leadership practices that leaders can implement to help improve employee wellbeing. A range of leadership practices are identified in the healthy leadership literature and many fit into three broad themes: 1) leader behaviours, 2) developing the work environment and 3) normalising behaviours and values. The themes are distinct, though some overlaps exist; for example, part of developing the work environment consists of normalising behaviours and values, as outlined below.

Leader Behaviours

A prominent aspect of healthy leadership theory is the need for leaders to be aware of followers' health and wellbeing (Franke et al., 2014; Gurt et al., 2011; Horstmann & Remdisch, 2019; Jimenez et al., 2017). Leader behaviours also include taking action to clarify job roles (Furunes et al., 2018; Horstmann & Remdisch, 2019), creating boundaries around work (Efimov et al., 2020; Horstmann & Remdisch, 2019), role modelling appropriate behaviours (Horstmann & Remdisch, 2019), and communicating with followers (Efimov et al., 2020; Furunes et al., 2018). In addition, leaders can also encourage followers to adopt wellbeing-focused behaviours (Jimmieson et al., 2021), actively listen to (Bregenzer et al., 2020) and build trust with followers (Efimov et al., 2020). Further, leaders need to care about followers' health and wellbeing (Franke et al., 2014; Jimenez et al., 2017; Santa Maria et al., 2021), particularly during high-stress situations, as leader support may buffer some of the negative effects of increased job demands (Krick et al., in press). Leader behaviours and support are important elements of healthy leadership theory, and healthy leadership behaviours need to include followers and leaders (Klug et al., 2019). Leaders need to be aware of their own wellbeing (Franke et al., 2014) and care for themselves (Grimm et al., 2021). The behaviours of leaders have an important role in supporting and improving employee wellbeing in the healthy leadership literature, however, these behaviours contribute along with other aspects of healthy leadership to support employee wellbeing.

Developing the Work Environment

Workplace leaders are involved in developing the work environment by limiting excessive workloads and overtime, while providing followers with the opportunity to recover (Boehm et al., 2016). Leaders can also develop the work environment by enabling follower autonomy (Furunes et al., 2018; Jimenez et al., 2017). In addition to setting reasonable and attainable expectations for workloads and goals (Efimov et al., 2020; Eriksson et al., 2011), providing development opportunities (Furunes et al., 2018) and social support (Furunes et al., 2018; Jimenez et al., 2017). Further, Santa Maria et al. (2021) argue that leaders need to be aware of industry or position-specific requirements that may impact employee wellbeing and understand the context and conditions of work (Bregenzer et al., 2020; Efimov et al., 2020).

Normalising Behaviours and Values

Leaders' attitudes can also influence healthy leadership outcomes (Grimm et al., 2021), and developing positive attitudes toward employee wellbeing, such as sickness is not weakness is important (Boehm et al., 2016). Normalising values and attitudes regarding the wellbeing of employees may need to occur within an organisation's culture (Bregenzer et al., 2020; Gurt et al., 2011) and developing open and flexible working conditions may also require changes to an organisation's culture (Efimov et al., 2020). Despite the suggestion that attitudes, values, and changes may need to become integrated into an organisation's culture, it is unclear how this happens.

Normalising values and behaviours appear to be the least understood and developed of the healthy leadership practices, though all three areas could be further developed, particularly understanding how these practices lead to improvements in employee wellbeing. In addition, the effectiveness of healthy leadership is influenced by several factors. First, through follower expectations of leaders (Kaluza et al., 2021), next, through the consistency of leadership (Klug et al., 2019), and last, through the context leadership occurs in (Horstmann & Remdisch, 2019). Bregenzer et al. (2020) highlight that understanding and addressing leaders' working conditions, and context is also necessary. In addition, healthy leadership is likely not limited to those in formal leadership roles.

Workplace Actors in Healthy Leadership: Followers, Leaders and the Organisation

Healthy leadership literature often leans toward leader-centrism (Kaluza et al., 2021). The leader is often viewed as doing things to others and there is limited focus on how employees influence leaders (Eberz & Herbert Antoni, 2016 as cited in Rudolph et al., 2020). Kaluza et al. (2021) argue that the perspectives of other workplace actors are needed, which supports Horstmann and Remdisch's (2019) earlier findings that leadership is present and needed at employee, leader and organisation levels.

The practices of leaders have been discussed in previous paragraphs, but how employees and the organisation participate in healthy leadership and the leadership of employee wellbeing is discussed next. For clarity, in the following discussion employee actors will be termed followers (Alvesson, 2019; Uhl-Bien et al., 2014) to indicate employees who have at least one person in a position of authority that leads them. The organisation level will be termed, organisation actors.

Followers

Followers are found to participate as actors in the leadership of employee wellbeing within the healthy leadership literature as they build relationships with leaders and react to the actions of leaders (Bregenzer et al., 2020). In addition, they contribute as actors by participating in decision-making (Furunes et al., 2018). Horstmann and Remdisch (2019) also argue that followers need to be responsible for their own wellbeing by valuing and acting to protect their wellbeing and, when needed, make relevant changes.

Organisation Actors

The idea that an organisation can participate as an actor is debated (Hwang & Colyvas, 2020); however, several scholars assert that organisations can be considered social actors (see for example Ashforth et al., 2020; Hwang & Colyvas, 2020; King et al., 2010; Westman et al., 2019). When organisations participate as an actor, they often undergo anthropomorphism and take on human-like qualities (Ashforth et al., 2020). Anthropomorphism can occur because organisations "are created and maintained by people and, thus, are rather easily and even reflexively construed as individuals" (Ashforth et al., 2020, p. 32). As a result, in this paper, the view is taken that organisations, along with followers and leaders, can become workplace actors.

Organisation actors participate in healthy leadership by providing adequate resources (Horstmann & Remdisch, 2019), enabling appropriate job designs, and keeping work demands at a reasonable level so leaders can provide staff care behaviours (Eriksson et al., 2011; Klug et al., 2019). The organisation actor also influences the flexibility of job roles, how followers and leaders participate in the organisation, and team cultures (Horstmann & Remdisch, 2019). Efimov et al. (2020) argue that "the greatest potential for change" occurs from the organisation and indicates a potentially important source of leadership for employee wellbeing (p.10). Despite research indicating the presence of an organisation actor in healthy leadership, this actor is poorly defined and not well understood, particularly in comparison to leaders, whom organisation actors are frequently linked to.

This review of the healthy leadership literature highlights the need to integrate the viewpoints of multiple workplace actors, which supports Kaluza et al.'s (2021) argument for the inclusion of multiple perspectives. The addition of followers, leaders and organisation actors is a good starting point, but

integrating multiple actors to extend the current understanding of the leadership of employee wellbeing may be assisted and improved through the use of actor-network theory.

Extending Understanding of the Leadership of Employee Wellbeing: Actor-Network Theory

Actor-network theory is said to provide an ideal foundation for exploring dynamic, socially constructed phenomena (Burga & Rezania, 2017), such as employee wellbeing which is multi-dimensional (Liu-Lastres & Wen, 2021; Rook et al., 2021) and often subjective to individual perceptions (Burke, 2017; Rook et al., 2021). Investigating broad, dynamic social realities is enabled, as researchers using actor-network theory seek to broadly understand "what an actor might be and … how things and actors coexist, clash, differ and associate" (Farias et al., 2020, p. 1). Understanding what an actor might be is key to actor-network theory and extending the understanding of the leadership of employee wellbeing as the concept of an actor in actor-network theory includes both human and non-human entities (Latour, 2005; Sayes, 2014).

Human and Non-Human Actors

In actor-network theory, an actor is defined as "any thing that does modify a state of affairs by making a difference—or, if it has no figuration yet, an actant" (Latour, 2005, p. 71). To illustrate this concept, Latour (2005) argues that "kettles 'boil' water, knifes 'cut' meat, baskets 'hold' provisions, hammers 'hit' nails on the head, rails 'keep' kids from falling, locks 'close' rooms against uninvited visitors, soap 'takes' the dirt away, schedules 'list' class sessions" (p.71). Taking the concept of non-human actors into employee wellbeing, using an employee who travels frequently for work by air, as an example. The seats which do not fully recline act to 'cause' a poor night's sleep for the employee and may hinder their performance when they arrive at their destination.

The range of non-human actors in actor-network theory is broad and includes natural phenomena, tools and technical artifacts, structures, vehicles, texts, and economic goods (Sayes, 2014). In addition to machines and money, or "any material that you care to mention" (Law, 1992, p. 381). Thus, an organisation's culture, management structure, policies, and so on, can be considered actors, as they can make a difference and alter the social world of employees (Latour, 2005). In healthy leadership, Horstmann and Remdisch's (2019) research unintentionally highlights human and non-human entities.

For example, within the organisation level, or organisation actor, there are individuals who allocate financial and time resources which can be used by leaders within the workplace and non-human entities such as organisational culture or climate (Horstmann & Remdisch, 2019).

While many entities can be considered non-human actors in actor-network theory, non-human actors are not thought of in the same way as humans, from the perspective that non-human actors do not have their own moral agency or the ability to determine action (Latour, 2005; Sayes, 2014). For example, when the employee who travels frequently for work by air gets a poor night's sleep because of the seat, the seat did not decide to cause a poor night's sleep because the employee flew in economy class. Nor did a seat in business class choose to cause a good night's sleep because of its ability to lay flat. Instead, the seat, an entity created and developed by humans, mediated or contributed to the employee constructing their perception of the experience (Law, 1992; Law & Singleton, 2013) and made a negative difference by preventing restful sleep. The seat did cause an outcome, but the choice to cause a specific outcome was beyond the ability of the seat.

Researchers using actor-network theory aim to explore the interactions of human and non-human and how their interactions become assembled into practices (Law & Singleton, 2013). In other words, actor-network theory is a way of mapping the relations and practices; the interactions and influences of and between human and non-human (Law & Singleton, 2013). Using the example of the business traveller and their wellbeing again, actor-network theory provides researchers a lens to explore: 1) the human actors—leaders and organisation actors who set and implement policy on whether the follower can fly economy or business class, and 2) non-human actors—the seats. Actor-network theory then enables exploration of the connections between the human and non-human and the impacts of those connections and interactions. With the lens of actor-network theory, a wide range of actors and their interactions can be explored to better understand the leadership of employee wellbeing.

Further justifying the use of actor-network theory, the concept has been applied to complexity management research (Sage et al., 2011) and exploring less frequently investigated entities (Alhonnoro et al., 2019), such as multiple actors in healthy leadership research. Using actor-network theory can help researchers trace connections between phenomena (Latour, 2005, p. 22), as actors construct their social

world, influence each other and participate together (Law & Singleton, 2013; Papilloud, 2018). Actor-network theory can be utilised to identify and explore multiple workplace actors who may play a role in the leadership of employee wellbeing.

New Framing: Combining Healthy Leadership and Actor-Network Theory

Extending the current understanding of the leadership of employee wellbeing is important as leaders and their leadership have significant impacts and influence on employee wellbeing (Berger et al., 2019; Inceoglu et al., 2018). The literature review above shows that an influential way to extend this understanding is through combining healthy leadership and actor-network theories. In healthy leadership, multiple workplace actors are found, particularly followers, leaders and the organisation, and each actor plays different but interrelated roles that are important to the leadership of employee wellbeing (Horstmann & Remdisch, 2019). In actor-network theory, the concept of actors expands to encompass human and non-human actors (Latour, 2005; Sayes, 2014) such as organisational structures and policies. Combining healthy leadership and actor-network theories to provide framing is particularly useful as the complexities of the leadership of employee wellbeing can be explored. Latour (2005) argues that researchers of the social world often try to connect areas of life with broad explanations, however, actor-network theory advocates for investigating individual entities, and then tracing connections between entities to understand complex phenomena.

Thus, it is posited that the current understanding of the leadership of employee wellbeing can be extended through utilising a new framing that combines healthy leadership and actor-network theories. This framing can be used to investigate the role of workplace actors, beginning with followers, leaders and organisation actors, and exploring other human and non-human actors who participate in the leadership of employee wellbeing. Culminating in developing an understanding of who is involved (workplace actors) and how they are involved in the leadership of employee wellbeing. Leaders may then use this extended understanding to assist with supporting and improving employee wellbeing in their organisations.

Conclusion

Poor wellbeing can result in a range of significant negative impacts on employees including psychological distress (Boddy et al., 2021; Maslach & Leiter, 2017), injuries (McHugh et al., 2020), the development of diseases (Bakker & de Vries, 2021), and at times, fatalities (Goh et al., 2016; Timming, 2020). A range of factors cause poor employee wellbeing and associated outcomes, and leaders and their leadership have been linked to both the causes of poor wellbeing (Boddy et al., 2021; Brough et al., 2021; Goh et al., 2016) and improving employee wellbeing (Inceoglu et al., 2018; Jimmieson et al., 2021). In this paper, the role that leadership can play in improving and supporting employee wellbeing was explored by reviewing the healthy leadership literature. Many leadership practices were identified including, 1) leader behaviours, 2) developing the work environment and 3) normalising values and attitudes. Though leader practices are important in the healthy leadership literature, multiple workplace actors, particularly, followers, leaders, and organisation actors, are highlighted and each has different but interrelated roles, that are important to the leadership of employee wellbeing. By combining healthy leadership and actor-network theories, the current understanding of the leadership of employee wellbeing can be extended by exploring multiple workplace actors to understand who is involved and how they are involved in the leadership of employee wellbeing. Extending the current understanding of the leadership of employee wellbeing may assist leaders in supporting and improving the wellbeing of employees and reduce the likelihood that individuals will experience the negative impacts associated with poor employee wellbeing.

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Stream 2 – Organisational Behaviour

How psychological attributes influence workplace learning – a sequential-mediation conceptual model

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Stream 2 – Organisational Behaviour

How psychological attributes influence workplace learning – a sequential-mediation conceptual model

ABSTRACT: *In today's knowledge-based economy, workplace learning ("WPL") has become an essential requirement for both individuals' employability and organizations' sustainable competitive advantage. However, the WPL participation rate is frequently lower than anticipated or necessary, which necessitates more rigorous research into WPL antecedents, especially in terms of employees' psychological attributes. Through literature synthesis, this conceptual study proposes a theoretical framework of direct and indirect influences of growth mindset on WPL. The novelty of this model lies in the focus on growth mindset as a newly proposed WPL antecedent, as well as the roles of self-efficacy and mastery goal orientation as sequential mediators. Besides bridging the literature gaps, this framework could lead to practical recommendations on psychologically-wise strategies to enhance organizational learning culture.*

Keywords: growth mindset, workplace learning, self-efficacy, mastery goal orientation.

INTRODUCTION

In the current knowledge-based economy and dynamic corporate environment (Kopp, Kinkel, Schäfer, Kieslinger, & Brown, 2020), workplace learning ("WPL") has become an absolute need, not only for employees' employability but also for organizations' long-term competitive advantage (Shang & Wu, 2019). Rapid digital revolutions and continuous changes in various labour markets are reducing the shelf life of workers' skills (Noe, Clarke, & Klein, 2014), whilst skills acquired via formal education prior to employment are becoming more inadequate (Larsen, Kristiansen, Bennedsen, & Bjerge, 2017). Consequently, there is a strong need and support for employees to consistently learn in the workplace in order to keep up with its ever-changing requirements (Kopp *et al.*, 2020), as seen by the record-breaking training expenditure recorded in LinkedIn's (2019) Workplace Learning Report. Nevertheless, despite the massive budget, the WPL participation rate is frequently lower than anticipated or necessary, and the connection between learning opportunities and actual participation is not a simple supply-demand match (Kyndt & Baert, 2013), particularly for self-regulated, voluntary informal WPL (Decius, Schaper, & Seifert, 2019). Such participation gap sparked a need for more rigorous research into the antecedents that might influence WPL participation (Park & Lee, 2018).

Among the leading predictors of WPL involvement, personal traits are garnering the greatest attention in both academic and business realms (Kyndt & Baert, 2013). In the last two decades, several positive psychological characteristics have emerged as vital success predictors in school and in life (Heckman & Kautz, 2014), among which are growth mindset, self-efficacy and mastery goal

orientation. A growth mindset is principally defined as a person's belief that their intelligence and abilities are malleable (Dweck, 2006), while self-efficacy is conceptualized by Bandura (1997) as the individual's perception of their own capability to perform and complete a task, and mastery goal orientation refers to a person's proclivity for improving their abilities and competence, especially in lieu of proving performance (Vandewalle & Cummings, 1997). Existing literature has largely demonstrated that growth mindset, self-efficacy and mastery goal orientation are all learning-beneficial psychological traits (Dweck, 2006; Honicke & Broadbent, 2016; Kamtsios & Karagiannopoulou, 2012). However, due to their origins in educational psychology domains, the vast majority of these studies are education-focused, with an emphasis on learning in school and university settings (Barber, van Oostveen, & Childs, 2019). Despite repeated calls to extend these concepts from the original educational sphere to the workplace settings, their presence in this major life domain remains inadequate (Dweck & Leggett, 1988; Han & Stieha, 2020). Notably, in spite of several theoretical connections, there has yet to be any research on the potential connections between growth mindset and WPL, leaving a gap for this paper to explore. Furthermore, according to Rigotti (2009), the links between psychological traits and organizational results are seldom obvious or linear. Thus, it is essential to investigate both the direct and indirect connections that may explain the complex psychological mechanisms underlying the impacts of mindsets on WPL.

In response to such calls and gaps, this paper proposes a conceptual framework of direct and indirect influences of growth mindset on workplace learning, via self-efficacy and mastery goal orientation as sequential mediators. This conceptual framework is based upon the Implicit Self-Theory (Diener & Dweck, 1978), Social Cognitive Theory (Bandura, 1986), and Goal Orientations Theory (Dweck & Leggett, 1988), as well as the prior literature on the linkages between these theories' constructs. Such model is subsequently aimed to inform organizations' Human Capital development policies on promoting workplace learning and a learning culture and. In order to accomplish these research aims, this study addresses the following core research question:

How and via what mechanisms does growth mindset influence workplace learning?

LITERATURE REVIEW

Theoretical Review

Workplace learning

The widespread academic interest into workplace learning has led to a proliferation of various definitions (Streumer & Kho, 2006). Nevertheless, scholars seem to mostly agree that WPL is the participation of employees in formal and informal learning activities in their workplace environment, through which they develop and enhance work-related competencies (Kyndt & Baert, 2013). An extensive body of literature on WPL has been dedicated to investigating its antecedents. In their systematic review, Kyndt and Baert (2013) categorize these various antecedents into three levels: the micro level, which includes sociodemographic, personal, and job characteristics; the meso level, which focuses on learning activities; and the macro-organizational level. Compared to other categories, researchers have paid most attention to that of personal attributes (Kyndt & Baert, 2013).

A substantial portion of the personal-characteristic category of WPL antecedents consists of psychological attributes. However, despite growth mindset being one of the most recognized psychological characteristics in connection to learning, there has been no study to date that examines it as a direct predictor of WPL in any workplace setting (Han & Stieha, 2020; Park, Tsukayama, Yu, & Duckworth, 2020). There is a study by Maurer, Mitchell, and Barbeite (2002) that looks at the implicit theory of workers, which has the same ontology as the mindset theory (Burnette, O'Boyle, Van Epps, Pollack, & Finkel, 2013), with regards to WPL. Nevertheless, Maurer *et al.* (2002) solely focus on managers and their WPL in response to 360-degree feedback in particular, thus restricting the holistic conception of the constructs. On the other hand, Lee and Jang (2018) examine the mediating effects of growth mindset and grit on the relationship between hope and self-directed learning. However, they only consider the role of growth mindset as a mediator, and the outcome variable as self-directed learning, which is a concept that bears parallels with WPL but still merely examines a distinct learning viewpoint. More recently, Lyons and Bandura (2018, 2020) and Pearson (2020) consider the relationships between mindsets and self-regulated learning, employee learning orientation

as promoted by manager-as-coach, and employee learning styles, respectively. Nonetheless, all these theoretical studies focused on learning characteristics that were linked to but still separate from WPL, leaving gaps for studies like the current one to address.

Growth mindset

The concepts of growth and fixed mindsets, which are popularized by Dweck (2006), stem from the well-established Implicit Self-Theory, which characterises one's underlying belief in the malleability of their own talents and characteristics (Diener & Dweck, 1978). In essence, "incremental" theorists have a growth mindset and think that their intellect, competencies, and talents can be enhanced via study, effort, and determination, while "entity" theorists have a fixed mindset, which implies that their characteristics are immutable (Dweck, 2006; Dweck & Leggett, 1988).

The majority of mindset studies have traditionally focused on students, who are found by many researchers to attain better academic results, adaptations, motivations, and emotions if they possess a growth mindset (Gunderson *et al.*, 2018; Murphy & Dweck, 2010; Park, Gunderson, Tsukayama, Levine, & Beilock, 2016; Yeager *et al.*, 2014). Nevertheless, there have also been disputing findings from recent scholars like Bahník and Vranka (2017), Bazelais *et al.* (2018), Sisk, Burgoyne, Sun, Butler, and Macnamara (2018), and Li and Bates (2019, 2020), who arrive at insignificant or negligible association between growth mindset and educational attainment. These contradictory results further demonstrate the necessity for more thorough research on this topic to advance the field forward towards reconciliation (Han & Stieha, 2020; Li & Bates, 2020).

Outside of academic contexts, there has been a recent uptick in interest with regards to exploring growth mindset in the Human Resource Development ("HRD") field (Han & Stieha, 2020). Such investigations also yield many positive outcomes on multiple levels, such as improved task performance (Cutumisu, Brown, Fray, & Schmölzer, 2018) and leadership (Özduran & Tanova, 2017), higher work engagement (Zeng, Chen, Cheung, & Peng, 2019) and job satisfaction (Rattan & Dweck, 2018) at the individuals' level; enhanced working relationships (Shapcott & Carr, 2019) and managerial impacts (Wang, Yuan, & Wang, 2018) at dyadic and team levels; and organizational

citizenship behaviours (Özduran & Tanova, 2017) at organizational level. However, as Han and Stieha (2020) have emphasized, there still remains much to learn about the links between a growth mindset and HRD factors.

Self-efficacy and Mastery goal orientation

Fundamentally, the mindset or implicit self-theories are theoretically connected to the social cognitive theory (Bandura, 1986) and the performance vs. learning achievement goal theory (Dweck & Elliott, 1988). In theory, different mindsets might lead to varied views about one's own capabilities and sorts of achievement goals, resulting in either helpless or mastery reactions to various events in one's life (Dweck & Elliott, 1988; Weiner, 1985).

Self-efficacy is a critical element of Bandura's (1986) social cognitive theory, in which it is defined as the individual's perception and conviction of his or her own capabilities to utilise internal resources and effectively execute the courses of action required to perform certain tasks and attain stipulated levels of performance. These internal resources may include a person's skills, capacities, talents, resiliency, creativity, or resolve (Stirin, Ganzach, Pazy, & Eden, 2012). Due to the academic origins of the social cognitive theory, the bulk of self-efficacy research has evolved from this setting. However, over time, this theory has been extended to many spheres beyond academia, and many studies have demonstrated the importance of self-efficacy on human achievement in various contexts such as health (Roman, Knight, Chalfin, & Popkin, 2009) and business (Klaeijsen, Vermeulen & Martens, 2018). Particularly, since the 1990s, a growing attention has been focused on self-efficacy in the workplace. Many organizational results at multiple levels have been shown to be linked to self-efficacy, including employees' job performance and satisfaction (Judge & Bono 2001), leaders' initiative behaviors (Taggar & Seijts, 2003) and perceived performance (Chemers, Watson, & May, 2000), as well as simulated organizational performance (Wood & Bandura, 1989).

On the other hand, the foundation for the goal orientation theory was laid by Dweck and Leggett (1988), who theorized that differences in response patterns might surface because individuals pursued two distinct types of goal orientation (*i.e.*, performance goal and learning goal orientation),

which, in turn, influenced their different perspectives and responses to situations. The primary objective of performance-goal-oriented individuals is to receive positive performance evaluations from others, which can easily lead to an inclination toward helpless-response patterns where they avoid challenges, attribute failure to a lack of ability, and experience a performance decline in times of adversity. In contrast, the primary purpose of learning-goal-oriented individuals is to improve their capabilities, which encourages mastery-response patterns where they seek out tough but rewarding tasks, see failure as an opportunity to learn, and thrive under pressure (Diener & Dweck, 1978, 1980; Nicholls, 1984).

The above review has highlighted the close relationships among growth mindset, self-efficacy, and mastery goal orientation in terms of theory, as well as their applications to the HRD realm. The following section will elaborate on the literature review to develop hypotheses among the constructs under study.

Hypotheses Development

Direct influence of growth mindset on WPL

Out of the various characteristics of mindsets, there are four which are of particular relevance and significance to HRD, namely goal orientation, self-efficacy, reflection and feedback processing (Han & Stieha, 2020). These characteristics also serve as the conceptual links connecting growth mindset to WPL.

First, while growth mindset has been linked to mastery goal orientation since a long time ago (Dweck & Leggett, 1988; Dweck & Reppucci, 1973); more recently, Ong (2014) also confirmed the positive relationship between mastery goal orientation and adults' learning persistence, which substantially overlaps with WPL.

Second, Bandura (1997)'s notion that a growth mindset entails one's conviction in their own self-efficacy has been empirically validated in both corporate context (Tabernero & Wood, 1999) and education sphere (Abdullah, 2008). On the other hand, a number of research have shown that workers' self-efficacy is one of the most significant determinants (Kyndt & Baert, 2013) of both the desire to

participate in WPL (Kyndt, Govaerts, Dochy, & Baert, 2011; Maurer & Tarulli, 1994) and the actual WPL involvement (Maurer & Tarulli, 1994; Maurer *et al.*, 2002; Maurer, Weiss, & Barbeite, 2003).

Third, reflection, or learning from the past and from failures, has been a critical feature of the growth mindset (Dweck, 2006; Aditomo, 2015; Hüther, 2016). According to Dweck, Walton, and Cohen (2014), only people with a growth mindset would consistently and gladly engage in self-reflection, particularly on failures or negative experiences. On the other hand, several scholars, like Dewey (1933), Argyris (1982), Zimmerman and Campillo (2003), have long supported the connection between reflection and learning. According to Park and Lee (2018), the essence of WPL lies in the reflection and growth of people based on their real experiences at the workplace.

Lastly, the processing of feedback and criticism has been one of the most significant differentiating characteristics between a growth and a fixed mindset (Dweck, 2006). The implicit self-theory suggests that a person's frame of mind influences their evaluation of the perceived costs and advantages of seeking feedback (Ashford & Tsui, 1991; Dweck, 2006; Vancouver & Morrison, 1995). At the same time, several researchers have established the links between feedback and both formal WPL (Garavan, Carberry, O'Malley, & O'Donnel, 2010) and informal WPL (Doornbos, Simons, & Denessen, 2008).

All of the aforementioned theoretical and empirical links between growth mindset and WPL support the study's initial hypothesis as follows:

Hypothesis 1. Growth mindset positively influences WPL participation.

The mediating role of self-efficacy

Bandura (1997), the father of social cognitive theory and the self-efficacy concept, proposes that a person's incremental or growth mindset leads to their belief in their own self-efficacy, as the belief in one's ability to grow intellectually leads to confidence in one's abilities to overcome obstacles and achieve certain goals. The positive relationship between the two constructs has been demonstrated

frequently among school-aged children (Abdullah, 2008; Su, Wan, He & Dong, 2021), college students (Samuel & Warner, 2019), and working adults (Tabernero & Wood, 1999).

On the other hand, self-efficacy has been shown to be a fundamental condition for effective learning (Zimmerman, 2000) because it equips learners with the positive attitudes and behaviours that encourage learning success (Alhadabi & Karpinski, 2020). Mohammadyari (2012) postulated that self-efficacy has a direct effect on students' effort and persistence in learning, types of learning activities, and, ultimately, learning achievement. In addition, Honicke and Broadbent (2016) and Russell and Warner (2017) both demonstrated that self-efficacy is associated with self-regulatory learning strategies and behaviors. In particular relevance to this study's topic, self-efficacy has been proven to have relationships with WPL involvement (Maurer & Tarulli, 1994; Maurer *et al.*, 2002; Maurer *et al.*, 2003) and the number of training and development courses attended (Tharenou, Latimer, & Conroy, 1994).

Given the above, it is plausible to hypothetically deduce that self-efficacy would serve as a mediator in the relationship between growth mindset and WPL. Recently, self-efficacy has increasingly been tested as a mediator in organizational relationships, such as between ethical leadership and job satisfaction (Ren & Chadee, 2017). However, it has not been tested for the mediating effect on the growth mindset-WPL relationship, as put forth by the following hypothesis:

Hypothesis 2. Self-efficacy mediates the positive relationship between growth mindset and WPL.

The mediating role of mastery goal orientation

Mastery goal orientation is traditionally defined as the aspiration to develop abilities, and master skills and learning materials, which usually entails strong work pleasure and persistence in the face of adversity (Elliot & Church, 1997). Even though Dweck and Leggett (1988)'s goal orientation concept is analogous to Nicholls' (1984) task-involvement concept, Dweck and Leggett (1988) attributed the pursuit of different goals back to Diener and Dweck's (1978) implicit theories of the individuals. They theorize that individuals who perceive their intelligence as a fixed trait would wish

to prove their capabilities, and so adopt a performance-goal-oriented approach, while those who view intelligence as malleable would, on the other hand, embrace a learning-goal-oriented strategy because they want to improve their skills. Since then, many researchers like Beckmann, Wood, Minbashian, and Tabernero (2012), Dinger, Dickhauser, Spinath, and Steinmayr (2013), Puente-Daz and Cavazos-Arroyo (2017), and Zhao, Zhang, Heng, and Qi (2021) have empirically tested and repeatedly confirmed the strong relationship between growth mindset and learning/mastery goal orientation.

Even though the goal orientation theory started from academic settings, since the 1990s, numerous scholars like Farr, Hofmann and Ringerbach (1993) and Bobko and Colella (1994) have stressed its potential in application in the corporate contexts. Learning goal orientation has been found to be linked to a variety of multi-layered organizational outcomes such as adults' learning (Ong, 2014), positive feedback-seeking behavior at work (VandeWalle & Cummings, 1997), improved mentoring (Godshalk & Sosik, 2003), training (Brett & VandeWalle, 1999), and work environment (van Dam, 2015). In addition, a growing body of research suggests that mastery goal orientation might be fostered via goal setting and feedback (Kozlowski & Bell, 2003), which would subsequently promote good organizational learning culture (Runhaar, Bouwmans, & Vermeulen, 2019). In their meta-analysis, Payne, Youngcourt, and Beaubien (2007) also discovered that adopters of mastery goal orientation demonstrated better learning.

Drawing from the above evidence, as well as the consistent conclusions by many researchers that mastery goal orientation is related to growth mindset and positive learning patterns (Pajares, Britner, & Valiante, 2000; Hsieh, Sullivan, & Guerra, 2007; Payne *et al.* 2007), the following hypothesis is proposed:

Hypothesis 3. Mastery goal orientation mediates the positive relationship between growth mindset and WPL.

Self-efficacy – Mastery goal orientation sequential mediation effect

Existing research strongly supports the connection between self-efficacy and mastery goal orientation (VandeWalle, 2003). For instance, Schnell, Ringeisen, Raufelder, and Rohrmann (2015)

showed that students with high self-efficacy tend to develop mastery objectives, choose more challenging projects, and get better grades. Al-Harthy and Was (2013), Honicke and Broadbent (2016), and Alhadabi and Karpinski (2020) also validated this significant direct influence of self-efficacy on mastery goals. All the above evidence supports the following hypothesis:

Hypothesis 4. Self-efficacy positively influences mastery goal orientation.

In this study, self-efficacy and mastery goal orientation have been identified as two potential mediators of the relationship between growth mindset and WPL. According to Hayes (2013), parallel mediation entails a weak or non-existent causal link between the mediators, while serial mediation implies a strong correlation between them. Hence, literature would determine the kind of expected mediation. Given hypothesis 4, which is based on evidence of a significant relationship between self-efficacy and mastery goal orientation, this research would postulate a sequential or serial mediation, *i.e.*, Growth mindset → Self-efficacy → Mastery goal orientation → WPL, as follows:

Hypothesis 5. Self-efficacy and mastery goal orientation have a sequential mediating effect on the positive relationship between growth mindset and WPL.

All in all, the above hypotheses development leads to the following conceptual model:

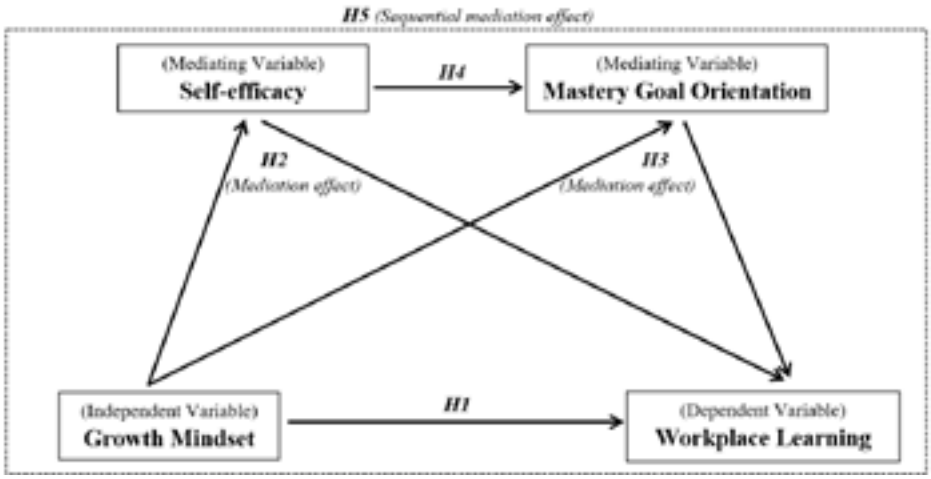

Figure 1. The study's Conceptual Framework

DISCUSSIONS AND CONCLUSION

Research Implications

Built upon the Implicit Self-Theory, Social Cognitive Theory, and Goal Orientations Theory before integrating them under an overarching motivational behaviour model, this paper aspires to further consolidate and extend such underlying theories into the workplace domain. More specifically, this study responded to the calls by Park and Lee (2018), Han and Stieha (2020) and Park *et al*. (2020) for more exploration on psychological attributes in relation to Human Resource Development.

The primary novelty of the proposed framework lies in the focus on growth mindset as a newly proposed antecedent of WPL. Despite growth mindset being one of the most popular attributes that impact students' learning in education settings, its role with regards to adult's learning in the workplace has largely been overlooked. This framework therefore seeks to open up a new area of discussion that hopefully can extend and apply such critical education-originated theories into the workplace realm. Furthermore, even though previous research has shed light on a few pairs of relationships included in the study's conceptual framework, there has been none where all four variables of the full conceptual model are studied simultaneously. This full model, with its sequential mediation effects, would offer a significantly more nuanced and deeper understanding of the underlying mechanisms that could translate a person's mindset into their WPL.

On the other hand, the empirical findings of the proposed model will also have many practical contributions for organizations. Many studies have shown that growth mindset, self-efficacy and mastery goal orientation could be stimulated or even permanently transformed by interventions (Alan, Boneva, & Ertac, 2019; Pearson, 2020; Wang, Yuan, & Wang, 2018; Yeager *et al.*, 2019;). The "process model" of strategic human resources management (SHRM) posits that HR policies can affect employee behaviour (like WPL) via their attitudes (Purcell & Hutchinson, 2007). Drawing from this "process model", this study's framework, if validated, could shed light on valuable practical implications for organizations to utilize ''psychologically wise interventions" (Walton & Wilson, 2018, p.618) to enhance employees' WPL via focused designs of training and development activities,

as well as career development and organizational development efforts. Since WPL has been associated with a variety of advantageous organizational outcomes such as improved organizational performance (Park & Jacobs, 2011) and long-term competitive advantages (Li & Tsai, 2020), these learning-enhancing implications might prove to be of great value to organizations.

Conclusion and future research directions

Through theoretical review and literature synthesis, this conceptual study proposes a theoretical framework to predict relationships among key psychological attributes and an organizational behaviour that is workplace learning. Specifically, a model was developed to hypothesize the direct and indirect influences that growth mindset might have on WPL, with self-efficacy and mastery goal orientation as sequential mediators.

This conceptual model needs to be refined and tested empirically, which can be done via qualitative and quantitative methods such as interviews, focus groups or case studies, and Structural Equation Modelling or experiments respectively. Qualitative studies can be useful in extending and refining the model. Even though the foundation of the paper's model was based on seminal theories and studies, the literature review could not be exhaustive. Therefore, qualitative studies could unearth other relevant constructs that, when added, could make the current model more robust. On the other hand, quantitative studies would be helpful in evaluating and validating the model. It is noteworthy, however, that the model may yield different findings based on different settings and cultural contexts.

Given the current literature deficiency regarding these constructs in the workplace domain, as well as the practical imperativeness of learning in the business world nowadays, this model could offer significant theoretical and managerial contributions by bridging the literature gaps while leading to practical recommendations on psychologically-wise strategies to enhance WPL and organizational learning culture.

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Managing uncertainty using CEO appointment announcements: Evidence from COVID-19 pandemic

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Managing uncertainty using CEO appointment announcements: Evidence from COVID-19 pandemic

ABSTRACT

This study investigates how CEO appointment announcements were used during the COVID-19 crisis to manage investor impressions of the firm's ability to deal with the crisis. Using content analysis and the Leximancer software tool the study compares the narrative of CEO appointment announcements before, during, and after the peak of the COVID-19 pandemic in Australia. The results reveal interesting patterns that show during a crisis firms exploit the event of a CEO appointment and apply assertive tactics to promote organisational competence and reassure investors. Other findings indicate firms restrained from bringing in an external CEO during the peak of the crisis, and that CEO turnover increased immediately after the pandemic. Finally, during the crisis firms were more likely to promote CEOs with international experience.

Keywords: CEO succession, CEO selection, Company announcements, COVID-19 pandemic, Organisation impression management, Leximancer

INTRODUCTION

The announcement of a new CEO is a significant event for an organisation that can have a positive or negative impact on the firm's valuation (Kavadis et al., 2021). In this respect, the firm's official announcement of a CEO appointment can be viewed as a signalling opportunity to inform the market that the board has selected the right person to lead the organisation (Griffin et al., 2011). In times of a crisis, when uncertainty is heightened, the need to manage the narrative around CEO succession is especially important, as shareholders look to the new CEO to protect their investment (Wooten & James, 2008).

The overarching question motivating this paper is whether and how context shapes the narrative of CEO appointments in company announcements. The announcement of a CEO appointment is a required press release to update the market with details of the newly appointed CEO. As such, we contend that the announcement of a new CEO is a means to promote the incoming CEO and the organisation to the market and is therefore an opportunity for impression management. In this paper, we are interested in how impression management tactics are applied at the organisational level to influence the perceptions others have of them (Bolino et al., 2008). As a communication tool and source of data in impression management research, CEO appointment announcements have rarely been used. This is surprising given the importance

placed on CEO succession by the investor community. We propose that the company announcement of a CEO appointment is an ideal communication channel for organisations to manage a desired image.

The context of this paper is the appointment of CEOs made before, during, and after the peak of the COVID-19 pandemic in Australia. The COVID years caused tremendous upheaval across markets worldwide. The COVID-19 crisis in Australia commenced on 31 January 2020 when the World Health Organisation declared COVID-19 a public health emergency. In the following months, as the situation was upgraded to a pandemic, the Australian government imposed significant restrictions on people's movement into and around the country. Severe restrictions were imposed on certain operating activities both directly through government-imposed orders to stop the spread of infection and indirectly through the public's fear of infection. A period of nationwide "shut-down" was most severe from March to May 2020 but persisted across various 'hot-spots' throughout 2020. The general uncertainty over this time is reflected by the significant negative impact on the Australian share market (ASX) as illustrated in Figure 1. By the end of 2020 as the vaccine rollout reached target levels restrictions were lifted and state borders reopened. By 2021 although COVID was still prevalent in society, there were important signs that the economy had recovered including the ASX markets returning to its pre-pandemic levels.

[Insert Figure 1 here]

Given the severity of the pandemic, we expect that the associated uncertainties influenced CEO successions in Australia as well as the way such information was communicated in company announcements. We sought to address three interconnected research questions: (1) How did the evolving COVID-19 crisis impact the succession of CEOs in Australia? (2) To what extent did the crisis change the narrative around the incoming CEO and their related experience? (3) To what extent are CEO appointment announcements used by firms as an impression management tactic?

To explore these research questions, we considered all ASX appointments made over three distinct and comparable time periods: *pre-pandemic*, *peak-pandemic*, and after the peak of the pandemic, which we label *COVID-normal*. A descriptive analysis of the data indicated that during the *peak-pandemic* period, firms resisted appointing a new CEO, while the following year (i.e., *COVID-normal*) turnovers increased by 83%. Moreover, during the *peak-pandemic*, both the number of interim and internally appointed CEOs increased, while external appointments accelerated after the peak of the pandemic. We

then followed an inductive inquiry using content analysis and found general patterns that resulted in two further key findings. First, our findings support our proposition that firms use CEO appointment announcements during a crisis to manage perceptions of their competence and ability to return shareholder value. While we found a general pattern of assertive impression management tactics being used in all three focal periods, there was a distinct shift in the narrative during and after the peak of the pandemic to divert attention from the current crisis, instead emphasising the firms' future growth prospects. Finally, while there was little noticeable change in the promoted experience of an incoming CEO, one clear difference during and post the pandemic emerged being an emphasis on the incoming CEO's international experience. Overall, our study demonstrates that during a crisis, CEO appointment announcements can be exploited by firms to manage investor impressions as a type of direct assertive tactic to signal organisational competence.

LITERATURE REVIEW

CEO succession in times of uncertainty

CEO successions are critical turning points for organisations, as they provide an opportunity for the organisation to adapt its strategy to current and future demands. Existing research has generated many insights into the causes and implications of CEO successions (e.g. Berns & Klarner, 2017; Friedman & Olk, 1995). A CEO succession can be a result of an ordinary or forced departure of the predecessor, such as an internal promotion to CEO from a senior executive role (Zhang & Rajagopalan, 2003), a competitive selection of the best candidate (Cannella et al., 2009), or a dismissal of the predecessor CEO (Shen & Cannella Jr, 2002). A CEO succession can also be temporary (i.e., appointing an interim CEO) which is especially common during periods of uncertainty (Mooney et al., 2017).

Prior studies have identified several triggers of CEO successions that can arise at environmental, organisation, board, and individual levels (Berns & Klarner, 2017). These triggers include industry competition (Fee and Hadlock, 2004), poor company performance or scandals (Ertugrul & Krishnan, 2011). Environmental uncertainty can also lead to CEO turnover. Some studies document that, with a changing environment, the appointment of a new CEO is used as a mechanism to adapt to environmental contingencies, which reflects an appropriate change in the organisation's power structure (DeFond & Park,

1999; Hillman et al., 2009). On the contrary, Zhang and Rajagopalan (2004) find that CEO succession is less likely under conditions of environmental instability. A particular challenge for organisations in an uncertain environment is the speed at which critical decisions are made. Because information is moving quickly, having to factor in a change of CEO during that time is likely to add to the upheaval. This lack of inconsistency suggests that how uncertainty impacts CEO succession warrants further investigation, with the COVID-19 pandemic providing an ideal context.

The desired origin of a CEO is also unclear. An incoming CEO can be appointed from within the organisation (internal succession) or outside (external succession). Inside candidates have advantages with a better understanding of the organisation and less information asymmetry compared to outside candidates (Tian et al., 2011; Zhang & Rajagopalan, 2003). However, in more homogeneous industries, external successions are more common because outside candidates have a better knowledge of production technologies and product markets (Agrawal et al., 2006). Companies may also appoint an external candidate to signal strategic change and disruption to the status quo (Cannella Jr & Lubatkin, 1993). However, their limited knowledge of the firm's competitive environment, resources and capabilities and their weaker connections to key stakeholders may be detrimental during a time of crisis (Haque et al., 2022). As such external CEO appointments can create uncertainty in leadership and strategy, suggesting that during a time of crisis, internal successions may be more valuable for organisations to manage uncertainties and investor confidence.

Organisational impression management

Organisational impression management is used to describe an action carried out by an organisation with the intent of influencing the audience's perception of the organisation (Elsbach et al., 1998). While the concept of impression management at an individual level has been widely researched, far less research has considered how impression management tactics are used at the organisational level (Bolino et al., 2008). Within the organisational stream of literature, impression management tactics are categorised into two types: defensive and assertive (Mohamed et al., 1999). Whereas defensive tactics are used reactively by organisations, for example, to restore legitimacy and reputation following an internally generated crisis (e.g. Elsbach et al., 1998; Elsbach & Sutton, 1992), assertive tactics, are used proactively to boost

organisational image, for example ahead of an anticipated controversial decision (Arndt & Bigelow, 2000; Elsbach et al., 1998). Although impression management has most often been associated with organisational crisis and controversy, assertive tactics have also been found to be used by organisations opportunistically, for example, as part of recruitment practices (Avery & McKay, 2006; Yang & Yu, 2019) and using social media to promote positive performance outcomes (Yang & Lui, 2017).

Uncertainty increases information asymmetry between those inside and outside of an organisation (Griffin & Ward, 2010). In this context, organisations can use company announcements to actively manage informational flow to reduce ambiguity and project a favourable impression on targeted stakeholders (Bilgili et al, 2017; Graffin et al., 2011). For example, firms use voluntary disclosures to reduce the uncertainty during M&A activity (Yakis-Douglas et al., 2014), time announcements to mask uncertainty surrounding the appointment of a new CEO (Graffin et al., 2011), and apply uncertainty reducing cues and content in CEO retirement announcements (Bilgili et al, 2017). This literature thus illustrates the use of assertive impression management tactics in company announcements to deal with firm induced uncertainty. We contend that company announcements also provide an opportunistic channel of communication in environment induced uncertainty – specifically, the COVID-19 pandemic.

RESEARCH METHOD

Sample selection

Our original sample consisted of all announcements made by companies listed on the ASX advising of a CEO appointment from 2019 to 2021. We chose this period to explore the changes in CEO successions before, during, and after the peak of the COVID-19 pandemic. We used the year 2019 as the "*pre-pandemic"* period to provide a baseline for comparison because Australia experienced little disruption in the markets in 2019. We then treated the year 2020 as the "*peak-pandemic*" period[1] following the first case in Australia being recorded on 25th January 2020. Lastly, we used the calendar year 2021 as the "*COVID normal*" period. In 2021, while COVID-19 was still prevalent, as a society Australia had "learned to live with COVID". Initially a total of 357 ASX announcements of CEO appointments were

[1] In the Leximancer analysis, we excluded January 2020 from the "peak-pandemic" period to more precisely capture the breakout impact of COVID-19 in Australia. Thus, the data used in Leximancer analysis was based on a time period of February – December 2020.

downloaded from the *MorningStar DatAnalysis Premium* database and ASX website. The announcements were then manually checked for relevance and the announcements with repetitive information excluded. Our final sample included 314 ASX announcements, representing 277 unique companies.[2]

Table 1 presents the sample distribution by time period. The table shows that while the number of CEO turnovers increased marginally between 2019 and 2020, there was a significant increase of almost 85% between 2020 and 2021. Interestingly, in 2020, in response to the breakout of the COVID-19 pandemic, February and March presented a peak of CEO appointment announcements, dropping considerably over the months April to September, until October and November which saw another peak in turnovers. As Australia transitioned to a "COVID normal" period, the number of CEO turnovers increased significantly throughout 2021 with a peak of 25 announcements in the month of July.

[Insert Table 1 here]

Textual data analysis approach

We adopted a grounded approach using content analysis to inductively explore the extent to which messaging of CEO appointment announcements changed over our three focal time periods. Content analysis is a well-established method in accounting and management literature and has been used widely to examine impression management in firm communications (Brennan et al., 2009). To characterise and sort the narrative of the announcements, we used the Leximancer software package, a commonly used content analysis tool (e.g., Chen and Bouvain, 2009; Palmer, 2013). Leximancer analyses word-association information such as frequencies, connections, and co-occurrence to produce a visual depiction of the conceptual and relational text analysis in the form of a concept map (Smith and Humphreys, 2006).

A strength of Leximancer is its grounded approach to coding. This has particular benefit for inductive research when there is no a priori set of codes by which to analyse the data (Davies et al., 2006). Instead, Leximancer allows concepts to emerge automatically from the data without manual intervention, reducing the potential for researcher bias within the coding process (Palmer, 2013). As this approach can lead to a lack of meaningful engagement with the data during the analysis process, we assigned one member of the research team to run the results in Leximancer, while another conducted manual analysis by reading

[2] During 2019-2021, 37 companies in our sample had more than one CEO turnover, thus these companies had more than one ASX announcement included in our sample.

through a sample of announcements. The manual analysis verified the automatic coding of the main themes, providing assurance that the themes emerging from Leximancer were indeed indicative of the data. Once the main themes began to emerge, we iterated back and forth with the data to both confirm the results and gain a greater understanding of the emergent themes.

RESULTS

Descriptive analysis

Our initial analysis commenced with collating the key metrics of CEO successions during 2019-2021. We manually searched the company announcements and coded the information disclosed on each CEO succession event, such as when a new CEO was appointed, an internal or external succession, the prior roles of the new CEO, and the predecessor CEO's departure. Given the fact that some companies face unplanned CEO turnovers (Ballinger and Marcel, 2010), there was a number of interim CEOs appointed to serve on a temporary basis. Thus, we separated the "interim CEOs" and "new CEOs".

Table 2 presents the descriptive statistics for internal and external CEO successions. During 2019-2021, we found that a clear majority of company announcements were new CEO appointments, with less than 15% being interim CEO appointments. Of the new CEOs, in 2019, there were 21 (42% of total) internal successions, and 29 (58%) external appointments, suggesting that during the *pre-pandemic* period, companies were more likely to appoint new CEOs externally than insiders from current organisations. Although we expected to see this pattern change during the COVID-19 pandemic, the relative split of internal and external appointments remained steady across all three time periods.

Table 3 presents the reasons for predecessor CEO departures. Analysing predecessor CEO departures can enhance the understanding of CEO turnovers as being planned or unplanned by the organisation as well as being voluntary or involuntary (Gentry et al., 2021). First, we analysed the "Departures" category where the predecessor CEOs left the organisations. Based on the full sample, we found that a large proportion of predecessor CEOs (69 cases) resigned and left the organisations to pursue a new venture. There were 28 cases of retired CEOs, and only a few cases of CEO leaving the organisations because their tenure contract was not extended or was terminated. This suggests in Australia, voluntary CEO departures are more common than involuntary departures. Breaking down the full sample by year, we found that 2019 and 2020 had consistent patterns with the full sample. In contrast, the year 2021 had a

greater percentage of resigned CEOs (27%) compared to the other years and a broadly consistent percentage of 8.6% of retired CEOs. A likely explanation for this is that the exacerbated burden placed on CEOs during the pandemic brought forward planned retirements.

Second, we analysed the category of "Remained in organisations" where the predecessor CEOs moved to other roles and remained in the organisations. During 2019 and 2021, usually about 4-6% of predecessor CEOs were interim CEOs who remained in the organisations by moving to a full-time CEO role. The other reasons could be interim CEOs stepping aside or predecessor CEOs stepping down from their roles, these predecessors moved to other roles and thus no one left the organisation. In 2019, 11% of interim CEOs returned to their prior roles, and the percentage increased to 17% in 2020, and then decreased significantly to 6.75% in 2021. This is consistent with the turnover rates for CEOs over the three-year period, and again suggests that during the peak of the pandemic, firms endeavoured to retain talent and knowledge within the firm.

[Insert Tables 2, 3 here]

Leximancer analysis and results

The Leximancer textual analysis was conducted in two stages. First, we considered each time period using a within-case analysis approach to identify the key messages emerging from the announcements. Second, we considered the three time periods collectively using a cross-case analysis approach searching for patterns to identify how (if at all) the narrative of CEO appointment announcements shifted during and after the peak of the pandemic.

The within-case analysis began by producing a Leximancer concept map for each of the three focal periods (Figures 2, 3 and 4). The concept maps provide a visual display of the most important themes and concepts arising from the announcements. In Leximancer, themes represent a group of clustered concepts that appear together most often. The core theme of each cluster is displayed in the centre of the circle with the relative importance of each theme indicated by the 'heat' of the colour using a standard colour wheel (Leximancer, 2021). For example, the most important theme is coloured in red, followed by orange, green, blue and then purple. The words appearing inside each themed bubble represent the most frequent co-occurring themes. Finally, the strength of connectivity is illustrated by the size of each concept's dot, with line connectors representing how concepts are linked together.

Figure 2 presents the concept map for all CEO announcements in 2019 which we classified as *pre-pandemic*. The five most important themes are 'leadership', 'experience', 'executive', 'working' and 'strong'. Inside the leadership theme we can see that the most common terms connected to leadership are 'business', 'market', 'financial', 'technology', and 'growth'. Meanwhile, by looking inside the experience theme circle we can see that the most common types of experience were 'management', 'corporate', and 'strategy'. The connector line between leadership and experience illustrates the importance of leadership experience. These themes and connections are not surprising for a CEO appointment, thus providing assurance that during this certain environment, Leximancer was communicating the story of a typical announcement.

By comparison, Figure 3 presents the concept map for CEO appointment announcements made during the 2020 *peak-pandemic* period. Immediately we can see a shift in the narrative evidenced by a change in most important themes. While 'experience' remains an important theme, new themes have risen in importance including 'growth', 'transition', 'continue' and 'business'. Finally, Figure 4 presents the concept map for announcements made in 2021, which we have labelled *COVID-normal*. Once again 'experience' is the dominant theme, followed by a continued focus on 'growth' and 'business', along with 'team' and 'company'.

[Insert Figures 2, 3, 4 here]

The cross-case analysis involved comparing the relative prominence of concepts across each time period to identify similarities and differences in the messaging and emphasis placed by firms. Leximancer produces a prominence score for each concept associated with another concept or tag (in this case we used the three time periods). The prominence score combines the frequency of a concept (based on its word count) and its strength (reflecting the extent it applies to one group over another) and uses Bayesian statistics. Thus, the higher the prominence score the greater the relative frequency.[3]

Table 4 lists the most prominent concepts across each time period with comparative scores across time periods shown in Table 5. Of note is that the most prominent concepts of *pre-pandemic* have some of the lowest prominence scores during both the *peak-pandemic* and *COVID-normal* periods, demonstrating an intentional shift in narrative indicative of impression management. Combining these prominence scores

[3] A score above 1.0 suggests the co-occurrence happens more often than by chance (Leximancer, 2021).

with the concept mappings (figures 2, 3, 4) and a review of the announcements, four noticeable patterns emerged worthy of further discussion. These four themes are discussed below and summarised in Table 6 with illustrative excerpts from announcements.

[Insert Tables 4, 5, 6 here]

1. Change in the emphasis of CEO appointment

The first clear theme within the narrative of the announcements was a shift in emphasis from the incoming CEO's experience to emphasising the firm's ability to continue, transition, and capitalise on opportunities during the crisis. This is evidence by the drop in prominence of the concept 'experience' during the *peak-pandemic* period and the corresponding rise of the terms 'continue', 'transition', and 'opportunity'.

2. Providing reassurance for shareholders

The second noticeable difference during the *peak-pandemic* period was the prominence of the words 'shareholders', 'strategy', and 'value'. Confirmed by further investigation of the raw data, this trend indicated firms exploited the opportunity of a CEO appointment to send a signal of reassurance to shareholders, and that their strategy was the right one to deliver shareholder value.

3. Shifting focus from past to future

The third difference across the three time periods is the time focus of the announcement. In the *pre-pandemic* period, announcements contained narratives on 'performance', 'sales', and 'financial', used in this context to promote the strong past financial results of the firm. By comparison during the *peak-pandemic* timeframe, the focus shifted to a forward-looking focus, with prominent concepts including 'forward' and 'growth'. By doing so firms appeared to be deflecting attention from the past and current challenges and instead highlighting future opportunities.

4. CEO capital – an emphasis on international experience

Despite a clear shift in the narrative and emphasis made by firms during and after the peak of the pandemic, there was a surprising level of commonality in the types of CEO experience that were communicated. Table 7 summarises the most common concepts co-occurring with the word 'experience' across each time period. The one difference that does stand out is the increased importance placed on the

'international' experience during the *peak-pandemic*, which continued, yet to a lesser extent, during the *COVID-normal* period.

[Insert Table 7 here]

Overall, the shifting narrative found within the announcements across each of the three focal time periods appears to correlate to the overall business sentiment at each time. This suggests that firms use the CEO appointment announcement not only to introduce a new CEO and convince shareholders of their ability to lead the firm, but that firms also take the opportunity to promote the organisation to the wider investor community.

DISCUSSION, LIMITATIONS, AND FUTURE RESEARCH

Due to the level of uncertainty that accompanied the crisis of COVID-19, there was a growing need for firms to reassure investors of their stability and opportunity for future growth. We analysed 314 CEO appointment announcements made before, during and after the peak of the crisis, to consider how the pandemic impacted CEO succession in Australia, and the extent to which firms used the CEO appointment announcement as a tool to influence investor perceptions. Using impression management as a lens, and Leximancer as a content analysis tool, we found notable shifts in the narrative of the announcements during these periods. During the *pre-pandemic* period, the primary focus of the announcement was to promote the incoming CEO's leadership qualities, while opportunistically using the announcement to promote the firm's positive performance results. By contrast, the focus of announcements made during the peak of the pandemic shifted to reassuring shareholders of the firm's future growth prospects and a promise of future value. Although we found limited variation in relation to the types of CEO experience emphasised across the time periods, one notable difference was an increasing emphasis on the incoming CEO's *international* experience. A similar finding was found following the 2008/9 global financial crisis (GFC), whereby firms most affected by the crisis were more likely to appoint a CEO with international experience (Mio et al., 2016). This reconciles with other research that has found CEOs with international experience are associated with greater strategic change (Le and Kroll, 2017) a common theme across both the GFC and COVID crises.

Using the unique context of COVID-19, our study provides insight as to how a crisis impacts CEO succession, and how firms can use the event of a CEO succession announcement to manage communications with investors that emphasise firm competence in delivering shareholder value during this challenging time. In doing so, our study demonstrates that CEO appointment announcements are a tool for managed communication. While other studies have considered how firms use other sources of communication including the annual report, CEO letters and earnings announcements as tools for impression management, the CEO appointment announcement has received scant attention in this field. As such this study opens a new pathway and source of data for future research in corporate narratives and tactics for signalling and impression management.

Our research contributes to the literature on organisational impression management, which as a field of research, has received far less attention than impression management at the individual level. First, our research shows that the CEO appointment announcement is used by organisations as a form of direct assertive tactic to boost organisational competence. Second, using the exogenous shock of the COVID-19 pandemic, our findings show in times of uncertainty the announcement becomes an important tool for impression management to reinforce future opportunity, growth, and shareholder value. Finally, this paper contributes to the growing literature examining the impact of the COVID-19 pandemic in a corporate context (e.g. Haque et al., 2022).

There are some limitations to our study that are worth noting and that may present future research opportunities. First, the findings may not be generalizable beyond the study context. Second, the study only focused on the official appointment announcement. A fuller interpretation of organisational impression management tactics can be established by considering other sources of data relating to CEO successions such as social media and news reports. Third, the study did not consider the impact of firm performance on CEO turnover. Finally, while we looked broadly at CEO experience, future research would benefit from a more detailed investigation into how characteristics and demographics of CEOs changed pre and post the pandemic. Our finding of low turnover during the peak of the pandemic, but high turnover once the immediate crisis was over, is interesting and warrants future investigations, for example, whether the increased turnover was related to industry / firm performance during the pandemic.

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TABLES

Table 1 Distribution of the sample of ASX announcements

Month distribution of the sample of ASX announcements

	Full sample		2019		2020		2021	
Month	N	%	N	%	N	%	N	%
January	15	4.78%	4	6.45%	6	6.74%	5	3.07%
February	30	9.55%	5	8.06%	11	12.36%	14	8.59%
March	33	10.51%	6	9.68%	12	13.48%	15	9.20%
April	33	10.51%	10	16.13%	4	4.49%	19	11.66%
May	23	7.32%	6	9.68%	5	5.62%	12	7.36%
June	16	5.10%	3	4.84%	4	4.49%	9	5.52%
July	41	13.06%	8	12.90%	8	8.99%	25	15.34%
August	25	7.96%	4	6.45%	9	10.11%	12	7.36%
September	21	6.69%	2	3.23%	4	4.49%	15	9.20%
October	33	10.51%	9	14.52%	10	11.24%	14	8.59%
November	23	7.32%	2	3.23%	11	12.36%	10	6.13%
December	21	6.69%	3	4.84%	5	5.62%	13	7.98%
Total	**314**	**100%**	**62**	**100%**	**89**	**100%**	**163**	**100%**

Table 2 Descriptive statistics for internal and external CEO appointments

	Full sample		2019		2020		2021	
Cases	N	%	N	%	N	%	N	%
New CEOs								
Internal	112	35.67%	21	33.87%	34	38.20%	57	34.97%
External	156	49.68%	29	46.77%	43	48.31%	84	51.53%
Interim CEOs								
Internal	43	13.69%	12	19.35%	12	13.48%	19	11.66%
External	3	0.96%	0	0%	0	0%	3	1.84%
Total	**314**	**100%**	**62**	**100%**	**89**	**100%**	**163**	**100%**

Table 3 Descriptive statistics for predecessor CEOs' departures

	Full sample		2019		2020		2021	
Cases	N	%	N	%	N	%	N	%
Departures:								
Resigned	69	21.97%	10	16.13%	15	16.85%	44	26.99%
Retired	28	8.92%	6	9.68%	8	8.99%	14	8.59%
Tenure ended	3	0.96%	0	0.00%	1	1.12%	2	1.23%
Terminated by board	1	0.32%	1	1.61%	0	0.00%	0	0.00%
Remained in organisations:								
Interim got confirmed	19	6.05%	3	4.84%	5	5.62%	11	6.75%
Interim stepped aside	33	10.51%	7	11.29%	15	16.85%	11	6.75%
Stepped down from CEO	43	13.69%	5	8.06%	13	14.61%	25	15.34%
Stepped down from Managing Director	5	1.59%	0	0.00%	2	2.25%	3	1.84%
Stepped down from Executive Chairman	11	3.50%	2	3.23%	3	3.37%	6	3.68%
Others:								
No prior CEO roles	3	0.96%	0	0.00%	1	1.12%	2	1.23%
Not mentioned	99	31.53%	28	45.16%	26	29.21%	45	27.61%
Total	**314**	**100%**	**62**	**100%**	**89**	**100%**	**163**	**100%**

Table 4: Most prominent concepts across time periods

Year	Prominent concepts[1]
2019	Performance, sales, technology, business, financial, management, executive, **experience**, leadership, operations.
2020	Global, shareholders, value, focus, transition, future, time, opportunity, operations, growth.
2021	Commercial, capital, development, industry, lead, financial, technology, growth, future, strategy.

[1]Where the prominent concept is above 1

Table 5: Concept prominence scores across time periods

Concept	2019	2020	2021
Performance	**1.594**	0.924	0.851
Sales	**1.577**	0.609	1.022
Technology	**1.356**	0.690	1.050
Business	**1.315**	0.992	0.903
Financial	**1.289**	0.714	**1.059**
Management	**1.234**	**1.016**	0.920
Executive	**1.220**	0.889	0.989
Experience	**1.220**	0.840	1.015
Leadership	**1.155**	0.902	1.067
Operations	**1.135**	**1.094**	0.908
Transition	**1.004**	**1.145**	0.922
Focus	0.985	**1.190**	0.910
Shareholders	0.922	**1.206**	0.997
Strategy	0.861	**1.015**	**1.037**
Opportunity	0.844	**1.100**	0.998
Development	0.813	0.955	**1.083**
Growth	0.790	**1.036**	**1.058**
Global	0.774	**1.239**	0.946
Capital	0.683	1.030	**1.085**
Future	0.644	**1.129**	**1.045**
Value	**1.064**	**1.197**	0.876
Time	**1.009**	**1.123**	0.932
Commercial	0.661	0.842	**1.191**
Industry	0.925	0.897	**1.078**

PS over 1 in Bold

Table 6: Shifting narratives and excerpts from the announcements

Theme	Example excerpts from announcements
Shifting emphasis of announcement from *'CEO experience'* to '*continuation'* and *'opportunity'*	• *This is **a time of great opportunity** for Decmil, notwithstanding the challenges of the recent months. [EGG 20MAY20]*
Providing *reassurance for shareholders* during the crisis	• *The Board is confident that under Dickie's leadership and with significant infrastructure spending in Australia over the next few years Decmil will **drive shareholder returns** through an **unwavering focus** on profitable project delivery. [DCG 19MAY20]* • *We are very pleased to have Simon **driving the next phase of growth** to develop **value for all stakeholders**. [4CE 21JULY20]*
Shifting focus of narrative from *past* (pre-pandemic) to the *future* (during and post-pandemic)	• *Pre-pandemic: The **strong performance** in 2H FY2019, healthy business outlook and improved balance sheet has enabled us to invest more into R&D, expand sales and marketing and on-board implementation partnerships **in the current year**. …. [8CO 30AUG19]* • *Post-pandemic: In selecting Mr Dunstan, the Board is confident that he will help to propel **the company into an exciting and profitable future.***
CEO capital – emphasis on international experience	• *Brent's role in the growth and globalisation of Seqirus, and his **international experience** are exactly the skillset we need to drive the next phase of MVP's growth. [MVP 14OCT20]* • *David has many strengths that make him well suited to leading the company at this stage of its growth, including extensive **international leadership** experience [A2M 11AUG20]*

Table 7: Top 10 concepts associated with CEO 'experience' based on frequency

2019	2020	2021
leadership	**international**	leadership
business	operations	executive
management	leadership	business
operations	management	development
development	business	industry
executive	development	**international**
market	market	operations
project	executive	management
technology	industry	market
industry	project	project

FIGURES

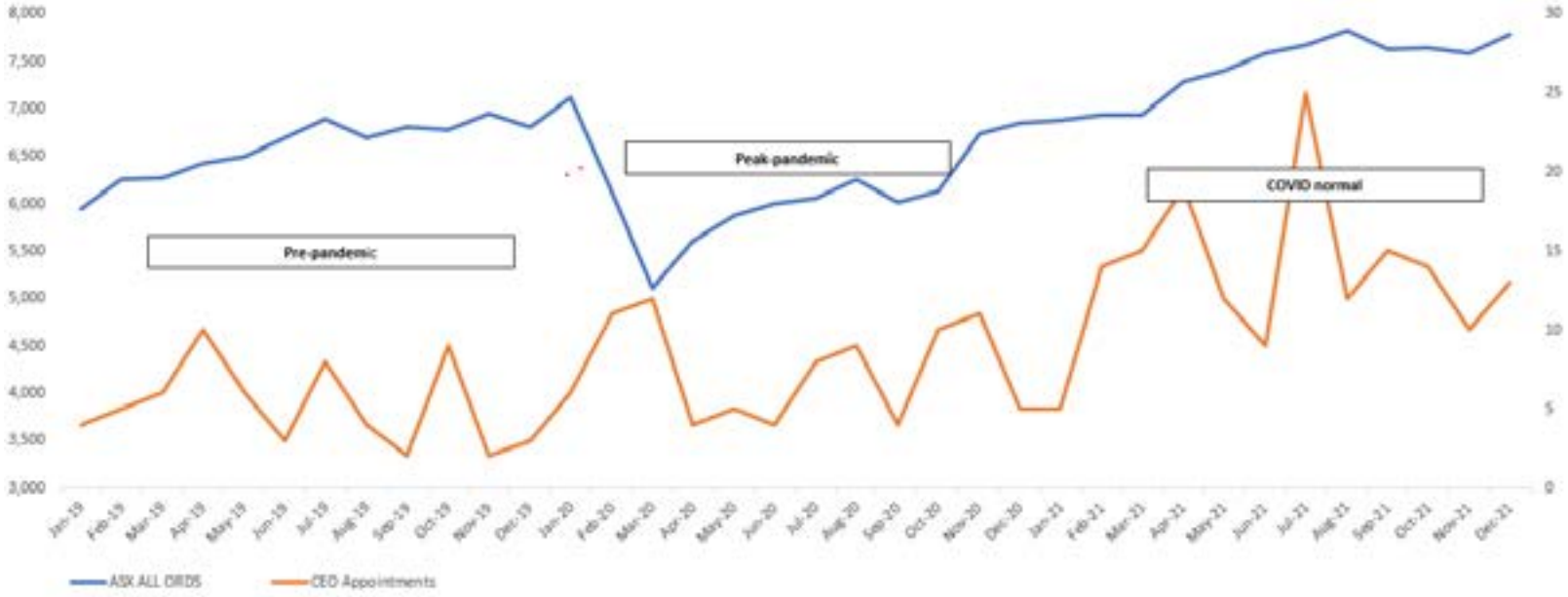

Figure 1: CEO appointments and the ASX Share market (all ordinaries), 2019 - 2021

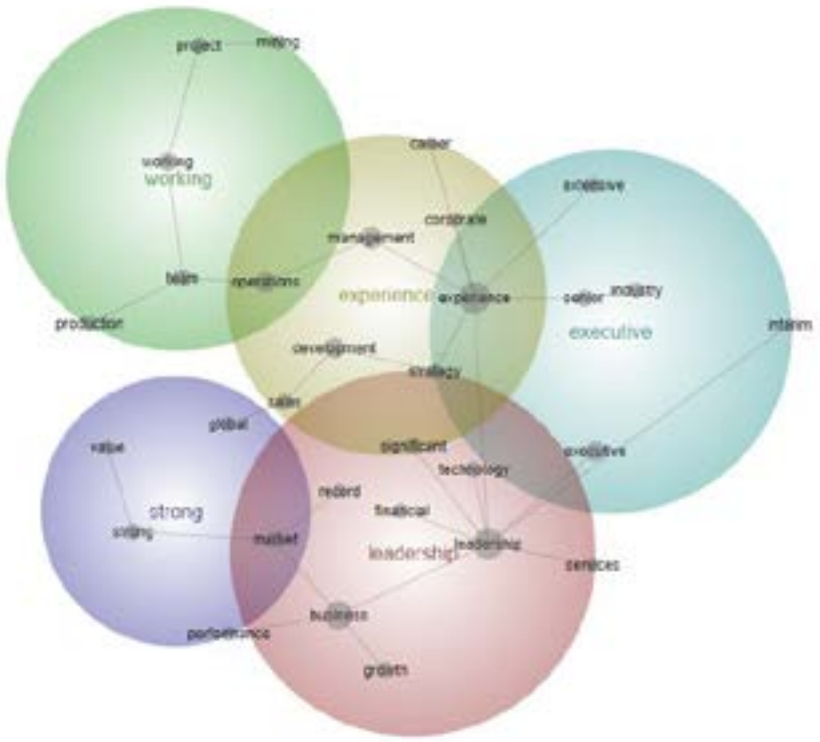

Figure 2: "Pre-pandemic" Leximancer concept map: Top 5 themes

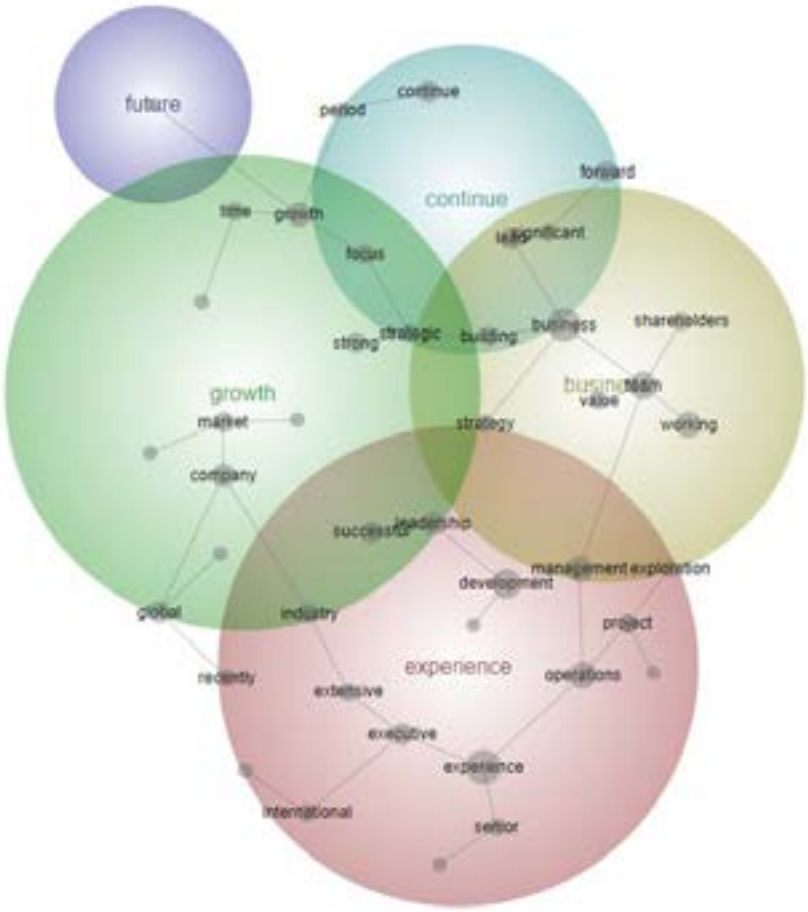

Figure 3: "Peak-pandemic" Leximancer concept map: Top 5 themes

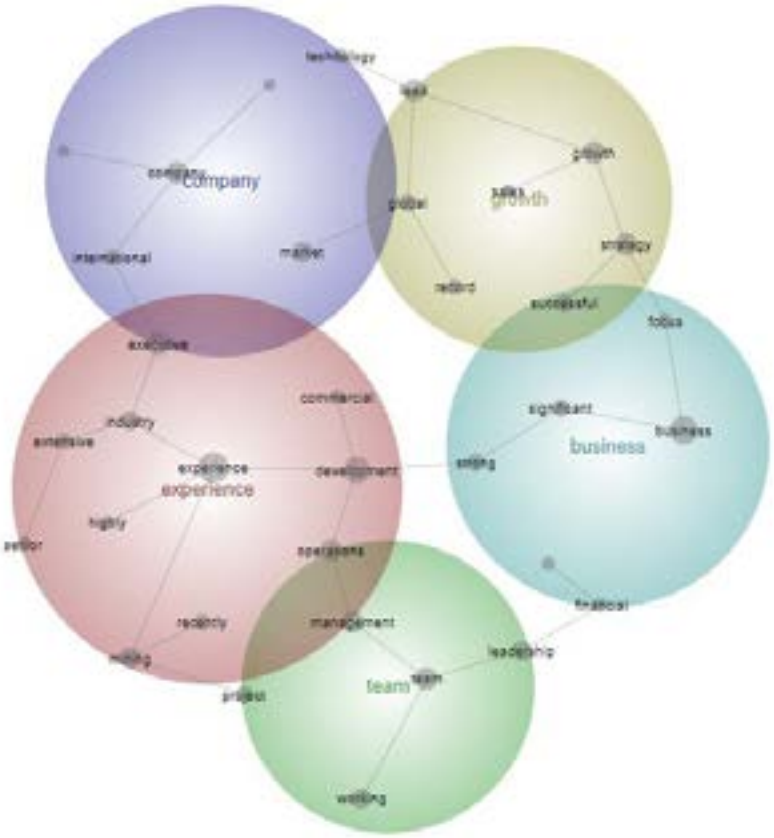

Figure 4: "COVID-Normal" Leximancer concept map: Top 5 themes

Stream Number 1, Human Resource Management

Feedback, Creativity and Innovative Behavior at Work: A Systematic Review

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Stream Number 1, Human Resource Management

Feedback, Creativity and Innovative Behavior at Work: A Systematic Review

ABSTRACT

Over the last decade, there has been a burgeoning interest among HRM scholars in the impact of feedback on employee creativity and innovative behavior. However, findings of relevant research have been mixed and complex. To better understand these relationships, we conducted a systematic review based on 29 relevant publications to take stock of the extant knowledge on the relationship between feedback and employee creativity and innovative behavior. We examined various characteristics of feedback, its relationship with employee creativity and innovative behavior, the underlying mechanisms, and the moderating role of feedback in the literature. Building on the synthesized findings, we identified limitations in the existing literature and outlined a roadmap for future theoretical, empirical and methodological advancements.

Keywords: Feedback, creativity, innovative behavior, review

At workplace, leaders often use feedback as a central HRM intervention to foster employees learning and development. Feedback refers to "*the degree to which employees are provided with helpful and useful information that enables them to learn, develop, and make improvements*" (Zhou, 2003, p. 415) and therefore can be adopted as an important HRM practice to assist employees to perform effectively at work (Pulakos, Arad, Donovan, & Plamondon, 2015). It helps employees to learn from their prior experience and develop new skills which contribute to improvement in their work attitudes and behaviors (Guo, Liao, Liao, & Zhang, 2014; Su, Lin, & Ding, 2019). The benefits of feedback to employee attitudinal, behavioral and performance outcomes have received extensive and well-established empirical support. For instance, feedback has been found to promote job satisfaction (Anseel & Lievens, 2007), affective and organisational commitment (Rosen, Levy, & Hall, 2006; Steffens et al., 2018), work engagement (Eva, Meacham, Newman, Schwarz, & Tham, 2019), work performance (Lee, Lim, & Oah, 2020) and innovative behaviors (Su et al., 2019).

While existing meta-analyses and systematic reviews have examined the impact of feedback on various employees' attitudinal, behavioral and performance outcomes (e.g., Kluger & DeNisi, 1996; Smither, London, & Reilly, 2005; Tagliabue, Sigurjonsdottir, & Sandaker, 2020), relatively little attention has been paid to its impact specifically on employee creativity and innovative behavior. Creativity and

innovative behavior are two related yet distinct concepts. Creativity refers to "*the cognitive and behavioral processes applied when attempting to generate novel ideas,* whereas innovative behavior refers to *"the process of implementing new ideas at work*" (Hughes, Rigtering, Covin, Bouncken, & Kraus, 2018, p. 3). Although both creativity and innovative behavior are critical to employees and organizational performance, creativity is primarily an intrapersonal cognitive process of generating novel ideas, while innovative behavior is mainly an interpersonal process concerned with the promotion and implementation of new ideas (Hughes et al., 2018; Rank, Pace, & Frese, 2004). In this turbulent and competitive business environment, both creativity and innovative behavior are vital to organizational survival, competitive advantages, and long-term growth (Agarwal, 2014; Zhou & Shalley, 2003). Hence, it is unsurprising to witness growing interests among HRM scholars in the link between feedback and employee creativity and innovative behavior (e.g., Bak, 2020; Gong & Zhang, 2017; Son & Kim, 2016; Zhou, 2003). However, relevant empirical evidence has not been unilaterally positive. For example, Li and Xie (2022) verified that employees' creative behaviour increases when they receive developmental feedback from supervisors. On the other hand, Kim and Kim (2020) found that negative feedback stifles recipients' creativity when it flows from top-down (from supervisors to followers) or lateral (between peers) directions. Similarly, Hildebrand, Häubl, Herrmann, and Landwehr (2013) established that community feedback hinders consumer creativity in designing unique products. Yet, Luthans, Youssef, and Rawski (2011) found that there was no correlation between reinforcing feedback and innovation. Likewise, Noefer, Stegmaier, Molter, and Sonntag (2009) found that supervisor feedback was non-significantly related to idea implementation.

In view of the importance of employee creativity and innovative behavior to organizations and the mixed findings in the literature, in this review, we first take stock of the characteristics of feedback being examined in the literature. Then, building on the ability-motivation-opportunity (AMO) framework, we synthesize the accumulated empirical findings by identifying and summarizing the major mediating mechanisms that account for the implications of feedback to employee creativity and innovative behavior. We also summarize the boundary conditions that affect the relationship between feedback and the two

outcomes of interest. In addition, we also review the methodological approaches adopted by researchers to examine the implications of feedback so as to highlight opportunities for future methodological advancements. Finally, based on the integrative insights yielded from our review, we propose a few promising avenues for future research.

METHODOLOGY

To identify documents relevant to our focal concepts for review, we constructed a chain of keywords for article search, which include "feedback", "innovative behavior*", "innovative behaviour*" "innovative performance*", "innovative idea*", "creativity*", "creative behavior*", "creative behaviour*" "creative performance*" and "creative idea*", in the Web of Science database. We ran our search in the "topic field" of "Social Science Citation Index" that produced a total of 130,324 documents, including journal articles, books, conference papers, dissertations, proceedings and working papers.

We used the filters Research Areas (e.g., business, management and applied psychology), language (English) and document type (article) to limit our sample to 38,471 articles. Documents that are not in article type, such as dissertations, book chapters, unpublished papers, working papers and conference papers, were excluded because of the concern for great variance in their quality. Also, as research on the relationship between feedback and creativity and innovative behavior emerged mainly after Carson & Carson's (1993) seminal work, we restricted the resulted articles to those published in or after 1993 only. In addition to the database search, we also conducted a backwards-forwards citation search by examining the reference lists of published articles (e.g., Eva et al., 2019; Kim & Kim, 2020; Su et al., 2019). This procedure resulted in a total of 2838 journal articles, among which 2835 were identified via database searches and 3 additional articles identified through manually search of reference lists by the first author. We then further screened through the abstract and full text of each article. During the process of abstract screening, we sought to include articles that examined the phenomenon of interest at individual level and that were based on employee samples. Therefore, articles based on student samples and studies conducted

in non-organizational settings were excluded. Moreover, although there exist a large number of articles focusing on the concept of "feedback-seeking" in relation to our topic, we excluded them because our primary interest is in the provision of feedback from others to employees (or the receipt of feedback). Based on these criteria, we identified a total of 29 papers as our final sample for review. The PRISMA diagram for the study selection process is shown in Figure 1.

Insert Figure 1 about here

FINDINGS

Feedback Characteristics, Employee Creativity, and Innovative Behavior

A significant body of research has examined the relationship between feedback and both creativity and innovative behavior. The findings of the review suggest that the relationships between feedback and both creativity and innovative behavior are complex, and empirical studies have found mixed results. These mixed results are mainly due to the different characteristics of feedback examined in empirical work (e.g., content, quality, sources of feedback, and feedback environment). In the following sections, the findings of the systematic review are presented.

Characteristics of Feedback

Feedback quality

Feedback quality refers to the extent to which feedback informs the recipient that how well one is performing one's work (Davis, Dibrell, Craig, & Green, 2013). It includes feedback valence which is the extent to which feedback is either positive or negative based on the comparison of an individual's actual creative performance and set criteria (Zhou, 1998). Positive feedback valence shows that an individual's creativity level is higher than the criteria, while negative feedback valence signals that an individual's creativity is below the accepted standard (Zhou, 1998; Kim & Kim, 2020). The review shows a consistent

positive relationship between positive feedback and employees' creativity and innovative behaviour. For instance, Zhou (1998) and Luthans et al. (2011) found that the provision of positive feedback fostered higher levels of creativity in comparison to the provision of negative feedback. However, our review reveals mix findings on the relationship between negative feedback and employees' creativity and innovative behaviour. Ford and Gioia (2000) found that negative feedback was an important contextual factor in eliciting creative managerial decisions. Kim and Kim (2020) found that the association between negative feedback and employee's creativity was contingent on the direction of the feedback flow i.e., negative feedback enhanced employees' creativity in bottom-up feedback direction whereas reduced employees' creativity in lateral or top-down feedback flow.

Researchers have also looked at other qualities of feedback (i.e., failure feedback, random feedback and directed feedback) in connection with both creativity and innovative behavior. For example, He, Yao, Wang, and Caughron (2016) found that failure feedback, performance-related information employees receive after facing a failure event, was positively related to both incremental and radical creative performance. They argued that failure feedback helps employees to identify failure as a learning experience and induces their sensemaking processes which lead to creative actions. Similarly, Yoo, Jang, Ho, Seo, and Yoo, (2019) found that feedback as a critical job characteristic had a positive impact on individuals' creativity. However, other studies have found conflicting results. Contrary to what was hypothesized, Wooten and Ulrich (2017) found no correlation between directed feedback (targeted towards a specific function i.e., quality) and idea quality. Nonetheless, their results showed a negative association between random feedback (uncorrelated with specific function) and idea quality.

Sources of Feedback

Another stream of research has investigated the impact of different sources of feedback on both employees' creativity and innovative behavior. This work has identified two main sources of feedback i.e., supervisor and co-worker and established a direct positive link between feedback from these two sources and both creativity and innovative behavior. For example, feedback from supervisor was found to engender

innovative behavior of the employees (Su et al., 2019; Bak, 2020). Similarly, Eva et al. (2019) suggested that co-worker feedback can be used as supplementary resource to bolster employees' innovative behavior when there is a lack of supervisor feedback. In addition, researchers have also begun to explore the importance of feedback from other stakeholders such as customers and the wider community in eliciting employees' creativity and innovative behavior. For instance, Davis et al. (2013) found that quality of feedback from clients, positively influenced the innovative behavior of family business advisors. Hoornaert, Ballings, Malthouse, and Van den Poel, (2017) found crowd feedback as the best predictor of idea implementation. However, Hildebrand et al. (2013) reported that community feedback hampered customers' abilities to design unique products.

Context of feedback

Another group of researchers have looked at the feedback environment more generally when examining the link between feedback and creativity and innovative behavior (Gong, Shan, & Yu, 2019; Gong & Zhang, 2017; Zhang, Gong, Zhang, & Zhao, 2017). Feedback environment refers to the contextual processes among organizational members (supervisor, subordinate and/or co-workers) that exist in the daily work environment rather than in a formal performance appraisal feedback session (Steelman, Levy, & Snell, 2004). Empirical findings from a number of studies demonstrate a consistently positive association between a supportive feedback environment and employees' creativity. For example, Gong et al. (2019) found that the co-worker feedback environment is conducive to employees' creativity. Examining the supervisor feedback environment, Gong and Zhang (2017) and Zhang et al. (2017) found that the creative performance of employees is higher when employees perceive the supervisor feedback environment as favourable.

Mediating Mechanisms Between Feedback and Employee Outcomes

Despite growing literature examining the link between feedback and both creativity and innovative behavior, limited work has examined the mechanisms linking feedback to creativity and innovative behavior. Prior studies primarily based on two set of mediators, exchange-based and self-view based. This

section reviews prior work on the mechanisms linking feedback to both creativity and innovative behavior and the theoretical perspectives used to explain those key mechanisms.

Social exchange theory (Blau, 1964) holds that social exchanges are the voluntary actions that may be generated by an organisation's conduct towards its employees, based on the expectations that such conduct will be reciprocated. Two studies have drawn on this theoretical lens to examine the link between feedback and both creativity and innovative behavior (Bak, 2020; Eva et al., 2019). Bak (2020) found that trust and affective commitment mediated the relationship between feedback and innovative behavior. They found that when employees received developmental feedback from supervisors, they viewed it as support from the organization, and reciprocated by developing higher levels of trust in their supervisor and higher levels of commitment, which in turn enhanced their innovative work behavior. Following the reciprocity logic, Eva et al. (2019) found that when employees were not provided with feedback, they perceived a psychological contract breach on the part of the organisation, and in turn were less likely to reciprocate with innovative behavior. On the other hand, they found that provision of feedback from supervisors, elicited employees' innovative behavior by fostering their work engagement.

Prior research has established that positive self-views as captured by self-efficacy and self-determination are important motivational factors in enhancing creativity and innovative behavior (Su et al., 2019; Zhang et al., 2017). For example, based on social cognition theory, Su et al. (2019) verified that employees' efficiency cognition in form of creative self-efficacy mediated the relationship between supervisor's developmental feedback and innovative behavior. Zhang et al. (2017) found that employee goal self-concordance mediated the relationship between feedback environment and creative performance. These findings are in line with self-determination theory (Ryan and Deci, 2000) suggesting that employees who pursue their self-concordant goals with more determination demonstrate higher levels of creative performance (Zhang et al., 2017). Drawing on feedback intervention theory by Kluger and DeNisi (1996), Kim and Kim (2020) suggested that negative feedback has the potential to both enhance and inhibit employees creativity via two functionally opposite mechanisms, task process and meta process. They

explained that negative feedback increased recipients' creativity by engaging them in task processes, whereby the recipients make constructive improvements by designing better task strategies. On the other hand, the negative feedback inhibited recipients creativity by involving them in meta processes, whereby the recipients' felt threatened by negative feedback. Another group of researchers (Christensen-Salem, Kinicki, Zhang, & Walumbwa, 2018; Son & Kim, 2016) found feedback acceptance as an important mediator between various feedback characteristics and employees creativity.

Boundary Conditions in the Relationship between Feedback and Creativity and Innovative Behavior Relationship

Researchers have begun to examine the boundary conditions that may moderate the relationship between different types of feedback, creativity and innovative behavior. For example, Su et al. (2019) found that a supervisor's organisational embodiment moderated the impact of developmental feedback on employee innovative behavior via the mediating mechanism of creative self-efficacy. More precisely, they found that the mediating impact of creative self-efficacy was more significant for employees with high levels of supervisor's organisational embodiment as opposed to low levels of supervisor's organisational embodiment. Linking failure feedback to employees' creativity, He et al (2016) found that both learning, and avoidance goal orientation moderated the link between failure feedback and creativity in such a way that recipients with learning goal orientation were more likely to respond to failure feedback in the form of both incremental and radical creative performance. In contrast, they found avoidance goal orientation attenuated the link between failure feedback and creative performance. Similarly, Zhou (2003) found that creative personality moderated the joint effect of developmental feedback and the presence of creative co-workers on creativity. These findings suggest that feedback recipients with less of a creative personality exhibited higher creativity in the presence of creative co-workers and higher levels of developmental feedback.

Insert Table 1 about here

FUTURE RESEARCH AGENDA

Our review of the relationship between feedback, creativity and innovative behavior revealed that research on the topic over the last two decades has begun to explore how different types and sources of feedback influence employees' creativity and innovative behavior. However, we also identified gaps in the literature that may be addressed in future research. In the following section, we develop an agenda for future research that address such gaps and makes important theoretical, empirical and methodological contributions to the literature. Briefly, these future research recommendations involve the following areas: (a) identifying new feedback characteristics that are essential to employee creativity and innovative behavior, examining and comparing the relative importance of various feedback characteristics, (b) novel theoretical frameworks for examining the relative efficacy of different mediation mechanisms linking feedback to creativity and innovative behavior; (c) identification of boundary conditions that may moderate the relationship between feedback and creativity and innovative behavior, and, (d) methodological advancements by adopting more rigorous research designs (e.g., experiments to infer causality between study variables, the need to be consistent in measuring feedback using already validated scales, the importance of using objective and longitudinal data collection methods and the need to collect multisource data).

Identifying New Feedback Characteristics Essential to Creativity and Innovative Behavior

Although prior research has advanced our knowledge of the functional effects of different types of feedback on creativity and innovative behavior, the impact of many types of feedback are still unknown. For example, Lee, et al. (2020) found that both accurate and inaccurate feedback influence work performance, yet how these two types of feedback influence creativity and innovative behavior remains a gap. Another recent experimental study (Gao et al., 2020) reveals the differential effect of success and failure feedback in influencing recipients' depressed emotions. As emotions can play an important role in generating one's creative and innovative behavior, we call on future researchers to examine whether success and failure feedback perform different functions in influencing creativity and innovative behavior. In

addition, given that cognitive feedback significantly impacts the cognitive adaptability of the recipient while performing a dynamic task (Haynie, Shepherd, & Patzelt, 2012), we assume that cognitive feedback might have the potential to affect the recipients' creativity and innovative behavior.

Relative Efficacy of Mediation Mechanisms Linking Feedback to Creativity and Innovative Behavior - The Ability-Motivation-Opportunity (AMO) Theory. While existing research has advanced our understanding of the relationship between feedback and both creativity and innovative behavior, research on the potential mediators of the relationships between feedback and both creativity and innovative behavior is still in its infancy. Further research is needed to understand the relative importance of different mediating mechanisms that may explain how feedback enhances employees' creativity and innovative behavior. In particular, we call on researchers to draw on the ability-motivation-opportunity theory (Appelbaum, Bailey, Berg, Kalleberg, & Bailey, 2000) from human resource management research which states that employees' performance is the function of their ability, motivation and opportunity to perform. We argue that the AMO model can be used to examine whether feedback influences employees' creativity and innovative behavior.

Regarding the ability-enhancing pathway, we suggest human capital as a mediating mechanism through which feedback influences employees' creativity and innovative behavior. Feedback helps employees to learn and develop the appropriate skills needed to do the job and improve their work performance by providing them valuable information (Zhou, 2003). Developing new knowledge and skills encourage individuals to take the initiative, adopt new ways of doing work and generate creative ideas at work (Kleine, Rudolph, & Zacher, 2019). Prior research shows that human capital, the composition of employees' knowledge, skill and abilities, mediates the relationship between high performance work systems and employee outcomes (Jiang, Lepak, Hu, & Baer, 2012) in particular innovative performance (Shahzad, Arenius, Muller, Rasheed, & Bajwa, 2019). Given that employees acquire more knowledge and skills when provided with developmental feedback (Gong, Zhou, & Chang, 2013; Bak, 2020) and job-

relevant knowledge and skills are crucial for generating innovative ideas (Su et al., 2019), we may expect that human capital acts as a mediating mechanism between feedback, creativity and innovative behavior.

We highlighted intrinsic motivation as a motivation-enhancing mechanism linking feedback, creativity and innovative behavior. based on AMO framework, Shin, Jeong, and Bae (2018) Given that informational practices like provision of feedback are likely to enhance employees' interest in the work itself and boost intrinsic motivation (Deci & Ryan, 1985; Zhou, 2003), we may expect that intrinsic motivation can act as a mediating mechanism between feedback, employee creativity and innovative behavior. Opportunity refers to the situations that enable or restrain work performance (Hong & Gajendran, 2018). Following AMO framework, previous research shows that HRM practices enhance employee creativity through giving them an opportunity to raise voice (Shahzad et al., 2019). Given that providing feedback to employees encourage them to express their opinion and ideas (London & Smither, 2002), we expect that employee voce may mediate the relationship between feedback and employees' creativity and innovative behavior.

Identification of Boundary Conditions

Our review of the literature revealed a lack of research on moderators of the relationship between feedback, creativity and innovative behavior. To better understand the situations in which feedback will have greatest impact, further research is required to identify the boundary conditions of the relationship between feedback, creativity and innovative behavior. Based on the empirical findings from prior research, we suggest four types of moderators: 1) characteristics of feedback recipient 2) characteristics of feedback source 3) characteristics of interpersonal relationship between feedback source and recipient and 4) organisational factors.

Regarding characteristics of feedback recipients, we expect feedback leads to greater creativity and innovative behavior for individuals high in adaptivity. Adaptivity refers to individuals' abilities to respond constructively to new and uncertain circumstances. (Pulakos, Arad, Donovan, & Plamondon, 2000). Given

that individuals high in adaptivity adopt interpersonal behavior to effectively work with peers, learn new ways of doing things and are better able to solve complex problems (Pulakos et al., 2000), we expect that highly adaptive individuals may respond to peer feedback more constructively than those with lower level of adaptivity. The characteristics of the feedback source may also influence the relationship between feedback, creativity and innovative behavior. For example, supervisors with high levels of expressed humility will encourage the initiatives of their followers (Qian et al., 2018) thus inspiring their creative efforts.

The relationship between feedback source and recipient may influence the nature of the relationship between feedback, creativity and innovative behavior. The exchange process between leader and follower defines the employees' work context (Martinaityte and Sacramento, 2013). A social network between leader and employees gives employees opportunities to procure useful resources and information (Seibert, Kraimer & Liden, 2001). Further, high leader-member exchange (LMX) provides employees with better chances of skill development (Pan, Sun & Chow, 2012). As both useful information and skill development are conducive to creativity and innovative behavior, we expect that LMX may moderate the relationship between feedback, creativity and innovative behavior. Finally, future research may take the opportunity to examine how organisational-level factors such as psychologically safety moderate the impact of feedback on creativity and innovative behavior. a psychologically safe reflects supportive management, freedom of self-expression and role clarity (Kahn, 1990). A psychological safe climate reduces interpersonal risk and consequently encourages risk-taking behaviour that facilitates creativity implementation.

Conclusion

The present study contributes to the literature of feedback and employee creativity and innovative behavior by taking stock of the empirical findings and illuminating promising research avenues. This review reveals how the different types, sources and environments of feedback functions to influence employees' creativity and innovative behavior and how different mediating mechanisms and moderating factors play their role in this relationship.

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FIGURE 1. Article Screening and Selection Process

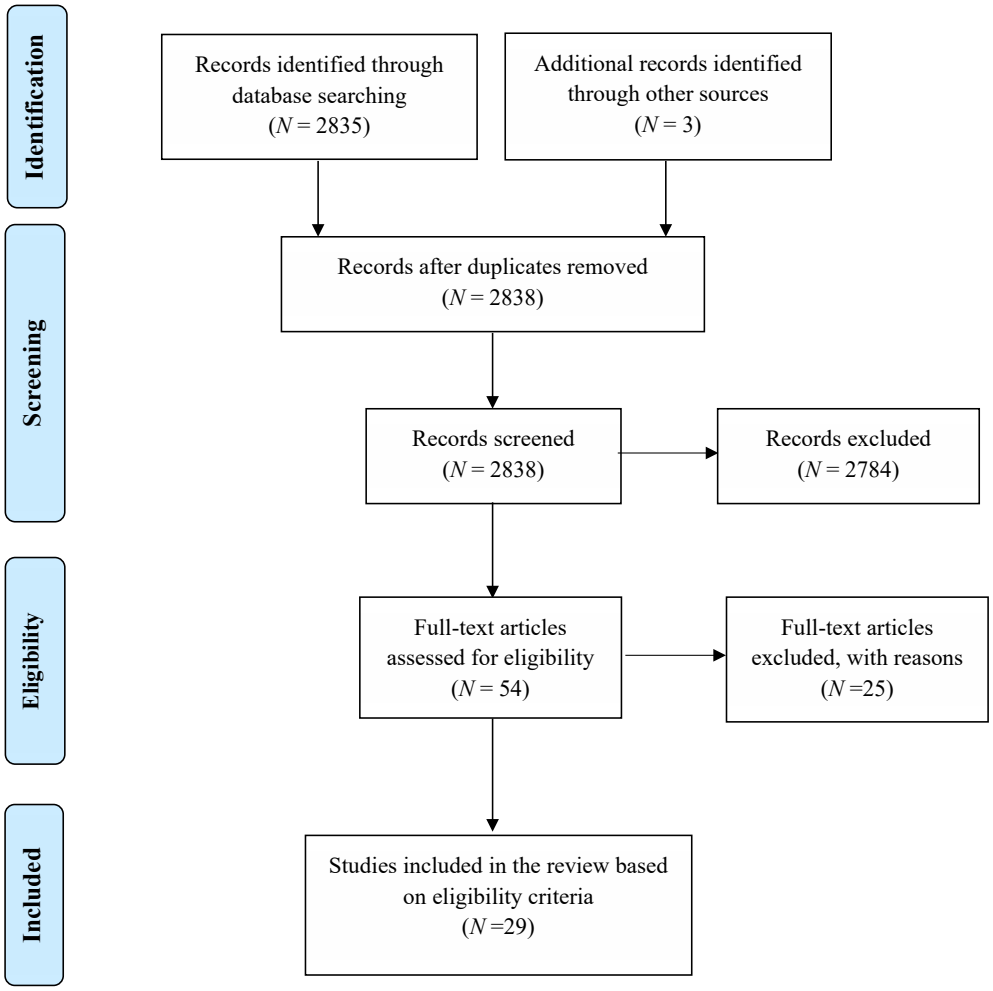

Table 1 – Publications included in systematic review (N = 29)

Publication Reference	Feedback Characteristics	Source of Feedback	Research Method	Subjects & Sample	Effects on Creativity and/or Innovative Behavior
Li & Xie (2022)	Developmental FB	Supervisor	Survey	S1 – MBA students from Chinese university (N = 389) S2 – Employees from Chinese company (N = 392)	FB --> Creativity (+)
Bak (2020)	Developmental FB	Supervisor	Survey	Local government employees from South Korea (N = 1669)	FB --> Innovative behavior (+)
Kim & Kim (2020)	Negative FB	- Company - Peers - Team leader - Experimenter	- Quasi field experiment - Laboratory experiment	S1 – Employees from Korean companies (N = 225) S2 –University students from North America (N = 356)	- Negative FB* bottom-up --> creativity (+) - Negative FB * Top-bottom --> Creativity (-ve) - Negative FB * lateral/peer-peer --> Creativity (-ve)
Eva et al. (2019)	Developmental FB	- Supervisor - Coworker	Survey	Public sector employees from China (Supervisors, N = 300) (Employees, N = 64)	FB --> Innovative behavior (+)
Su et al. (2019)	Developmental FB	Supervisor	Survey	Employees across industries from China (N = 375)	FB --> Innovative performance (+)
Gong et al. (2019)	FB environment	Coworker	Survey	Employees across industries from China (N = 264)	FB environment --> Creativity (+)

Camacho et al (2019)	1) No FB (2) Positive feedback (3) Negative feedback and (4) Positive plus negative feedback	Moderators of the experiment	- Longitudinal classroom experiment - Longitudinal experiment with voluntary participation	S1 – University students from Netherland (N = 93) S2 – University students from Netherland (N = 104) Innovation Managers (N = 516)	- Negative FB --> updating ideas (+) - Negative plus positive FB --> updating ideas (+)
Yoo et al (2019)	General FB	Not mention	Survey	Organizational employees from Korea (N = 297)	FB --> Creativity (+)
Christensen-Salem et al. (2018)	Development FB	- Supervisor - Coworker	Survey	MBA students with 5 years full time working experience (N = 63)	FB --> Creative behavior (+)
Hoornaert et al.(2017)	General FB	Crowd	Online Forum - Mendley crowdsourcing community	Ideas from Mendley crowdsourcing community (N = 7046)	Crowd FB --> Idea implementation (+)
Zhang et al. (2017).	FB environment	Supervisor	Survey	Employees across industries from China (Supervisor, N = 172) (Employees, N = 25)	FB environment --> Creative performance (+)
Gong and Zhang (2017)	FB environment	Supervisor	Survey	Employees across 7 industries (N = 264)	FB environment --> Creative performance (+)
Wooten and Ulrich (2017)	- No FB - Random FB - Directed FB	Tournament host (administrator)	Field experiment	Designers (N = 245)	- Directed FB --> Idea generation (+) - No FB --> Idea generation (0) - Random FB Idea generation (-)

Son, & Kim, (2015).	FB quality	Supervisor	Survey	Organizational employees from South Korea (Supervisors, N = 53) (Employees, N = 190)	FB quality --> Creativity (+)
He et al. (2016)	Failure FB	Supervisor	Survey	R&D employees across 5 Chinese companies (N = 345)	- Failure FB --> Incremental creativity (+) - Failure FB --> Radical creativity (+)
Jiang and Gu (2015)	Developmental FB	- Supervisor - Coworker	Survey	Software employees from south China (N = 232)	FB --> Creativity (+)
Battistelli et al. (2013)	General FB	Job itself	Survey	Employees from public sector (N = 270)	FB --> Innovative work behavior (+)
Hon et al. (2013)	FB valence (positive and negative FB)	Supervisor	Survey	Full-time Chinese employees (N = 265)	- Positive FB*Challenge-oriented stress --> creativity (+) - Hindrance-oriented stress*positive FB --> creativity (+)
Hildebrand et al (2013)	Community FB (competence, liking and preference distance)	Community	- Survey - Field experiment	Field study – Consumers (N = 149) Experiment 1 - Female members of an online consumer panel (N = 1092) Experiment 2 - Female students from Swiss university (N = 46)	FB --> Variety and satisfaction of self-design (-)
Davis et al (2013)	Quality of FB	Client	Survey	Members of the Family Firm Institute (FFI) (N = 314)	Quality of FB --> Innovative behavior (+)

Luthans et al. (2011)	FB valence	Researcher	Quasi experiment	Employees from midwestern university (N = 1526)	FB --> innovation (0)
Noefer et al. (2009)	General FB	Supervisor	Survey	Employees across the organizations (N = 81)	- FB --> Idea generation (+) - FB --> Idea implementation (0)
George and Zhou, (2007)	Developmental FB	Supervisor	Survey	Supervisors and employees (N = 161)	FB --> Creativity (0)
Zhou, (2003).	Developmental FB	Supervisor	Survey	S1 - Employees and their supervisors from two professional units at a university (N = 50) S2 - Employees from a for-profit hospital (N = 123)	FB --> creativity (0)
Zhou and George (2001)	Useful FB	Coworker	Survey	Office employees from United States (N = 149)	Job dissatisfaction * continuance commitment * useful feedback from co-workers --> Creativity (+)
George and Zhou, (2001)	FB valence	Supervisor	Survey	Office employees from United States (N = 149)	FB valence --> Creativity (0)
Ford and Gioia (2000)	Negative FB	Not mentioned	Survey	Managers across business in U.S (N = 51)	Negative FB --> Creative managerial decisions (+)

Zhou (1998)	- FB valence - FB style	Experimenter	Experiment	Undergraduate university students (N = 210)	FB valence --> Creativity (+)
Carson & Carson (1993)	General FB	Experimenter	Experiment	Individuals (N = 54)	Creativity goals*FB --> creativity (+)

Note: FB = Feedback, Study & Subjects (S1 = Study 1, S2 = Study 2), Effect on creativity and/or innovative behavior ('+' positive, '0' null, '-' negative)

4. Gender, Diversity & Indigeneity

Workplace Access and Treatment Within Organisations: An Exploratory Study of the Experiences of Acid Attack Survivors

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Workplace Access and Treatment Within Organisations: An Exploratory Study of the Experiences of Acid Attack Survivors

Abstract

This paper aimed to understand the experiences of acid attack survivors in work organisations in India. In-depth, semi-structured interviews with twenty-three survivors were thematically analysed to identify the factors affecting their workplace access and treatment within organisations. The analysis reveals that the dimensions influencing the experiences of survivors can be categorised under three broad themes: management of self, the role of others, and experience of inclusion. These findings contribute to the literature on stigma, disability and diversity and inclusion. The study has implications for managerial practice.

Keywords: India, acid attack, stigma, disability, diversity, inclusion

Introduction

Acid attacks are widespread in India (Ghosal & Chattopadhyay, 2020). Despite stringent laws on the sale of acid and punishment for perpetrators, the incidence of attacks has not stopped. According to the National Crime Records Bureau, 182 acid attacks were reported in 2020 ("Crime in India", n.d.). The actual number of cases is likely to be much higher as many attacks never get logged for fear of retaliation (Sharma & Shokeen, 2016) or to protect the family's honour (Grimley, n.d.). Women are the victims in most cases (Patel, 2014). Nearly all acid attacks aim not to kill but to injure and disfigure (Finley, 2013). Survivors of acid attacks experience bodily injuries, psychological problems and social isolation (Khoshnami, Mohammadi, Rasi, Khankeh & Arshi, 2017). The impact is acute as the damage is permanent and is associated with the identity-related aspects of a person, such as the face (Mittal, Singh & Verma, 2021)

The literature on stigma has consistently found facial deformities to be particularly pernicious (Goffman, 1963; Hebl, Tickle & Heatherton, 2000; Madera & Hebl, 2012). Facial stigmas can produce negative reactions like social avoidance (Rumsey, Bull & Gahagan, 1982), exclusion (Rumsey & Bull, 1986) and elicit lesser helping behaviour from others (Bull & Stevens, 1981). Such stigmas are known to evoke strong affective responses from others which are often automatic (Stone, Stone & Dipboye,1992; Stone & Colella,1996). As a result, individuals with facial deformities may be the targets of access and treatment discrimination in work organisations (Stone – Romero, 2005).

Given their underrepresentation in the literature, more research aimed at understanding the issues of acid attack survivors (hereafter "survivors") is needed (Mittal et al.,2021). This study seeks to understand the factors affecting survivors' workplace access and post-entry experiences. By doing so, we complement the literature on stigma, disability, diversity, and inclusion. We also extend implications to employers engaged in hiring survivors. The structure of the paper will be as follows. We first describe the phenomenon of acid attacks in India and then review the literature on stigma against individuals at work, particularly against the physically unattractive. The subsequent sections discuss the research methodology, findings, discussion and study limitations. Finally, the implications for managerial practice are presented.

Literature Review

Acid Attacks in India

In India, acid attacks have been associated with a male-dominated patriarchal mindset in society, inexpensive and effortless availability of acids, domestic violence, peer jealousy, and vengeance (Goswami & Handa, 2020). Acid attacks occur for other reasons, such as disputes over land and property, demands for dowry, and a spurned lover's revenge (Hameed & Bhattacharya, 2022).

The perpetrators of acid attacks often target the head and face of the victim to maim, disfigure and blind (Patel, 2014). The severity of the bodily injury depends primarily on the concentration, type of acid and the amount of time the body was exposed to the acid (Kumar, 2021). Victims endure complete or partial destruction of essential body parts. They suffer severe psychological trauma and social repercussions like being ostracised from society and becoming dependent on others (Patel, 2014). Dependencies get exacerbated as many survivors cannot find employment due to their disfigured faces (Heaune, 2019).

Stigma Against the Physically Unattractive

Goffman (1963) conceived stigma as a real or perceived discrepancy between a person's virtual and actual social identities. An individual's virtual social identity is the set of attributes expected of the person, while an actual social identity is a perceiver's views about an individual's actual characteristics, which may be real or assumed. Stigmatisation results when the person's actual social identity is

negatively discrepant from their virtual social identity (Stone et al., 1992). Stigma can be viewed as an identity threat because identity and self-definitions are affected by the perceptions of others (Kreiner, Ashforth & Sluss, 2006). If an observer perceives someone as having a stigmatised attribute, they will likely be recognised as having a devalued identity (Crocker, Major & Steele, 1998). Their devalued identities may lead stigmatised individuals to form negative self-identities (Paetzold, Dipboye & Elsbach, 2008). They can accept and internalise the societal beliefs that stigmatise them (Kreiner et al., 2006).

The bearers of stigmas cause perceivers to feel a sense of uncertainty, discomfort, anxiety, or even danger during social interactions (Blascovich, Mendes, Hunter, Lickel & Kowai-Bell, 2001; Crocker et al., 1998; Goffman, 1963). Not all stigmas elicit similar reactions from others. Characteristics that are more visible, increase in conspicuity or debility over time, are intrusive to interpersonal communication, are considered unattractive, and perceived to be within the control of the individual or as contagious have greater potential for stigmatisation (Dovidio, Major and Crocker, 2000; Jones et al., 1984).

In organisations, being perceived as different can have deleterious consequences for the stigmatised. To the extent that individuals differ or are perceived to differ from prototype applicants or incumbents, they are likely to be unfairly treated by the non–stigmatised others (Stone et al., 1992). Prejudices and stereotypes can get activated against such individuals when others become aware of their stigmatising attributes (Kreiner, Mihelcic & Mikolon., 2022). Stigmatised workers can experience social rejection, harassment, or bullying (Paetzold et al. 2008). The unfair treatment can lower their chances of success on the job and negatively affect their psychological well–being (Stone -Romero, 2005).

Research suggests that the physically attractive have advantages over the less attractive in the workplace. Studies have shown that attractiveness is related to general occupational success (Langlois et al., 2000) and positive bias in the selection, appraisal, and promotion judgments (Hosoda, Stone-Romero, & Coats, 2003). Unattractive individuals may be discriminated against when organisational demands require projecting an appropriate corporate image and compatibility with established norms (Rynes & Gerhart, 1990). Some researchers have studied the adverse effects of facial stigmas in the context of the employment interview (e.g., Madera & Hebl, 2012; Stevenage & McKay, 1999).

Our study aims to understand the reaction toward a sample of survivors in work organisations. Acid attack is distinct from other forms of facial disfigurements. Unlike most physical handicaps, an acid attack is caused by an act of deliberate violence. The reasons for such violence are rooted in the country's socio-cultural context. As most victims are women, multiple stigmas might be associated with survivors. Also, apart from disfiguring the face, acid attacks may affect other body parts, damaging the vision and hearing of survivors. Finally, in addition to the physical impairment, the burns can make working in field jobs extremely difficult for survivors.

Research Methodology

Qualitative approaches can provide a deeper understanding of phenomenon like acid attack that is socially and culturally constructed (Khoshnani et al., 2017). As our focus was on capturing respondent realities (Hannah & Lautsch, 2011) or perceptions of their experiences (Bluhm, Harman, Lee, & Mitchell, 2011; Lee, 1999), an exploratory, qualitative approach was considered suitable. The main research questions for this study were framed as follows: -

Research Question 1 (RQ1): What factors affect survivors' workplace access?
Research Question 2 (RQ2): What factors affect the treatment of survivors in the organisation?

Participants

The study consisted of both purposeful and snowball sampling. Participants were contacted through several Non–Governmental Organisations (NGOs) known for their work on the rehabilitation of survivors. Twenty-three survivors representing eight different industries: pharmaceutical, e-commerce, social services, information technology and services, banking, manufacturing, hospitality and health care were interviewed. Among them, seventeen were females, and six were males. Eighteen were married, and five were not. The average age of the respondents was 31.4 years. To the extent possible, heterogeneity in terms of age, gender and organisational background was ensured. A demographic summary has been provided in Appendix - I. The purpose of the study was explained to them, and informed consent was taken. The survivors were told that their information would be kept strictly confidential and used only for research purposes. In order to maintain confidentiality and anonymity,

survivors' names were disguised with codes. The inclusion criteria for the participants were as follows: (1) having experienced an acid attack, (2) currently employed (3) willingness to participate.

Data Collection

Data was collected using semi-structured interviews with the survivors. Interviews were conducted on the telephone or using Zoom or Google Meet. We designed some general questions for the interview to understand the survivors' experiences. The interview protocol (Appendix-II) resulted from multiple iterations, taking a cue from prior research (Kulkarni & Gopakumar, 2014; Koulikoff–Souviron & Harrison, 2010). These questions were meant for direction. Otherwise, the survivors were allowed to provide any information pertinent to the study. The questions focused broadly on five major areas – (1) demographic information, (2) effect of acid attack on career goals, (3) factors affecting entry into the workplace, (4) treatment in the workplace, and (5) future aspirations. We further probed the survivors' responses to understand their perspectives in-depth.

The interviews lasted an average of 37 minutes. Twenty-one interviews were conducted in Hindi or Bengali and later translated to English; the remaining two were completed in English. All interviews were audio-recorded with the permission of the survivors. The transcription of 14 hours and 8 minutes of audio recording generated 173 pages of single-spaced text (Times Roman, 12 font size). Qualitative research software NVivo was used for organising the data and coding.

Data Analysis

We followed a thematic analysis approach (Braun & Clarke, 2006; Braun & Clarke, 2021). Thematic analysis is a flexible method not linked to any pre-existing theoretical framework (Clarke & Braun, 2013). It is used as a contextualist method, which acknowledges how individuals make meaning of their experience and how the broader social context impinges on those meanings (Braun & Clarke, 2006).

Appendix-III summarises the six phases outlined in the thematic analysis approach (Braun & Clarke, 2021). After getting familiar with the transcribed data, we created nodes in NVivo to reflect the initial codes and tagged relevant sections of the transcript to those nodes. We then moved to the next phase of discussing and sorting different codes into potential themes. Revisiting and reviewing the themes

ensured that they sufficiently captured the delineation in the coded data. Patton's (1990) dual criteria of internal homogeneity and external heterogeneity were helpful at this stage. For example, support received by survivors from the embedded social networks/community was considered a separate theme from the support obtained from co-workers inside the organisation. The subsequent phase involved identifying and determining the unique aspect of the data captured by each theme. A recursive analysis process was followed; interview accounts were compared and contrasted with one another (Braun & Clarke,2021). The excerpts from transcripts were indexed into the themes. Several meetings were held between the two authors to build a consensus on the themes.

Adhering to guidelines for qualitative research (Hannah & Lautsh, 2011), we chose to represent all the themes, not only those mentioned by a certain percentage of participants. This approach aligns with the emphasis on describing participant perceptions of their experiences, as no extant research work deals with the focal research topic. Hence, the method is more interpretivist than positivistic (Bluhm et al., 2011), and we engage in description and explanation rather than calibration (Lee, 1999).

Findings

The analysis revealed a total of nine themes grouped into three categories – (i) management of self, (ii) role of others and (iii) experience of inclusion. We summarise the main findings below. More details with representative quotes from survivors are provided in Appendices IV-VI.

Management of Self

The themes in this category cover aspect centred around self-such as coping with a negative identity, overcoming disruptions in careers and personal characteristics of persistence and determination.

Coping with a negative identity (See Appendix IV for Participants' quotes)

The survivors recounted the challenges met due to their disfigured faces. For many, the decision to work itself was laden with apprehensions like What will others think about my face? How will they react? When they decided to work, many faced barriers as people held them responsible for their condition. Some of them developed strategies to mitigate the effects during interactions. Survivors perceived their education, experience, and skills had little value and were disregarded during interviews.

Most survivors had to take the support of non-governmental organisations to find employment. They were almost exclusively hired for roles that required minimum contact with customers. Inside the organisation, many were perceived and looked upon differently by others. This interpersonal discrimination affected their self-esteem and confidence. Many times, they sensed being treated with pity and paternalism. Without adequate support, many survivors were forced to leave the organisation.

Disruption in career (See Appendix IV for Participants' quotes)

Acid attacks affected the career choices of survivors. The attacks caused a change in their aspirations for several reasons. Many survivors were attacked with acid during their childhood, which caused tremendous financial hardship for their families. As a result, they could not complete their education. Many survivors started working early to support their families. In cases where survivors were working or had completed their education, the attack put a brake on their careers. Many survivors were confined to their homes for a prolonged time for fear of public contact. Also, the physical handicaps arising from the attack affected their career trajectories. Most notably, jobs that require exposure to the sun for a long duration is extremely difficult for survivors.

Persistence and determination (See Appendix IV for Participants' quotes)

The importance of persistence and determination was a recurring theme throughout the interviews. The "can do anything" and "nothing is impossible" attitudes resonated throughout the accounts of survivors. Survivors had bounced back from the immense trauma of the acid attack. This remarkable resilience has made them mentally and emotionally strong to deal with workplace and life challenges. Such persistence and determination moved their focus away from thinking about obstacles to effectively performing their jobs. Survivors wanted to be treated just like any other employee and believed they were capable of performing any tasks.

Role of others

The themes in this group constitute those characteristics that involve the broader community's impact on survivors' experiences. They focus on the support received from others, advocacy for the empowerment of survivors, responsibility towards family and its effects on their careers.

Support (See Appendix V for Participants' quotes)

Survivors reflected on the support they'd received from the embedded social network that had aided their rehabilitation and reintegration with society. The help came from various corners like family, doctors, teachers, social workers and organisational members. Our findings suggest that this assistance transcends organisational boundaries. The support from the wider community not only helped the survivors find employment or perform on the job but in many other ways like recovering from the trauma of the attack, completing education, finding inspiration and instilling hope back in their life. The guidance and mentorship significantly shaped who they were today and where they wanted to be.

Advocacy (See Appendix V for Participants' quotes)

Their own life-changing experiences motivated survivors to engage in advocacy behaviours. Survivors wanted to learn new skills and learn about their jobs to demonstrate competence. Many felt that their performance could act as a signal for organisations to hire more survivors. They hoped to serve as role models for others. Many survivors were actively involved in creating awareness about the issues of acid attack violence. The use of social media and becoming associated with support groups were two methods used by survivors to sensitise others. A few survivors wanted to become entrepreneurs in the long run to employ similar others.

Responsibility (See Appendix V for Participants' quotes)

Responsibilities weighed heavily in determining the career choices of the survivors. Sometimes, these responsibilities acted as barriers to accomplishing their planned career goals. In many cases, survivors were the sole earning members of their families, making them utterly dependent on their current source of income. Additionally, a lack of knowledge of the available opportunities also hindered the prospects of survivors in realising their goals.

Experience of Inclusion

The themes in this group are centred around those organisational features that fostered a sense of belongingness among participants. Specifically, we look at the impact of organisational policies and practices, support from co-workers and accommodations.

Organisational policies and practices (See Appendix VI for Participants' quotes)

Survivors experienced inclusion when the organisations promoted a safe culture, treated everyone equally and instituted measures against those who did not conform to the policies. They felt engaged when they were given opportunities to take on responsibility and participate in activities supporting their workgroups. The behaviours displayed by the organisational leaders and human resource officers were pivotal in engendering feelings of trust and support among the survivors.

Support from co-workers (See Appendix VI for Participants' quotes)

Survivors noted the importance of positive exchanges with employees in the workplace. They spoke about instances where interactions with employees made them feel included in the workgroup by allowing them to be authentic, treating them with respect, and being available to support them on work-related tasks. Most importantly, survivors appreciated it when they were treated like anyone else.

Accommodations (See Appendix VI for Participants' quotes)

Here we observed three strategies deployed by organisations. First, organisations instituted specific policies for survivors. Second, policies were framed for employees with special needs in general. Finally, due to their physical condition, few survivors were provided alternate working arrangements within the organisation that did not require them to be exposed to the sun and/or stand for a large portion of the day.

Discussion

This study aimed to understand the factors affecting workplace access and treatment of survivors. Our findings based on a sample of twenty-three participants suggest that survivors' experiences can be explained using a framework at three levels – individual, societal and organisational. Our findings contribute to the stigma literature in multiple ways. Consistent with prior research (Crandal & Eshleman, 2003), we found that the attribution that survivors are responsible for their stigma may justify potential discrimination. Our results corroborate previous research (e.g., Stone et al., 1992; Dipboye, 2005, Paetzold et al., 2008) regarding negative consequences for stigmatised individuals in work organisations. Due to their devalued identities, survivors find obtaining employment difficult. Even when they secure employment, they are liable to face treatment problems. Prior research has found anxiety and avoidance present during interactions between stigmatised and non-stigmatised individuals

(Hebl et al., 2000). Moreover, the disruptiveness or the extent to which a stigma makes itself visible in interaction is heightened by its unaesthetic characteristics (Jones et al., 1984). For survivors, the aesthetically unappealing nature of the stigma manifests itself during interactions in work situations leading to aversive reactions from others. Discrimination against applicants with facial disfigurements has been observed for jobs requiring high levels of customer contact (Stone & Wright, 2013). Similar bias was found in our sample as well. Most respondents described their current job roles as requiring minimum face-to-face contact with customers. We noted that non-stigmatised others played a pivotal role in mitigating the effects of stigma. This result is in line with previous research on stigma (Goffman, 1963; Jones et al., 1984; Kreiner & Mihelcic, 2020; Kreiner et al., 2022).

Our findings contribute to disability management literature by focusing on survivors. While a positive mindset, persistence and belief in self were important pillars for persons with disabilities (PwDs) in overcoming barriers in their careers (e.g., Noonan et al., 2004; Kulkarni & Gopakumar, 2014), our study supports their importance in the case of survivors. The stereotype content model (Fiske, Cuddy, Glick & Xu, 2002) categorised survivors as high on warmth but low on competence. This combination evokes feelings of pity and paternalistic behaviours (Dwertmann, 2016). Our results suggest that when survivors perceive others to view them with pity or engage in paternalisation, it negatively impacts their integration into the organisation. We found survivors to engage in advocacy behaviours to benefit similar others. This finding resonates with previous research regarding PwDs (e.g., Kulkarni & Gopakumar, 2014). We noticed survivors hired mostly in temporary jobs, on third-party payrolls, with limited job security, mainly when they lacked education, skills or experience. From a career development standpoint, most survivors were found to occupy entry-level jobs with limited opportunities for upward mobility. Their qualifications were often overlooked, and their entry to the organisation and subsequent career advancement opportunities were restricted to some predetermined roles. These findings align with research on PwDs in the context of India (Kumar, Sonpal & Hiranandani, 2012; Kumar, Kothiyal, Hiranandani & Sonpal, 2014; Suresh & Dyaram, 2020).

Finally, our findings contribute to diversity and inclusion literature. Ferdman et al. (2009) defined the experience of inclusion as involving feelings of safety, respect, support, value, trust, fulfilment,

engagement, & authenticity within the workgroup. The results from this study imply that the experience of inclusion is a critical factor affecting the experiences of survivors. They are more likely to enjoy better outcomes when organisational policies, practices and interactions among the employees foster a climate of inclusion. Therefore, these results supplement earlier studies (e.g., Nishii & Rich, 2014) that have shown the benefits of inclusive climates, particularly for members of traditionally marginalised groups.

Limitation & Directions for Future Research

This study has limitations that future research should address. More research using a larger representative sample should be done to generalise our findings. The participants in our study sample were drawn from the formal economy. However, the informal economy houses many self-employed survivors. Future research with this cohort may offer additional insights. This study was conducted at one point in time. As stigmas are socially constructed, they may change over time with popular opinion (Ragins, 2008). Thus, a longitudinal study may provide a more nuanced understanding of the phenomenon. Stigma is rarely experienced in isolation, and multiple stigmas may be attached to a single individual arising from sources internal or external to work (Kreiner et al., 2022). As per the double jeopardy hypothesis, multiple stigmas can have an additive negative effect (King, 1988). The combination of gender and acid attack may provide the basis for further stigmatisation. Our study, based on a mixed sample of male and female survivors, did not indicate gender-wise differences in treatment. Our results suggest a bias against survivors for customer-facing roles. Prior studies have shown discrimination against unattractive depends on the nature of the job (e.g., Johnson, Stizmann & Nguyen, 2014). Researchers can validate if discrimination exists against survivors for high customer contact jobs. The degree of disruptiveness of facial deformities arising from acid attacks varies from person to person. We hypothesise that the attitude toward survivors may differ depending on the extent to which the deformities are aesthetically unappealing (e.g., Stone & Colella, 1996) and the strategies adopted by the survivors to mitigate the effects of stigma (e.g., Kreiner et al., 2022). Our study did not capture these effects. Finally, our study on the experiences of survivors is just one side of the coin. Further research should consider the perspective of organisations.

Practical Implications

There are several takeaways for managers from this study. Organisations need to be mindful of the trauma and the adversities that survivors have undergone before hiring them. We found companies with experience hiring employees from various underrepresented cohorts like women and PwDs to be more adept at engaging survivors. This finding attests to the importance of contact in influencing the attitudes of others found in the literature on disability and stigma (Stone & Colella, 1996; Hebl et al., 2000; Blascovich et al., 2001). Most importantly, our findings highlight the importance of a climate of inclusion to facilitate the integration of survivors into the organisation. We noted that organisations recruited most survivors as part of their diversity hiring initiative. However, diversity alone may not necessarily result in positive benefits without inclusion (Ferdman, 2014). Specifically, when survivors are treated differently and do not receive support from managers, they are likely to be low on engagement and morale. Perceptions of pity and paternalisation can affect their assimilation into the organisation. As Nishii & Rich (2014) put forth, inclusive climates are characterised by three essential dimensions – organisational practices, interactions among employees and objective characteristics of the work setting. To foster an inclusive environment, organisations should develop policies and practices that are fair and consistent. Organisations should ensure that all employees feel safe and can be authentic without any pressure. Leaders must practice a participative management style by involving employees in decision-making. Extending prior research (Kulkarni & Kote, 2013) on PwDs, our study reiterates the importance of non-governmental organisations in the training and placement of survivors. Besides involving these agencies in recruitment, organisations should leverage their expertise to understand survivors' unique needs and expectancies. For example, which are the jobs where survivors can be engaged? Are there any specific benefits the company can support? What kind of career development programs can be created for survivors?

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Appendix – I

Identify Code	Gender	Marital Status	Industry	Age
P1, M1	Male	Married	Pharmaceutical	37
P2, F1	Female	Married	E Commerce	24
P3, M2	Male	Married	NGO	39
P4, M3	Male	Married	IT	36
P5, F2	Female	Married	Hospitality	30
P6, F3	Female	Married	Banking	25
P7, F4	Female	Single	Manufacturing	25
P8, F5	Female	Single	NGO	28
P9, F6	Female	Single	E Commerce	24
P10, F7	Female	Married	E Commerce	40
P11, F8	Female	Married	E Commerce	39
P12, F9	Female	Married	Health Care	31
P13, F10	Female	Married	IT	33
P14, F11	Female	Married	FMCG	28
P15, M4	Male	Married	Banking	31
P16, F12	Female	Married	Steel	29
P17, F13	Female	Married	FMCG	34
P18, F14	Female	Married	FMCG	27
P19, F15	Female	Married	Hospitality	42
P20, F16	Female	Single	Hospitality	28
P21, M5	Male	Married	Banking	31
P22, M6	Male	Married	Insurance	34
P23, F17	Female	Single	Pharmaceutical	27

Appendix – II

Q1. Can you please tell us more about yourself?

a. What is your highest qualification?
b. What is your family background?
c. What is your current age?
d. What is your marital status?
e. What is the industry where you are currently employed?

Q2. What is your current role in the organisation?

Q3. How did you go about looking for a job?

Q4. What are the policies of your current organisation on diversity and inclusion?

Q5. How would you describe the behaviour of employees?

Q6. What are the career development opportunities provided to you by the organisation?

Q7. How have you managed your career so far?

Q.8. Can you describe any initiative that you have taken to further advance your career?

Q9. What are your future aspirations?

Q10. Is there anything you would like to add to our discussion that has not been covered so far?

Appendix – III

No	Phases	Description
1	Data familiarisation and writing familiarisation notes	Interviews taken by the researcher, Taking initial notes Transcription and translation of data
2	Systematic data coding	Systematic coding across the data set Use of NVivo' software
3	Generating initial themes from coded and collated data	Collating all extracts and codes related to a theme
4	Developing and reviewing themes	Checking for internal homogeneity and external heterogeneity
5	Refining, defining and naming themes	Recursive process to clarify each theme and its relation to other Check for the coherence of the overall story
6	Writing the report	Relating findings to literature and research question Selection of illustrative data extracts for a compelling narrative Re-read the entire data set and past literature to clarify contributions

Appendix - IV

Management of Self

Superordinate Theme	Sub Theme	Code	Participant Quote
Management of the self	Coping with a negative identity	Differential Treatment	'Various kinds of people are there, some of them are nice, some are not, some of them discriminate, like not eating together, not drinking water from me, some are nice, but it so happens that someone or the other always asks, how did this happen, how it happened to you, you can't say the truth to everybody, this is what happens with us attitude of everyone is different, many people think that I have done crime due to which this has happened to me…like this' [P12, F9]
		Blamed for one's condition	'I tried a lot; just when I used to ask for a job, no one wanted to talk with me, after looking at my face, they used to ask what will you be able to do, there is no job here, they used to refuse directly that there are no jobs.' [P10, F7]
		Credentials Disregarded	'Whenever I used to go for an interview, after looking at the face, the first thing that was asked was how did this incident happen to you? When did this happen? Why did this happen? Apart from the interview these things…...then are you capable to work in this condition….my qualification had become zero in that situation, I had previous work experience, basic computer training, I was fluent in English, but for them, all this had become zero, for them the questions were like why this incident happened with you, there must have been something going on between you and the girl due to which the incident happened.' [P3, M2]
		Display of pity	'So today there are people who give us jobs but, in those cases, also it seems that they are showing sympathy and pitying on us by providing a job. They should take interview give us jobs as per our eligibility and qualification. Giving jobs but at the same patronising, on the first day taking four photos and posting it on social media, declaring that acid attack survivors work here, this is bad.' [P8, F5]
		Effect on self-esteem	'There was one instance where I was sitting in front of the corridor, and my reporting manager came up to me, and she asked me to get up from there and sit in the corner so that if some client is walking in the office, they directly will not be able to see me. [Due] to the scars and all, and it will not be that appealing and pleasing to look at my face, so I really felt bad, and this is what I actually had faced'. [P13, F10]
		Discrimination for customer facing jobs	'At one hotel, I got an offer…I went there, but they told me they couldn't put me in the reception because customers would face difficulty.' [P6, F3]

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		Mitigating mechanism Negative customer reaction	'During interviews I started concealing the fact that I was attacked with acid. When they [interviewers] asked me what happened to my face, how it happened, when, etc., I told them during childhood I fell down on fire.' [P21, M5] 'Once I had collected instalment from a village. The following month when my colleague was assigned to the case, the customer requested him not to send me for collection anymore because his kids get scared looking at my face.' [P22, M6]
	Disruption in career	Brake on the career Physical handicap Discontinuation of education Break in education	'When I got attacked, I was working during that time, Because of the attack that, I had to leave my job in between and for two years, I had no means of employment. Actually, there was, I really did not also think of working because I was suffering from low self-confidence and I was very scared for my life. So, I could not step out of my home because of that. And because of the attack, obviously my whole focus went on my surgery. You know how will the things work? How will I look after my treatment expenses? Then there are trials I have to go to court. And then with that I was not working…so everything…every aspiration took a backseat and it is just that, you know, I was looking for survival during that time.' [P13, F10] 'I wanted to become a news anchor, for this purpose I had done mass communication. I got a job in news reporting which I did for 3-4 months, as a result of which my skin got damaged. The doctor advised me not to be outside in the sun for long time. So, I asked the company if I could be transferred to a role inside the office. They refused, so I had to leave the job'. [P2, F1] 'I belong to a village, I didn't have anything as such in mind at that time, that what should I become and all, but I used to like studying, usually after under graduation everyone decides what to do in life, but I couldn't complete under graduation so I wasn't able to judge that what all should I focus and become, I wanted to study and get a job in future.' [P12, F9] 'I had completed graduation (BA) in 2007, after that I was preparing for civil services. At that time the acid attack happened, after which I was confined to my house for two years. I then received a call from [NGO] asking if I wanted to continue with my studies like MBA, BBA, something that?' [P1, M1]
	Persistence and determination	Mental toughness Self-confidence	'……And by that time, I got prepared that this is going to be keep happening and I have only this face I can't change it like that. And this this face is going to be with me forever. So, if you want to accept, accept if you don't want to, then just go away. This is not going to bother me at all. I am strong enough, mentally, emotionally as well that I can overcome I can deal with it. Whatever thing had happened has made me strong that if somebody will be like that, I am not going to make myself cry or I'm not going to feel bad I will just be focusing on my work. And if something happened like crosses the lines or something like that, then I will quit.' [P7, F4] 'I feel that I'm capable enough to do any work. Just because my skin has burned it doesn't mean that I will not be able to perform any task. In the minds of people and their mentality towards acid attack survivors is that

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			because of their condition, they won't be able to able to work. But I have confidence on my education, I can do anything.' [P8, F5]
		Will power	'It [the attack] disturbed my ambitions but it can't break my mentality or my will power.' [P4, M3]
		Perseverance	'…...But despite all this, with my determination I kept up the fight. So much so that I received threatening from the house of the accused person to withdraw the case, but I didn't. I kept with the fight so that the accused received his punishment.' [P5, F2]

Appendix V
Role of Others

Superordinate Theme	Sub-Theme	Code	Participant Quote
Role of Others	Support	Support from social worker	'If person X (from NGO) had not supported in the beginning, then maybe I wouldn't have been able to do a job, or maybe I would have got it somewhere else, whatever it is, but he is the one who has supported me the most.' [P11, F8]
		Encouragement from manager	'I did not have any idea about computers, but as my manager motivated me, I have learnt basic excel, word, power point, etc, DTP, I'm making banners, editing videos, like I have tried many things, in fact my manager even planned that as I like graphics a lot, she admitted me to a graphics course, so these things are there, she gives these facilities, she's beside me always and supports me.' [P8, F5]
		Support from immediate family	'My family has supported me a lot, in fact only my family has supported me, no one else, I'm here because of them, my father, mother and brother.' [P12, F9]
		Mentorship from the treating physician	'In my case my doctor was the one who gave me direction, who made me become independent and self-sufficient, taught me to support others, to make others self-sufficient, because my doctor is my guru, after my incident taught me not to depend on others, told me society doesn't care how your face is not and how it was before, whatever society has to do, it will, you focus on with all these changes what you want to become in life, so he gave me an identity and with that I moved forward.' [P3, M2]
		Motivation from a social event	'There was one program from the foundation at a five-star hotel, many actors were present, everybody behaved normally with me, if I had not been attacked with acid probably, I would never have experienced something like that, I was motivated a lot, everybody ate from the same plates, I was amazed, a Bollywood actor told me, putting his arms around my shoulder, like my face has only been burned, not my mind…., after seeing their behaviour I felt very motivated.' [P1, M1]
		Guidance from the tutor	'She [My Tutor] told me one thing that. I mean, she told me a story of Helen Keller and then she told me. That you can at least see the world. You can feel the world you can feel everything you can sense everything. You have very good brain which you can use and you can hear, you can speak, you can eat. You can do all of these things, but that lady she hadn't anything if you know about her. So, she said, may you focus on the things which you want in your life and what you want to become, not what you want people to. Please you be good to you and things like that. If you focus on your thing then automatically other things will take place like they will see you as a hero. You will become their inspiration and they'll become your friend.' [P7, F4]

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	Advocacy	Performance as signal Demonstrate competence Awareness Building Associating with support groups Provide employment in future Speaking on behalf of similar others	'It's possible that if one survivor comes up, others may get a chance, survivors get hired. Companies generally test, if one survivor can perform well, others can get a chance in the future. Just like the way I have come forward, similarly I would like to bring 10 more people. If no one else is helping, we can always help each other. At this point, I cannot help the survivors financially, because my salary is not that much, but I try to help in my own way. I connect them to the right resource for treatment, lawyer, NGO, etc.' [P6, F3] 'When people stopped giving me jobs because of my face, I started being very active on social media and from that I got little bit famous and I got recognition so people started inviting me for TedEx talk or as a motivational speaker. I have always kept acid attack survivors' problem in front of people so that they should know what they suffer mentally, emotionally, financially, physically, they should know their problem and if they will get to know so they can be like yes, we have heard it somewhere…. like this also happens. If you don't create awareness, no one will know of the issue. So that's how I started talking about acid attack survivors, saying they be nice to them and try to be helpful and accept them.' [P7, F4] 'I want to change something, that there should be no acid attacks in this country, that is my dream, I want to dedicate my life to this, that's my dream, I will work my whole life to this end, many things will happen, I'm sure you people will also see, I'm certain that I'll do a lot of work, so that's not a matter, that will happen, but that is the purpose of my life, that my country should become an acid attack free country and every perpetrator of acid attack should be punished.' [P8, F5] 'I want to become an entrepreneur in future. I wish to have my own boutique or garment factory where poor women who are victims of various kinds of violence can find employment.' [P19, F15] 'I will like to say to the girls who think they should not come out of the house and think they can't do any work, till the time you do not come out of your home, you will not be able to do anything, I will request them please step out of your homes, whatever you want to do, don't be scared, come forward and fulfil your dreams, because till the time you're at home you will not be able to do anything.' [P11, F8]
	Responsibility	Financial constraints Providing for children	'They [Parents] got me married, after that lot of responsibilities were there, I didn't have in laws, to I thought that I should get a job….so I was in a lot of distress…. then I approached a madam and told her that get me a job somehow, I wanted to study also, ……., there was more need of money, so I went to the hospital she had spoken on my behalf and I got the job.' [P12, F9] 'My daughter is studying now, I want her to continue with the studies, I couldn't fulfil my dreams, but I want her to achieve her goals, she wants to become a doctor, I just want that her dreams to come true.' [P11, F8]

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		Dependents in family Hopelessness and Despair	'I have not felt ever that I will be able to achieve my ambitions, even then I'm in this job, because the problem is that I have to take care of my family, recently my father passed away, responsibilities have increased, my mother stays in the village, sister is there, she doesn't have a husband.' [P4, M3] 'At present how should I plan, I can't say, I'm not able to understand what I should do, I haven't completed my graduation, I don't have anyone to guide me like what I should do, sometimes I feel that I have completely lost, I won't be able to do anything, can't understand what I should do.' [P9, F6]

Appendix VI

Experience of Inclusion

Superordinate Theme	Sub Theme	Code	Participant Quote
Experience of Inclusion	Organisational Policies and Practices	Safety Respect	'Policies are for everyone that everybody should be nice, kind, helpful to everyone. You can't be rude and you can't talk to louder to anyone and you can't make anybody feel lesser than you. Means there are policies, so they have to behave in certain ways or they are behaving that way. And even if something, if someone behaves, you know strange to you…rude to you, you can complain and company will take action against them.' [P7, F4]
		Equal Treatment	'I'm treated as an equal here, I get reprimanded like others, I have to work as hard as others, I work like others, and I like this nature, I have never felt that being a survivor I'm being cornered or that some work is being taken away from me.' [P8, F5]
		Career development	'During women's day, they [company] have planned for higher education, so I have told them I want to complete BBA, so it is under process right now' [P17, F13]
		Leadership support	'The CEO of the company had a personal meeting with me and the other survivor who is working in the company. He enquired like how you all are working, are you facing any problems.' [P1, M1]
		Participation	'During a training on women empowerment, I was asked to speak….to tell my story how to progress in life.' [P18, F14]
	Support from co-workers	Treated as a human being	'Behaviour of other employees is very good. They do not see me as an acid attack survivor, they consider me just like any other human being.' [P5, F2]
		Authenticity	'I can interact with regarding work or anything with everyone. I can be myself; I can interact with anyone. I can talk to anyone. This company is completely different. They are people here are very good. They don't treat me different or don't look at me as you know that we saw what will happen and all. Yeah, and all means in this company there is nothing problem like that. Everybody is great. Good, warm, welcoming, very helpful as well.' [P7, F4]
		Bonding with co-workers	'We have lunch together; we wait for each other while getting into the cab in the evening. I feel that I'm in a good place now, no troubles here, I get everything.' [P6, F3]
	Accommodations	Special policy for survivors	'..… Like I cannot be in the sun for longer time and so means in our company there is the thing that if fire alarms started ringing you should have to go down and you should have to stand in. There is some area they

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			have made and there you have to stand so that……. comes under the sun. This sun hits very harshly there, so they know that I can't stand in the sun for that long and my eyes gets burning and my skin also gets started irritating. So that's why they have gave me another place. Different place means I can stand at the reception area in the under the roof.' [P7, F4]
		General policy for people with special needs	'Like for normal people one and half days of leave is there in every month. But for differently abled employees, two days of leave are provided per month.' [P1, M1]
		Alternative working arrangements	'My previous job here required me to stand at one place for a long time, as skin from my leg was used to for operation (drafting) so I can't stand for long time, so the company gave me another platform, in the back office, where I work to manage the inventory' [P18, F14]

Creative writing as scholarly business research: the contribution of a literary literature

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Creative writing as scholarly business research: the contribution of a literary literature

ABSTRACT

This paper explores the application of creative writing as both dissemination and method in its own right. It questions the tendency of business researchers to seek to illustrate objectivity through unsophisticated literary forms when presenting scholarly work. Going beyond this issue, the paper briefly explores the use of creative writing forms when conducting and disseminating scholarship, providing personal examples of the authors' work in this field. The presentation will take this further, with the performance of excerpts for consideration and discussion in conference.

Keywords: dissemination; paradigmatic writing; creative writing;

'You'll make stuff up? How is that still research? Sounds more like fiction, doesn't it? You'll end up with some kind of novel. I mean some of it simply won't be true' (Watson, 1995, p. 302).

INTRODUCTION

As scholars of management and organisation we thrive on paradox and irony. These and other linguistic tropes, not least metaphor, are often crucial to our understanding of the complexity, intersubjectivity and unpredictability of work-life. Arguably there is no richer way of communicating and thinking about organisational phenomena than by telling stories to each other. Throughout our lives we share ideas and learn from each other by experimenting with the ways that we can use different forms of language, whether written, spoken or symbolic. Because of this, it should not be surprising when students complain about being required to read long, impenetrable and jargon filled scholarly texts. Indeed we authors have come across a significant number who somehow manage to reach the end of their undergraduate studies without being exposed to a single refereed article. It may seem attractive to resort to superficially chatty textbooks that oversimply complex ideas, concepts, models, theories and research to make life easy for such apprentice scholars. However, this inevitably results in that dangerous phenomenon that results from too little knowledge – that of partial education and misplaced confidence based on a sort of multiple-choice testing syndrome. The particularly human way of addressing this seems to rely on story and model/theory interacting. As McCloskey

(p.6) suggested 'a story answers a model. But likewise a model answers a story'. In other words, we tend to use stories to think through and illustrate theories, while using theories to explain our stories.

Presenting scholarly work in a creatively challenging manner gives us the opportunity to present complex ideas in a readable and engaging format; telling stories (or using music, drama, verse or other artistic media) to frame messy ideas of practice in all the business disciplines, in much the same way as creative writers have sought to do since Homer's time. This paper and presentation introduce a few different examples from our own work – we don't want to spend lots of time talking *about* our attempts to write creatively in our disciplinary areas; rather we want to share some examples and discuss, with other conference participants, our actual contributions.

PHILOSOPHICAL ROOTS

Researchers have long debated the ontological, epistemological, axiological and methodological assumptions made in all sorts of research, not only social investigation (although arguably *all* research tells us as much as about social norms and practices as the specific topics being studied). We propose to explore the implications of creative writing in *doing* research, especially in business (as a key arena of social investigation). Perhaps the crucial word here is *implications* (though others are also important) as this is clearly where insight trumps fact (whether or not such social facts exist anyway – a key ontological question in itself), or perhaps where 'fiction trumps fact' (Knight & Tsoukas, 2019, p. 183); implications cannot be deductive absolutes (such as *all humans are mammals and all mammals require oxygen to metabolise fuel from food, therefore all humans must have access to oxygenated air to survive*), rather they require insight, generally guided by incomplete empirical and theoretical uncertainties. Another way of presenting this argument, if rather more forcefully, was demonstrated by the marketing researcher Gummerson (2003, p.482), when asserting that 'all research in interpretative' if only because 'no ready-to-consume research results pop out like a soda can from a vending machine once we have inserted sufficient money and pushed the right button'.

Although we don't intend to over-focus on this philosophical debate, we do assume that some level of familiarity with the key arguments. For example, seeing research as definable by paradigms or worldviews, represented by patterns of method has long been questioned by methodologists,

philosophers of science and/or science historians. One such historian of science, Thomas Kuhn (2012) argued that paradigms of science tend to reinforce such patterns of method and proscribe alternatives. Although serving to present an academic ideal of practice based on epistemological assumptions about rigour, it seems an almost inevitable human trait to resist any challenges to such assumptions and be suspicious of different paradigmatic possibilities.

An example of paradigmatic tension was highlighted by Czarniawska's (1998) influential work in the field. Czarniawska suggested that the importance and potential of narrative in organisation studies was challenged by the academic establishment because

> by the criteria of scientific (paradigmatic) knowledge, the knowledge carried by narratives is not very impressive. Formal logic rarely guides the reasoning [abductive reasoning being more likely than deductive or even inductive here – our observation], the level of abstraction is low, and the causal links may be established in a wholly arbitrary way' (1998, p.3).

Herein lies both the perceived weakness and, somewhat ironically, the strength of narrative-oriented research. If we see narratives as the stories people tell each other to share an experience, better understand each other, caution against some behaviours, recommend others or emphasise a moral point, they cannot hope to satisfy any need for objective and factual truth. Stories are selected, abbreviated, emphasised, elaborated, truncated and otherwise adapted to suit the purpose that we have for them. They simply do not fit the need for scientists to present an unquestioned ontological reality (they are far too subject to axiological bias). However, these very biases are so inherently a part of humanity that it would be foolish to ignore them; the insights offered about people are far richer than any carefully controlled experiment or questionnaire survey could ever hope to elicit. Indeed, such stories present a sort of intersubjective arena of humanity that could encourage us to question the *validity* of such epistemological concepts as logic, statistical reliability and, of course, validity itself.

Such a claim is likely to inspire controversy from many business researchers. Yet, most academics who engage in teaching as well as lecturing are likely to engage with this sort of narrative in supporting their students' learning. MBA students value the *war stories* of practitioner lecturers and

case studies are nothing more than carefully presented and controlled narratives to inspire debate and/or position theory in reality. Similarly, textbooks suggest novels, films and other art forms to do the same. A critical lens could frame this as a sort of an example of Orwellian doublethink (Orwell 1989), or at least a double standard that it is acceptable to use subjectively framed stories for students, while we experts somehow know better. The paradox here is that by believing we are simplifying a complex theory into a story, we are actually increasing its complexity as the very partiality of any narrative is likely to raise more questions, in an engaged audience, than it actually answers.

Another way of thinking about this relates to paradigmatic traditions of language. The convention of presenting research finding in third person passive voice is a key example of this. Perhaps this is the biggest single contributor to the clumsy nature of much such writing. Yet it does seem to be based on at best a sort of misunderstanding, at worst a strategy of exclusion and obfuscation. One possible explanation for the approach can be traced to the logical positivist movement. Language was a crucial factor for logical positivists, largely relating to the development of 'deductive formalisms' (Couvalis, 1997, p. 4) and the precise, or objective, use of 'descriptive terms in science' (1997, p. 26). The logical positivists' emphasis on language seems to be at least one reason that so many researchers perceive third person passive voice as objective in nature; anecdotally, colleagues and students often assert just this, claiming objectivity is *ensured* because this language style reduces personal bias. Exactly how this is the case is not clear and never stands up when asking such individuals how this actually works. There is another apparent irony here as logical positivists themselves have little or no problem with first person active per se, as was demonstrated by Carnap's (1936) paper that discussed their concerns with language. Largely written in first person active, it focuses on testability and meaning as key elements of scientific language rather than voice; indeed Carnap is comfortable sharing several personal views (*I believe*...) throughout the paper. To some extent at least, he is tacitly recognising an element of intersubjectivity in scholarly communication. There may be some potential merit in using passive voice when reporting observable and/or experimental phenomena, to avoid incautiously attributing causation, not so much to avoid clauses such as 'I/we manipulated variable A or B', but to avoid linking active tense with such causation

linguistically, so rather than 'A caused [or led to] B', we might write 'After A was manipulated, B could be observed'. However, such stylistic nuance does have relatively limited impact.

Next we shift our emphasis to more explicitly creative, or literary forms of scholarly writing in social research.

CREATIVE WRITING AS DISSEMINATION, ANALYSIS OR TRUTH

At the turn of the last century, the organisational sociologist Tony Watson (1995, 2000) was exploring the use of fiction in his own ethnographic work in organisations. He initially showed how there is a relatively fine line between anonymising study participants for ethical purposes and creating wholly fictional representations of phenomena and scenarios. He wasn't alone in doing this, given the role of ethnographic novels in various disciplines (Lancione, 2017), but it is certainly not common in business research. Other researchers, such as Caroline Ramsey (2011), in business education, and Maddock (2017), in accounting, have drawn on another type of creative writing, using poetry as 'a method for doing and writing inquiry' that involves readers, by allowing (perhaps encouraging) them to engage with research more creatively than is likely with traditionally formal academic writing.

As a relatively high-profile example of creative writing in business, Harvard Professor John Kotter collaborated with Holger Rathgeber (2005) to take his own research in leadership and organisational change to another level, publishing the bestselling fable 'Our Iceberg is Melting'. This aroused considerable interest for different reasons, not least the use of fiction to communicate a well-rehearsed scholarly position. Arguably, one of the key contributions of this short book was the interest and critique that it facilitated because of its unusual literary context in the largely conservative field of business research. It suggests that fictionalising an important topical issue can encourage everyone who reads it to look at that issue from a different perspective. This invites both a wider potential audience and a more literary aspect to any critique. For example, Reissner, Pagan, & Smith, (2011, p. 417) suggest 'two contrasting readings' of the fable. They suggest that although it offers a fairly clear message of Kotter's modernist orthodoxy regarding organisational change management, a more critical reading can turn this around by encouraging readers to question

> the idealistic representations of characters' roles and behaviours, and demonstrate how organisational actors may subvert the book's story and metaphoric representations to resist change… [therefore they argue that] story and metaphor can reinforce an author's underlying message, but that their ambiguity and interpretative flexibility always allow for unintended, dissenting and potentially subversive interpretations' (2011, p.317).

In this way, an explicitly non-factual presentation of ideas can invite readers to apply alternative perspectives and ask different things of a single text. In other words, fictional works can 'create a dialogue between different conceptions of a particular organizational reality' (Rhodes, 2001, p.52). Perhaps there is a tendency to treat celebrated scholarly texts as venerable accounts of truth that may discourage the sort of questioning that more *literary*, or even popular, literature can bring to the surface. For example, we could ask whether a painstakingly reported, rigorously empirical work on human ethics can illuminate the subject or inspire discussion and debate any more than celebrated literature such as Hugo's (2002) *Les Miserables*, Sophocles' (2005) *Antigone*, Eliot's (1922) *Wasteland* or even perhaps Martin's (1996) *Game of Thrones*. The third of these examples returns to the potential contribution of poetry to social and business scholarship.

VERSIFYING RESEARCH: LITERATURE AS LITERARY

The ethnographer Devika Chawla (2006) published a poem about/from her fieldwork that she later conceptualised as a 'sideways mystory which in its poetic form allowed me to shift from an interpreter of tales to a cultural critic who wants to uncover hidden truths and provoke the audience to think about complex realities and act' (2008, p.1). Chawla's mystory provides a reflexive and insightful view of scholarship within an integrated body of work. After a normal academic process involving thesis preparation and publication, creative writing offered an opportunity to further explore her scholarly persona very publicly by sharing her performance of fieldwork and, eventually (Chawla, 2008), analysing this process in a further written account of this experience. This additional reflexive account explores how Chawla (2008) 'continued to experience a level of discomfort in how I spoke for, with, and about my participants' during and after fieldwork. She explains how her reflexivity was 'too textual', as she struggled to 'bring the field alive as an organism, as a living breathing entity with colors, sounds, smells, and tones'. This is where creative writing, in this case poetry, can offer an alternative, or additional, voice to the researcher, or a sort of reflexively dialogical element (Ramsey,

2001). Rather than a simple outcome, the medium and process themselves offer the researcher an additional analytic tool. Writing, in whatever form, is a part of scholarly analysis and interpretation, giving voice to share with others but also to think and reflect more personally. Poetry is particularly strong here, as the poet necessarily thinks and emotes on paper (and, hopefully in performance) while constructing a new voice within poetic constraints. Arguably free verse is, by its free nature more constraining than traditional forms using couplets, alliterative emphasis or syllable limitations, as in the Haiku, where rules of form can, in themselves, contribute to alternative insight).

Chawla's rich and varied contributions represent a sort of methodological case-study of scholarship, research and self-identity that transcends the expected academic activity of dissecting and, to some extent, compartmentalising our research in often separable and separated units of dissemination. This trend has troublesome implications for research in itself. For example, one of the authors asked a PhD graduate about their research and was surprised that, they were explained that, as a thesis by publications, there was little to link the three papers to a single overall project. Perhaps creative writing could have helped reconsider this rather worrying conclusion to the student's work.

MAKING SENSE OF OUR SCHOLARSHIP BY CREATIVITY

The remainder of the paper presents the four authors' own work, with necessarily abbreviated excerpts from our own approaches to and reasons for engaging in creative writing. The examples represent a relatively broad church, illustrating the potential richness on offer to business scholars. Ankit (an early career academic) shows how imagining dramaturgical dialogue based on 1-2-1 interviews aids the phenomenological analysis of MBA learning while Nikki (a late-stage doctoral candidate) engages with the complex and sensitive nature of corporate leadership through fiction, using a stylised form of fable. Masha (an honours candidate) and Peter (a late-ish stage academic) both experiment with poetic forms. Masha uses verse to reflect on the challenges of methodological and disciplinary theory and research design while Peter ruminates on the implications of changes facing university employees resulting from the covid-19 pandemic.

Imagining Dramaturgical Dialogue about an MBA: Ankit

Imagine, for a moment, four MBAs in a café discussing their studies. While eavesdropping, I gradually concluded that some of these individuals were closer to becoming true *Masters* of Business Administration, while others still had a fair distance to travel first… actually this never happened. Rather I imagined it as part of my own PhD journey. Yes, I did interview all the discussants, but individually. The imagining was about how they might interact. As Watson (2000) puts it: "none of it actually happened. But it happens all the time."

Karolina: *It's all about making yourself vulnerable. You have to approach an MBA as if you know nothing. You've got to be completely open to learning, changing yourself.*

Kristine: *I agree with you, I'm just not as disciplined or open as I could be. I promise I'm all good intentions, but then it just drops off. I didn't make as much of it as I could have.*

Selina: *For me, it's the content; it drives your learning. But the Leadership course was so abstract. It's just theories, concepts, whatnot and all that reflection. It really didn't help me learn much.*

Karolina: *I understand when you say Leadership was abstract; and we kind of jumped in with both feet. But isn't that the beauty of it? This is where my thinking, my approach transformed.*

Salec: *Absolutely. Surely abstract thinking is the key to studying, isn't it Selina? I mean, before I learnt about adaptive leadership in class, I wouldn't, or couldn't, really listen to anyone at work or even at home! When I compare where I was ten years ago with where I am now, my work has completely changed. But I love it and this adaptive stuff really led my own personal changes.*

Kristine: *I sympathise too, Selina. I struggled to apply theory. OK, it's great in principle to be guided by theory, but managing is easier when you just follow tactile systems or processes.*

Selina: *That's my problem. I don't manage people, so I don't know how to apply MBA stuff. At work or any social situation, deciding which theory might or might not fit is my main concern.*

Salec: *Ah! I see your problem now, Selina. You can't really hope to learn about managing people just by sitting in a classroom. You need to do the job and study at the same time!*

Variation on a *three minute thesis* – starting a research proposal in verse: Maria (Masha)

I present a three-minute proposal to you; I've something to tell (please hear me through)

About my course on research methodology; you may know, I hail from psychology,

Majoring in marketing, but don't worry, I seek to omit the blurry,

Fussy jargon, when sharing my dilemma.

I find myself differentiating, speculating about why marketers are misinterpreting

The basics of self-image theory; we assert the ideal self is not often achievable,

So, are our messages to consumers receivable? Is this information commercially retrievable?

How can this *motivation* be perceivable?

Marketing focuses heavily on our surrounding social influences – and yes, this is true in some instances,

For example, if you are purchasing a car,

And you'd like to know, does it go far?

You may consult a friend, or look up the latest trend.

But Shruager and Schonemanm have something else to tell you, that is, they mainly argue

That social feedback from others does not influence their true view of you,

So why do consumers often become distracted,

Scrolling through and following influencers and celebrities, like Godly entities,

As if their perceptions of them will change, within a transactional exchange?

I wish to explore these discrepancies, and come out with some transparencies,

Incorporating both fields of view, will hopefully allow me to push through

And create a less frazzled, untravelled, line of thinking and thus, shrinking

Any misunderstandings.

Why did the Chicken cross the road? An organisational fable on adaption: Nikki

From her place on the top rung of the perch, Chicken looked around, the cage was under control, her two eggs had been laid for the day, she could relax. While waiting for the daily clean, Chicken brooded over her day. Wafts of manure scent floated up. The noise from all the other hens was deafening; egg production is hard work. The heat was becoming overwhelming as the day went on. With little to fill her afternoon, Chicken pondered.

From the other side of the road, the glow of another world beckoned and the sun whispered 'It's so warm and calm over here'; the green, green grass, whistled quietly in the breeze 'It's so soft and serene over here', butterflies flittered through the cosy outlook.

The cars roared past, fast and loud. Fumes filled the air, but in-between brief gaps in the traffic, a sweet scent floated over of freshly cut lawn, warming seeds. All Chicken's senses pulled her thoughts to the other side of the road.

Brought back to the cage with the overpowering squeal of the gate opening. Chicken watched below. She had been on the top rung now for six months, about as long as anyone else. Oh no. Oh no. The slaughterhouse truck had arrived. It might be her turn.

The trucks on the road were getting louder. Peak hour was approaching. It was now or never. Crossing the road was the stuff of legend; no one ever returned.

Slowly an idea formed deep within Chicken. Maybe she could lie in wait, maybe the risk of crossing the road was worth it to avoid the slaughter house – those stories were worse. Sneaking down from her rung, out through the gate, Chicken paused. Which story was true? Waiting for the traffic to slow as the peak passed, the sun was setting and the appeal faltering. Loud squawks and yelling alerted her to a flurry of activity behind her in the cage. Run Chicken run…

A chicken will only cross the road to get to the other side if the allure of the other side is greater than both the pain of staying where it is and the fear of crossing the road.

Losing collegiality: inhabiting a post-covid or post-scholarship university: Peter

Perhaps this speaks for itself as a personal reminiscence on many levels, inspired by early post-lockdown blues, returning to an underpopulated campus building.

Wandering through a grey empty corridor
Still cool with humming conditioned air.
Empty and dull, like a jumpy conspirator
Though no one's here to give suspicious stare
At someone out of place, intruding on peace…
No, not peace. Neither calm nor rest here.
More a dead place; worn out and lacking,
Like Dracule's coffin on an unrestful bier
Or a fearful boss terrified of cyberslacking.

I recall bustling, buzzing through the corridor
News & views of students, the latest research…
Crossing another dimly lit carrefour,
I look around. Emptiness. An academic church
Where no one seeks a scholarly golden fleece
Anymore. Pause a while – wondering
Was it like this before? Did summer
(gloriously grey in here)
Leave a chilly, drab, joyless cavern slumbering
Awaiting, expecting another invigorating year.

Is this mere summertime emptiness (holidays, conferences, fieldwork)
Or has the hum of enthusiasm left forever?

I wonder, wandering woefully (a Young Turk
No more and never particularly clever).
'Can this place be reborn? How did it cease
its theoretical fusion and fissioning?'
Now, clones replace dishevelled misfits
unmoved by constant missioning and repositioning,
Explaining what *we* believe, value, teach,
research, and how to do it.

Nostalgia is the enemy of almost every truth
(For we all know 'it never was how it was')
Like ironic use of William's 'forsooth'
(Inversed and messy double meaning), because
Memory is flawed like a rose-tinted eyepiece.
Even so, dim quietness pervades the building,
Doors uniform, sandblasted pyramidic swivels
The sounds and sights of Erwachsenenbildung
Long gone, like foliage stripped by budget hungry officials.

No more chance of scholarly inspiration
Through twilit shades of grey abdication.

SO WHAT? CONCLUDING REMARKS

In sharing our own examples of and insights into creative writing, we suggest a broadly tripartite value in business research. Representing a broadly hermeneutic approach to analysis, the act of writing within the constraints of a particular tradition offers researchers an alternative way of thinking beyond [but not instead of] following statistical precedent, laborious notetaking and/or painstaking coding of qualitative data. Both creative imagination and literary constraints can liberate analysis. For example, structuring thoughts into a sonnet, traditional fable or Haiku *forces* a paradoxical openness to ideas when finding novel ways to fit literary rules. This resonates with the experience of any researcher fitting their writing to the stylistic and length constraints of a publisher. Similarly, the challenge of fitting our own creative examples into one page, to satisfy ANZAM requirements here, forced a tightening that we all agree contributed to greater crispness and focus than the original pieces of work that we drew from.

Secondly, writing creatively can enable a powerful integration of the two elements of narrative and model/theory (McCloskey, 1990), sharing the author's interpretations and insights with diverse audiences. Finally, and perhaps most importantly, creative writing (like all the Arts) seeks to encourage readers to think for themselves. It may also foster discussion and debate reminiscent to the shared engagement in a schoolyard or on the factory floor socially reliving yesterday's drama. Faced with an authors' *and* study participants' interpretations of a phenomenon (the latter being conceptualised by Pietkiewicz and Smith, 2014, as a double hermeneutic – somewhat different to other conceptualisations of the term), readers can engage with the work as participants in their own right and construct their own interpretation of the whole rather messy business of social or organisational life as presented in the story. In this we could see this sort of engagement as a *triple* hermeneutic, further extending Pietkiewicz and Smith's (2014) two-fold version. Thus, we argue that whatever writing is shared with a readership, the most important stage is probably that which follows the sharing and the contribution made is more about the resultant discourse.

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05 - SME explorative and exploitative search through microfinance institutions.

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Abstract

The purpose of this study is to investigate the mediating effect of exploratory- exploitative search on the relationship between microfinance engagement and small and medium-sized enterprise (SME) performance. The study examines the search routines of 581 SME microfinance participants. To test the hypotheses of the proposed model, partial least squares structural equation modelling (PLS-SEM) is used. The findings indicate that both exploratory search and exploitative search fully mediate the relationship between microfinance engagement and SME performance. Theoretical and practical implications are discussed.

Keywords: SME performance, microfinance engagement, exploratory search, exploitative search

INTRODUCTION

Small and medium-sized enterprises (SMEs) remain the backbone of every economy and a primary driver of business value (Day, 2000). However, SMEs' ability to innovate and create value is severely restricted by a lack of access to capital, expertise, and networks that are essential to their competitive advantage (Gassmann et al., 2010). Creating value through intermediaries is a potential solution for these issues, especially in developing economies (Tracey & Phillips, 2011). Working with intermediaries allows SMEs to gain access to knowledge that is specific to their situation (Agogué et al., 2013). SMEs typically engage with financial intermediaries because more than 90% of SMEs worldwide consider finance to be their most significant constraint (Veiga & McCahery, 2019; World Bank, 2019). The institutional environment of SMEs in developing economies makes microfinance the most optimal financial intermediary (Bruton et al., 2015). Microfinance institutions (MFIs) act as intermediaries by providing opportunities in finance, marketing, product and service development, and networking. This strategy is known as 'microfinance plus' and is meant to help SMEs maximise the use of credit (Panda, 2018).

The recent arguments on microfinance as a financial intermediary contrasts with earlier proponents of microfinance, who believed that poor SME performance was simply due to a lack of financial capital (Morduch, 2000; Snow & Buss, 2001). SMEs were thought to possess adequate business, market, and production knowledge to justify lending to them. To this end, Yunus (1998, p. 225) stated: “Rather than waste our time teaching them new skills, we try to make maximum use of their existing skills”. However, recent theoretical evidence challenges this assertion and questions the

role of MFIs in improving SME performance. Providing SMEs with only financial assistance has no transformative effect on performance output (Angelucci et al., 2015; Caretta, 2014). Access to non-financial information from MFIs provides SMEs with long-term prospects by focusing on the value creation process (Panda, 2018). The introduction of microfinance plus thus opens up new research avenues for elucidating the underlying process through which microfinance engagement can improve SME performance. Despite the potential for value creation, it is unclear how SMEs access targeted value from MFIs to address firm constraints.

Guo et al. (2015) demonstrated that SMEs can improve performance by using a search strategy to learn more about available resources and capabilities. Search is the process by which businesses seek new knowledge for problem-solving (Katila & Ahuja, 2002). A search strategy in the context of microfinance could assist SMEs in solving their problems in a targeted manner. For SMEs, the prospect of identifying new opportunities, such as brand expansion, product repositioning, new client groups, and product/service improvement encourages search within MFIs (Karlan & Valdivia, 2011).

Search has been proposed as a constituent and a repository of dynamic capabilities (Hilliard & Goldstein, 2019). This proposition builds on the observation made by Helfat et al. (2009) that search allows a firm to modify its resource base as an observable dynamic capability. Search within a MFI context could allow for considerable empirical advancement in identifying dynamic capabilities in practice and determining their strength. In this way, this study considers search to be the discovery of existing sets of alternative solutions (exploitation), as well as the pursuit of new potential solutions (exploration).

To operationalise this, a framework incorporating exploratory and exploitative search, microfinance engagement, and SME performance is proposed to better understand the underlying mechanism. This study contributes to the strategic management literature by addressing the call for additional research on how SMEs can use microfinance-plus to identify solutions to specific business challenges (Gamble, 2018; Newman et al., 2014). Next, the findings contribute to the body of knowledge linking search to the dynamic capabilities theory. This research builds on Hilliard and

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Goldstein (2019)'s proposals by implementing dynamic capabilities through search. The study's findings show that SMEs in developing economies should cultivate and maintain close ties with MFIs and use search to find opportunities that can target specific firm needs (Postelnicu & Hermes, 2018).

THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

Microfinance engagement is a new and understudied area of strategic entrepreneurship (Banerjee et al., 2015; Newman et al., 2014). As a result, entrepreneurs have favoured more thorough assessment of microfinance's impact on entrepreneurial activity (Bruton et al., 2015). This is important because, It has been noted that credit alone does not improve the performance of SMEs (Angelucci et al., 2015; Caretta, 2014).

In comparison to the substantial amount of research examining the impact of microfinance programmes on 'small loan' repayment, there is a paucity of literature examining whether microfinance provision promotes SME value creation. Even though development economists have started to look into these issues (Banerjee et al., 2015; Lensink et al., 2018), the results are inconclusive, and not much attention has been paid to the mechanisms that may explain how microfinance engagement affects SME performance. This is because, while microfinance is a valuable financial service, it is not necessarily a transformational socioeconomic tool (Ukanwa et al., 2018). However, microfinance plus builds on financial intermediation innovations to meet financial and non-financial needs (Caretta, 2014). SMEs can examine these financial spaces and take advantage of these non-financial services before their competitors (Veiga & McCahery, 2019).

Search as a dynamic capability

Within microfinance spaces, search could be a useful tool to enable consideration beyond funding. Like search, dynamic capabilities allude to the ability to purposefully adapt a resource base to tackle rapidly changing environments (Bogers et al., 2019; Hilliard & Goldstein, 2019; Peteraf et al., 2013). Given that dynamic capabilities are latent constructs that are difficult to observe, much emphasis has been made to the theoretical and empirical difficulties of identifying it (Loasby, 1998). Indeed, their causal ambiguity and tacit nature increase their inimitability. Previous research has shown that dynamic

capabilities can be observationally represented through search and its complex relation to organisational performance can be examined empirically (Di Stefano et al., 2014; Peteraf et al., 2013). Although search is a basic component of dynamic capabilities, it is rarely employed to operationalise it (Grant & Verona, 2015) and the field of dynamic capabilities research as a whole still 'lacks generally accepted approaches to measure its key constructs' (Danneels, 2016: 2175).

This study views search as seeking new potential solutions (exploration), as well as finding sets of alternative solutions that already exist (exploitation) (Billinger et al., 2021). Moreover, exploitation and exploration are considered dynamic capabilities because they necessitate several actions (routines) that can recognise threats and opportunities and restructure resources (e.g., people and organisational architectures) in order to be adaptable (Fernhaber & Patel, 2012; O'Reilly III & Tushman, 2008). Exploratory and exploitative search could therefore enable the empirical conceptualisation of search routines and the demonstration of how these routines function as dynamic capabilities.

Hypothesis development

Exploitative microfinance search and SME performance

Exploitative search determines how effectively SMEs can use microfinances plus programmes to address firm efficiency issues. The specialisation of a microfinance plus programme provides avenues for SMEs to search for specific market insights, industry trends, and potential partners (Bulte et al., 2017). Microfinance plus programmes with open communication channels enable SMEs to search for critical knowledge from other participants (Newman et al., 2014). SMEs can search for market suggestions (lower price, better location, or higher quality) and networks aimed at overcoming current inefficiencies (Garcia & Lensink, 2019). SMEs with an exploitative orientation can also use the diverse perspectives and knowledge as an intellectual resource to seek alternative solutions to existing firm-level issues (Huis et al., 2019).

Furthermore, when developing training sessions, microfinance plus programmes typically solicit the assistance of large and well-established SMEs and use their business practices as case studies (Gamble, 2018). Through exploitative search, SMEs in need of tailored mentoring can seek to access

these established businesses as mentors (role models). These role models usually have a blueprint of best practice within a region. This kind of exploitative search engagement can improve sales by focusing on a SME's well-known products, thereby reducing risk (Mu et al., 2022; Tan & Liu, 2014). Within these contexts, exploitative search can assist SMEs in accessing a diverse range of critical business knowledge from microfinance plus to reduce inconsistencies and improve existing products and services for their market. Taken together, this study makes the following hypothesis:

Hypothesis 1: exploitative search mediates the relationship between microfinance engagement and SME performance.

Exploratory microfinance search and SME performance

The accumulation of formal rules and informal behavioural expectations within microfinance plus enables the expansion of activities into previously unintended domains (Hermes & Lensink, 2020). The resulting interactions enable SMEs to conduct exploratory searches that would otherwise be out of reach. Exploratory search enables SMEs to access new and applicable (re)combinations of diverse knowledge pieces through microfinance plus to sustain firm performance (Shaikh, 2020). SMEs can search for new innovative capabilities required for new product development and new market niches. SMEs with an exploratory focus can also search for new technology and emerging industry insights through their interactions with other microfinance plus participants and programme facilitators (Postelnicu & Hermes, 2018). Additionally, SMEs can look beyond self-sufficiency and search for collaborators willing to pool resources in ways that would not have been possible otherwise (Haldar & Stiglitz, 2016). SMEs can specifically search for other microfinance plus participants who are interested in spreading R&D costs through shared ownership of upside (Blakstad & Allen, 2018).

Exploratory search also makes SMEs typically much more aware of a group's value (Tang et al., 2019). The equity and debt markets which had previously been largely closed off to SMEs in developing economies are seeing an increase in growth (Fianto et al., 2018). This is key for SMEs due to the emerging growth of private-sector debt and equity microfinance funds (Fianto et al., 2018). The private equity and debt markets offer complex contracts to SMEs that are often acutely informationally

opaque. The challenge for SMEs is how to get that wealth of data without requiring extensive administration or potentially breaching proprietary information (Song et al., 2016). Microfinance plus then acts as information repositories (Fianto et al., 2018). SMEs only benefit from this wealth of information by engaging in exploratory search. Equity exposure for SMEs enables them to engage private equity investors to search for divergent and radical innovative expertise and knowledge, while also gaining R&D investments (Matthäus-Maier & Pischke, 2006). Taken together, this study proposes the following assertion.

Taken together, this study proposes the following assertion.

Hypothesis 2: exploratory search mediates the relationship between microfinance engagement and SME performance.

Drawing on these perspectives, we develop a conceptual framework shown in Figure 1.

Insert Figure 1 about here

METHODS

Sample and data collection

To test our hypotheses, the study's targeted SMEs in Ghana. Ghana provided an ideal context for studying explorative and exploitative search for several reasons. Ghana is a middle-income country with a thriving financial services sector (World Bank, 2021), and one of Africa's fastest-growing innovative economies (Global Data, 2021). In Ghana, SMEs account for 92% of registered firms, employ 62% of the population, and contribute nearly 70% of the country's GDP (Ghana Statistical Services, 2016).

To collect data, we first developed a questionnaire by adapting validated items from the literature. Following the tailored design method (Dillman, 2011), this study's pre-test employed three academics and an initial survey test of 36 SMEs to establish question clarity and finalise the questionnaire. Because microfinance plus is still relatively new in developing economies, this study begins with a purposive sampling of SMEs registered with the Association of Ghana Industries and the Ghana Enterprises Agency. These SMEs were appropriate for this study because they are legally registered with the

Registrar General Department and are regularly offered training on industry best practices. Identification numbers were assigned to firms obtained from the database. Then, using MS Excel, a random sample of 1000 respondents was generated. During the process, SMEs with unreachable contact details were replaced. The target respondents were CEOs, managers or owners of SMEs as they are in charge of strategic decisions such as the search strategy within financial spaces.

To solicit participation in the study, various SMEs were initially contacted via phone or in person to obtain permission to submit a copy of the survey physically. The higher response rate associated with physical data collection, particularly in developing economies, influenced the decision to collect physical data (De Beuckelaer & Lievens, 2009). However, SMEs who preferred online surveys were given that option. A fundamental methodological premise underlying such mixed-mode surveys is that data from paper-and-pencil surveys and online-based surveys can be meaningfully combined (Cole et al., 2006). 1000 self-administering questionnaires with cover letters were distributed to the various SMEs. Two weeks after submitting the survey, follow-up phone calls and email rounds were conducted with SMEs that had yet to return responses to increase response rates. 242 surveys were distributed via e-mail and received 60 responses; another 758 paper and pencil surveys were distributed physically and received 582 responses. A total of 642 responses were received. Due to significant missing data on key constructs, 61 responses (email: 6, paper and pencil: 55) were excluded. Concerning gender, 60.41 % are male, and 39.59% are female. The average firm age was 13.36 years.

Measures

All the constructs in this research were measured using previously validated scales from the literature (see table 1). Explorative search was measured with a seven-item scale ($\alpha = 0.92$). A sample item for this scale was, “We searched for service/product and process development that is entirely new to the firm”. Exploitative search was measured with a seven-item scale ($\alpha = 0.89$). A sample item for this scale was, “We searched for solutions to customer problems that are near to existing solutions rather than entirely new solutions”. SME performance was measured with a four-item scale ($\alpha = 0.74$). A sample item for this scale was, “ Our firm has experienced a growth in sales compared to our

competitors". Microfinance engagement was measured with a seven-item scale (α = 0.86). A sample item for this scale is, "Microfinance engagement aids our network formation with stakeholders". In line with previous studies, we controlled for managerial structure (Higgins et al., 2013; Zaandam et al., 2021), firm age (Pollok et al., 2019) and gender (Ali et al., 2020). Managerial structure was coded as 1= founder, 2= CEO and 3= manager. The Natural logarithm of the years since a firm's inception was used to determine its age. Gender was also coded as, 1= male, 2= female.

RESULTS

This study used partial least squares structural equation modelling (PLS-SEM) to look at the predictive ability of exploitative search and exploratory search in mediating the relationship between microfinance engagement and SME performance. PLS is a variance-based and prediction-orientated approach that offers much greater flexibility testing such complex model (Hair et al., 2014). PLS not only allows us to assess the quality of the measurement model in terms of reliability and validity but also evaluate the structural model wherein we test our hypotheses.

The assessment of measurement model

We took several steps to assess our measurement model. We first measure the reliability of the construct by Cronbach's alphas (α) and Composite Reliability (CR). The results in Table 1 show a minimum α= 0.74 and CR= 0.84 values. The values for individual indicator reliability are above the threshold of 0.6 (Hair et al., 2012), demonstrating satisfactory reliability. We then measured convergent validity by the Average Variance Extracted (AVE). The minimum AVE value for all constructs are higher than the threshold of 0.5 (Hair et al., 2012), suggesting convergent validity. Furthermore, discriminant validity was tested with the Fornell-Larcker criterion, and the heterotrait-monotrait (HTMT). As shown in Table 2, the square root of the AVE of each construct was higher than the construct's highest correlation with any other construct in the Fornell-Larcker criterion. The maximum value of HTMT is 0.81, which is less than the threshold of 0.85 (see Table 3) (Hair et al., 2014). Taken together, these results demonstrate discriminant validity.

Insert Table 1 about here

Insert Table 2 about here

Insert Table 3 about here

Common method bias (CMB)

We checked for CMB in two ways. Following Podsakoff et al. (2003) suggestion, we conducted a pilot study to control for item ambiguity. Moreover, we used items from the literature to measure our constructs and separated items related to the same construct (Hair Jr et al., 2019). Then, we conducted a full collinearity test (Kock, 2015) in which if all inner VIFs values are lower than 3.3, the model can be considered free of common method bias. Table 4 shows that the maximum inner VIF value is 2.58, confirming that CMB is not an issue in this study.

Insert Table 4 about here

Analytical Model

The structural model is estimated by examining the variance explained (R^2) in the endogenous variables, and the Stone-Geisser Q^2 value (Q^2). The significance of the path coefficients were assessed with the 5000 sub-sample bootstrap method (Hair et al., 2012). The results in Table 5 show that the model explains a significant amount of variance and the positive values of Q^2 further suggest that the model has predictive relevance of the reflective endogenous constructs.

Hypothesis 1 predicts the mediating effects of exploitative search on the relationship between microfinance and SME performance. The results in Table 5 demonstrate the positive and significant coefficients for the relationship between microfinance with exploitative search ($\beta = 0.34$, $p < 0.001$, $f^2 = 0.13$), and exploitative search with SME performance ($\beta = 0.44$, $p < 0.001$, $f^2 = 0.16$). The indirect effects of microfinance on SME performance through exploitative search are also positive ($\beta = 0.15$, $p < 0.001$) with the 95% CI which does not include the point of zero (LCI = 0.12, UCI = 0.19). The direct relationship between microfinance on SME performance is insignificant when exploitative search is controlled. Exploitative search thus fully mediates microfinance - SME performance. Thus, Hypothesis 1 is supported.

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Hypothesis 2 predicts the mediating effects of exploratory search on the relationship between microfinance and SME performance. The results in Table 5 demonstrate a significant relationship between microfinance with exploratory search ($\beta = 0.48$, $p < 0.001$, $f^2 = 0.30$), and a positive significant coefficients for the relationship between exploratory search with SME performance ($\beta = 0.27$, $p < 0.001$, $f^2 = 0.06$). The indirect effects of microfinance on SME performance through exploratory search is ($\beta = 0.13$, $p < 0.001$) with the 95% CI which does not include the point of zero (LCI = 0.09, UCI = 0.19). The direct relationship between microfinance on SME performance is insignificant when exploratory search is controlled. Exploratory search is thus a full mediator of microfinance - SME performance. Thus, Hypothesis 2 is supported.

Insert Table 5 about here

DISCUSSION

The focus of this study was on the interactions of SMEs with MFIs. Though recent microfinance research has looked into the implicit relationship between microfinance engagement and SME performance, the results have been largely inconsistent (Anglin et al., 2020; Banerjee et al., 2015; Gamble, 2018). These studies assume a causal relationship between microfinance engagement and performance while ignoring other organisational processes like external search tactics, which can positively influence a firm's performance.

Exploitative search within MFIs improves the utilisation of microfinance provisions like entrepreneurial training, assistance in developing and adapting appropriate technologies, expertise, networks to adjust to market volatility, and filling market niches that are not profitable for larger enterprises (Blattman et al., 2016). Through exploitative search, the somewhat generic aspect of microfinance plus engagement develops into areas of specificity, resulting in targeted and efficient value (De Silva et al., 2018). The findings also show that SME exploratory search within microfinance can lead to new opportunity recognition involving financial and non-financial resources, while increasing SMEs' capacity to examine new business options. SMEs tend to be risk-averse. However, financial intermediation alters this. Microfinance exploratory search lets SMEs recognise and take

advantage of new financial and non-financial opportunities. This expands the opportunity recognition nexus within SMEs (Ramos-Rodriguez et al., 2010) and emphasises the relevance of search as a determinant in opportunity exploration in financial environments (Dosi, 1990).

Theoretical and practical implications

This research expands on Katila and Ahuja (2002)'s assertions that search is the process by which firms seek new knowledge for problem solving by emphasising how exploratory and exploitative search provide more targeted solutions. Moreover, the study addresses recent inconsistencies in microfinance research by demonstrating how exploratory and exploitative search can be used to explain the relationship between SME microfinance engagements and performance (Gamble, 2018). It demonstrates that search not only provides access to expertise but also to critical contacts, both of which are normally unavailable to SMEs.

The findings also add to the body of research that connects search to dynamic capabilities theory. This study extends Hilliard and Goldstein (2019)'s proposals by operationalising dynamic capabilities through search. Previous research has shown that exploitation and exploration are both dynamic capabilities; thus, using exploitation and exploration as search variables strengthens the theoretical link between search and dynamic capabilities (Augier & Teece, 2008; Zhan & Chen, 2013).

Given the intrinsic complexity of entrepreneurship that SMEs must deal with, search can be a particularly useful tool to improve performance. Furthermore, a strong exploratory and exploitative search increases the likelihood of the firm's survival and success (Billinger et al., 2021). The research findings suggest that SMEs should seek out business strategies that have the potential to be commercialised in the short or long term from MFIs (Postelnicu & Hermes, 2018). Search management tools that make it easier for experts, entrepreneurs, and other stakeholders in the same field to share ideas with each other, enable SMEs exploit and explore available knowledge and network resources. For scholars, this study contributes to the research on contextual SME value creation strategies by examining how microfinance engagements affect SME performance through exploratory and exploitative search. For SMEs, the study shows how we can rethink the role of financial institutions

beyond the funding they provide. This research also adds to the larger policy discussion about how microfinance organisations might be used to stimulate innovation.

Limitations and directions for future studies

There are some limitations to this study that could be addressed in future research. First, this study used a cross-sectional design. This design makes it difficult to draw definite conclusions regarding the causal linkages between the variables of interest. However, because the study was predicated on sound theory, literature, and methods, the results are considered credible. Future longitudinal studies that combine data collection from the same participants across numerous waves should be strongly encouraged in order to strengthen causal linkages between microfinance engagement and search.

Though the current research focuses on exploitative and exploratory search, businesses can use exploratory and exploitative search strategies in either a cyclical or simultaneous manner (e.g., Gupta et al., 2006). Future research should therefore focus on how cyclical or simultaneous exploratory and exploitative search affects the performance of SMEs. More importantly, to determine whether there is a difference in SME performance when cyclical or simultaneous exploratory and exploitative search is used within microfinance engagement.

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05 - SME explorative and exploitative search through microfinance institutions.

Table 1 Measurement of constructs validity and reliability

	Factor loading
SME Performance (α =0.74, CR = 0.84, AVE =0.56) (Omerzel & Antončič, 2008)	
Our firm has experienced a growth in sales compared to our competitors	0.74
Our firm has experienced a growth in profit compared to our competitors	0.78
Our firm has experienced an increase in cash flow to sales compared to our competitors	0.74
Our firm has experienced a return on investment compared to our competitors	0.74
Microfinance engagement (α = 0.86, CR = 0.89, AVE= 0.53) (Panda, 2018).	
Microfinance engagement aids our firm`s networking activities	0.66
Microfinance engagement provides us with information on how to implement new business ideas	0.82
Microfinance engagement provides us with management training.	0.77
Our firm's microfinance institution provides basic financial and accounting skills.	0.71
Microfinance engagement makes loan application process straightforward for us.	0.73
Our firm's microfinance institution provides attractive savings product options.	0.73
Our firm's microfinance institution provides adequate insurance policies	0.69
Explorative search (α =0.92, CR =0.94, AVE = 0.68) (Eriksson et al., 2016; Kammerlander et al., 2015).	
We proactively searched for new technical solutions	0.72
We sought new managerial and organisational knowledge that are important for innovation	0.86
We searched for service/product and process development that is entirely new to the firm	0.78
We sought novel and advanced knowledge for our work processes	0.84
We looked for creative ways to satisfy our customers' needs.	0.83
We continually searched for new possibilities to improve our work processes	0.85
We actively targeted new customer groups	0.88
Exploitative search (α = 0.89, CR = 0.91, AVE = 0.60) (Eriksson et al., 2016; Kammerlander et al., 2015).	
We searched for solutions to customer problems that were close to existing solutions rather than completely new solutions	0.69
We upgraded our skills in operational processes in which our firm already had significant experience	0.72
We focused on reducing inefficiencies in our existing work processes	0.78
We fine-tuned what we offer to keep our current customers satisfied	0.81
We focused on developing our existing technologies and competences	0.90
We found new ways to improve quality of the firm's service/product and processes	0.69
We penetrate more deeply into existing customer base	0.79

05 - SME explorative and exploitative search through microfinance institutions.

Table 2: Fornell-Larcker Criterion for discriminant validity

	Variable	1	2	3	4	5	6	7
1	SME performance	**0.75**						
2	Explorative search	0.58	**0.82**					
3	Exploitative search	0.63	0.74	**0.77**				
5	Microfinance engagement	0.21	0.48	0.34	**0.73**			
7	Position	0.01	-0.10	-0.03	-0.02	**1**		
8	Firm age	-0.04	0.08	0.07	0.13	0.16	**1**	
9	Gender	0.01	-0.04	0.05	-0.09	0.09	0.07	**1**

Note: Bold diagonal elements are the square root of Average Variance Extracted

Table 3: Heterotrait-monotrait (HTMT) values for discriminant validity

	Variable	1	2	3	4	5	6	7
1	SME performance							
2	Explorative search	0.68						
3	Exploitative search	0.76	0.81					
4	Microfinance engagement	0.31	0.51	0.38				
5	Position	0.08	0.12	0.15	0.13			
6	Firm age	0.10	0.10	0.12	0.15	0.16		
7	Gender	0.13	0.11	0.12	0.14	0.09	0.07	

Table 4 Full collinearity test

	Variable	1	2	3	4	5	6	7
1	SME performance		1.69	1.54	1.82	1.09	1.19	1.19
2	Explorative search	2.58		1.89	2.32	1.26	1.96	1.35
3	Exploitative search	2.28	1.83		2.45	1.38	1.99	1.12
4	Microfinance engagement	1.34	1.16	1.31		1.21	1.30	1.19
5	Position	1.05	1.04	1.06	1.06		1.15	1.05
6	Firm age	1.05	1.07	1.07	1.09	1.09		1.07
7	Gender	1.04	1.03	1.02	1.02	1.05	1.04	

05 - SME explorative and exploitative search through microfinance institutions.

Table 5 Structural Equation Modeling Results

Endogenous construct	**R^2**		**Q^2**		
Explorative search	0.23***		0.15		
Exploitative search	0.12***		0.07		
SME performance	0.45***		0.24		
Structural Path	**Coefficients**	**S. D**	**CI 95%**		**f^2**
			LCI	**UCI**	
MFE → ERO	0.48***	0.03	0.43	0.54	0.31
MFE → ETO	0.35***	0.03	0.30	0.40	0.14
ERO → SMP	0.30***	0.04	0.21	0.38	0.06
ETO → SMP	0.44***	0.04	0.36	0.52	0.16
MFE → SMP	-0.06	0.03	-012.	0.00	0,00
FP→ SMP	0.06	0.04	-0.01	0.13	0.01
FA→ SMP	-0.10***	0.03	-0.16	-0.04	0.02
GEN→ SMP	0.01	0.03	-0.07	0.06	0.00
Indirect effects					
MFE → ERO → SMP	0.14***	0.02	0.10	0.19	
MFE → ETO → SMP	0.15***	0.02	0.12	0.19	

Note: p*<.05, p**<.01, p***<.001; two-tailed test. S.D: Standard Deviation, CI: Confidence Interval, LCI: lower Confidence Interval, UCI: Upper Confidence Interval, SMP: SME performance, ERO: Explorative search, ETO: Exploitative search, MFE: Microfinance engagement, FP: Position, FA: Firm age, GEN: Gender.

Figure 1: Proposed research model.

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Financial inclusion and macroeconomic performance: Connecting the dots, setting the agenda

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Financial inclusion and macroeconomic performance: Connecting the dots, setting the agenda

Abstract

Despite extensive research on the relationship between financial inclusion and macroeconomic performance, little is known about the role of financial inclusion as a significant driver of macroeconomic performance in developing countries. Financial inclusion is important for a country's growth because it means that everyone can get financial services when they need them at a price they can afford. It makes it easy for people to keep their savings safe, get loans, cover their risks with different types of insurance, and do other things that make people's lives easier and help the most vulnerable people in society. The research explores the influence of key indicators of financial inclusion on developing countries' macroeconomic performance. The research shows that digital finance, financial technologies, financial outreach, financial literacy, demographics access to finance, microfinance and financial stability are all ways that financial inclusion affects macroeconomic performance. The authors used the Scopus database to get information from 419 research articles and performed bibliometric analysis to figure out how financial inclusion affected macroeconomic performance from 2006 to 2020. The study will help policymakers, governments and marketers come up with policies to involve everyone in the financial system, which resulting macroeconomic performance.

Keywords – financial inclusion, macroeconomic performance, access to finance, digital finance, financial technologies, financial outreach

1. Introduction

Recent years have witnessed an increased academic and policy interest in studying financial inclusion (Cihák et al., 2021). Financial inclusion is commonly understood as "*the process of making sure that vulnerable groups, such as weaker sections and low-income groups, have access to financial services and timely, adequate credit when they need it*" (Rangarajan, 2008). Prominent economic gains arising out of financial inclusion include bank accounts, account savings, credit, remittance, insurance, and financial literacy (Lyons & Kass-Hanna, 2021). Being financially included results in economic gains. It helps poor and disadvantaged people by increasing their income and chances of getting a job (Bruhn & Love, 2014). If there aren't any financial institutions that help everyone, poverty traps can form and slow down macroeconomic performance. This is because having access to financial tools enable people to invest in their education, projects, and helps the most vulnerable group in society (Blaha, 1967). This study examines how increased financial inclusion in developing countries can aid macroeconomic performance. The financial sector contributes to macroeconomic performance in a variety of ways, including efficient resource allocation for productive activities; lending, and insurance; saving opportunities for a broad segment of the population, and risk management for investors (Blaha, 1967; Kokotsaki et al., 2014). However, the geographical scope of financial inclusion research is generally limited to the United Kingdom, the United States of America, China, and France, limiting the potential to make generalizations of concepts, antecedents, and outcomes of financial inclusion (McLaughlin & Pecchenino, 2021).

Six main areas of financial inclusion research have received the majority of attention: (a) the effects of financial digital finance; (b) the importance of a comprehensive financial outreach; (c) the role of

financial technologies and innovation; (d); enhancing access to finance and (e) the contribution of long microfinance, financial markets to users' welfare and financial stability; (f) the impact of users' welfare and financial stability on macroeconomic performance. The current literature's goal has been to inform policymakers and markets about how to improve financial inclusion for people in developing countries.

Promoting financial inclusion in poor nations begins with providing financial literacy and demographics. Although financial inclusion is a topic that scholars are increasingly exploring, we still know very little about its antecedents and outcomes.

The basic theories used in this area of financial inclusion are drawn from the fields of economics, finance, and management. Most of the time, theories about the public good are used in financial inclusion. The public good theory (Peterson K. Ozili, 2020) suggest that everyone will gain from financial inclusion, regardless of their status, income level, or demographic variations. Yet, achieving financial inclusion will necessitate public rather than private support. The public good theory of financial inclusion doesn't recognize private-sector agents as promoters, which creates a research gap because, nowadays, crowd funding and peer-to-peer lending platforms have facilitated loans between lenders and borrowers who don't know each other personally by using online platforms. Microfinance institutions are increasingly leveraging these platforms to promote financial inclusion (Berentsen & Markheim, 2021). Dissatisfaction theory of financial inclusion Peterson K. Ozili (2020), This theory tries to solve the problem of "voluntary financial exclusion," which means that it reduces the number of unhappy people who leave the formal financial sector and uses persuasion to bring them back. The theory's research gap does not prioritize financial inclusion for everyone in the population because the unbanked people could not get small loans from traditional banks due to documentary and collateral requirements and unavailable bank branches in the developing countries. On the other hand, in developed countries, people in remote areas can use their cell phones to apply for microloans in less than five minutes without having to go to a branch or put up any collateral (Senyo et al., 2022). The author says that future studies in this new field of study look at population and GDP from Economics, financial inclusion and financial literacy from Finance, and monitoring investments and risk diversification from Management.

Quite precisely, we explore and contribute to the following two research questions:

RQ 1. To examine financial inclusion in relation to macroeconomic performance.

RQ 2.To highlight the methods used by policymakers, governments and marketers to promote financial inclusion.

The research is done as a complete and thorough review. A clear foundation for decision-making and action may be provided by specific principles of a systematic review method to management research for practitioners and policymakers. Integrative reviews aim to analyze, evaluate, and combine "significant" literature in order to produce a fresh theoretical framework and viewpoints. In order to increase our understanding of macroeconomic performance, this study uses an integrated review process that is methodical, open, and reproducible. By doing a bibliometric study in terms of the authors, nations, co-citations, and strategic diagrams, we describe the existent literature on the topic. A bibliometric review is a type of theme-based review that shows data and trends in a review domain. The results of academic

research can be evaluated and analyzed with the help of bibliometric analysis. It helps measure progress, find the most reliable sources of scientific publications; set up an academic framework for judging discoveries; find the most important people in science; and create bibliometric indices to measure academic output. In this way, R is one of the most flexible pieces of software because it lets people join in through open source. To go along with the bibliometric analysis, we do a manual, insightful review that brings together the available literature and synthesizes the goals, methods, predictors, results, and policy recommendations. Also, building on Thomas & Tee (2022), innovative presentation of the concepts, themes, and dimensions, we put our study together to present a theoretical framework based on the concept of macroeconomic performance. This sets the stage for future research to try to develop a theory in the area.

Our findings suggest that both objective and subjective measures influence macroeconomic performance. The role in fostering financial inclusion is determined by the access to finance, which is affected by the gross digital finance, financial outreach, financial technologies and innovations (Banna et al., 2022; Peterson Kitakogelu Ozili, 2021). We also acknowledge that users' welfare and financial stability fosters macroeconomic performance and provides a platform for financial intermediation by offering savings, credit, payment, and risk management products to customers with a variety of demands (Babajide et al., 2015). We urge the policymakers and marketers to focus on measures that will encourage financial inclusion and spur macroeconomic performance (Van et al., 2021).

The concrete contributions of our study lie in exploring the evolution of the theme of financial inclusion; and outlining the factors contributing to financial inclusion and macroeconomic performance. Through these two contributions, we set the agenda for future research and policy in the area of financial inclusion.

The research paper is organized as follows: the goal of the study and research gaps are explained in the first section. The second section goes into how the review was conducted. The third section talks about how we obtained the data. The fourth section talks at length about the study's literature review and issues analysis. In the fifth section, the study article wraps up with a conclusion and explains the future research agendas.

2. Research methodology, sample selection and data analysis

2.1 Data search and retrieval

Theory-based reviews, theme-based reviews, meta-analytical reviews, and reviews that aim to develop theory are all different kinds of review articles (Fan et al., 2022). This study took an integrative approach, which means that it used both bibliometric review and manual insightful review to learn more. Integrative review gives a clear explanation of how the search and selection criteria used in the selection process were chosen. A bibliometric review is a type of theme-based review that focuses on data and tends to end with a review doimmian (Paul et al., 2021), which helps with analysing progress and building an academic framework for evaluating discoveries, creating bibliometric indices, and getting access to academic output. A manual insightful review summarises the results of a number of studies so that objectives, methods, predictors, outcomes, and policy recommendations can be made. Bibliometrix R package software is used to get information from documents and analyse it (Aria & Cuccurullo, 2017). Bibliometrix R-Tool is free software that can be used with different bibliometric tools and has recently added a visualization function. It can make a full and complete set of literature analysis, scientific

mapping, and information mapping (Rodríguez-Soler et al., 2020). We used the established procedures for systematic literature review to get the data we needed.

The authors' used the Scopus database to find relevant literature on macroeconomic performance. This is similar to how some well-known reviews (Talan & Sharma, 2019) did their research. Following the methodological guidelines for selecting a source, it was decided to conduct the study using the Scopus database. This database was chosen primarily for its high standards of quality, broad coverage of the information collection (Scopus currently has 1.7 billion cited references dating back to 1970), simplicity of data download, and excellent coverage of reputable journals (Herrera-Franco et al., 2020).

2.2 Inclusion and exclusion criteria from PRISMA

The results of the initial search query were filtered using inclusion-exclusion criteria: first, records were refined on the basis of relevant subject area (business, management, economics, social science, sustainability, and finance); second, records were screened on the basis of English language/Non-English papers were removed; third, records were screened on the basis of titles, abstracts, and keywords, and finally, 421 publications (Fig. 1) were included after eliminating the articles and reviews that had no ranking in ABDC or ABS (Page et al., 2021).

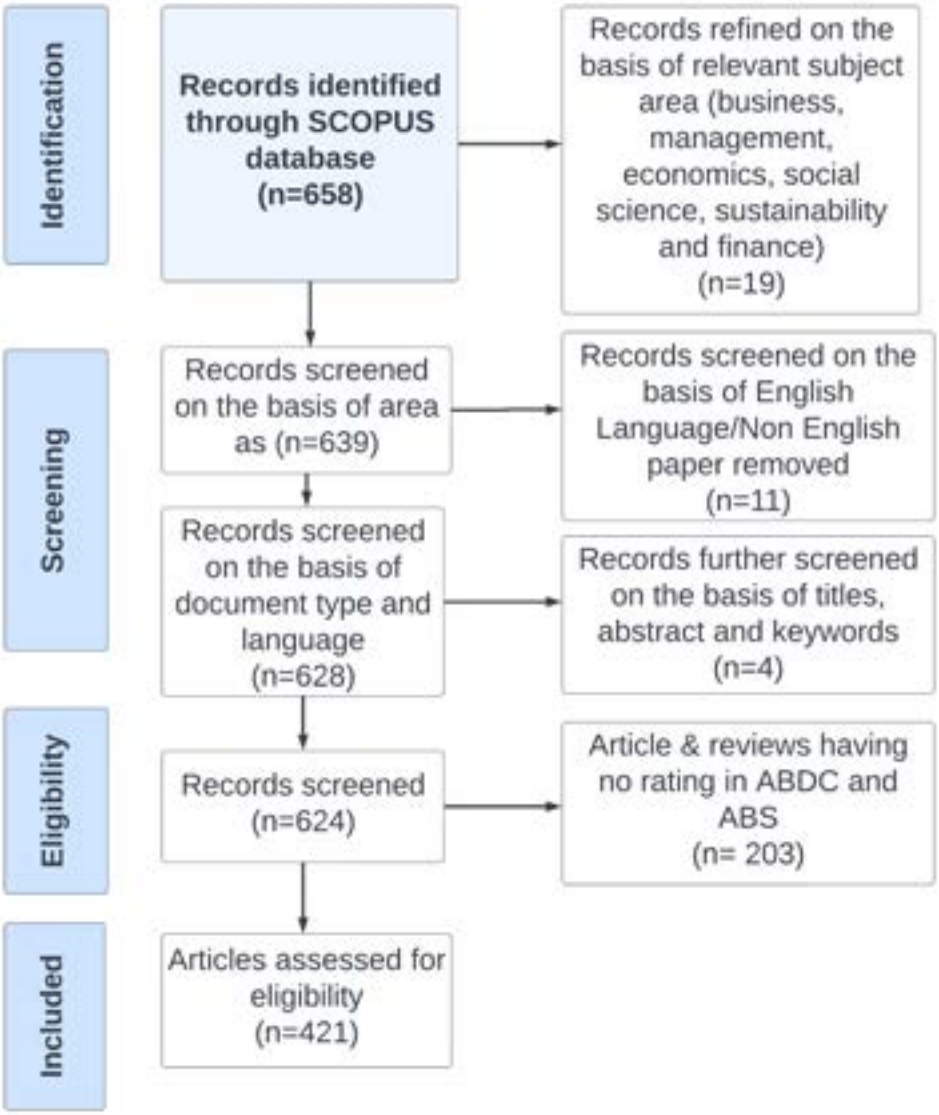

Fig. 1

3. Results

3.1 Social Structure

3.1.1 Country collaboration

Fig. 2

3.1.2 Objectives of the financial inclusion literature

The chosen 421 studies focus on (a) explaining macroeconomic performance; (b) analyzing the relationship between macroeconomic performance and related variables; (c) looking into the relationship between macroeconomic performance components and macroeconomic performance; and (d) having multiple objectives. At first, there wasn't much research on the concept of macroeconomic performance, but after the global financial crisis of 2008, there was a lot more. During a recession, cutting back on financial inclusion programs can make the current state of the business cycle worse and make the recession last longer. This could be why there are more post-crisis studies. Tends to decrease in financial inclusion during a downturn might exacerbate the recession and reinforce the existing status of the business cycle, which may be one of the causes of the rise in post-crisis research.

3.2 Intellectual structure of the publication

The intellectual framework of the publications, which (Shafique (2013) defined as a "structured map of significant parts of a knowledge base," exposes the disciplinary makeup and research tradition in a given knowledge area. To build the intellectual structure of the Financial Inclusion research base, this study uses integrative methods like author co-citation analysis, which is based on how different writers work together on a certain research topic.

3.2.1 Co-citation analysis of authors

The co-citation analysis shows how different authors worked on a certain topic of financial inclusion. Using the R software, fifty clusters (shown in Figure 3) were made that show where people wrote together

the most. The links between the writers show how they've worked together, with different colours showing where they've worked together over a 17-year period. Some of the most important authors who worked on financial inclusion between 2006 and 2022 were Asli Demirgüc-Kunt, Stijn Claessens, Mandira Sarma, and Franklin Allen. Cluster 1 is shown in red, which is associated with Financial Inclusion, which focuses on banking penetration, availability, and usage (Sarma, 2015) or studies related to fintech (Demirgüç-Kunt et al., 2020), financial performance, and most of them talk about access to finance (Ahmad et al., 2020). Cluster 2's blue colour represents the macro economy, such as banking, inequality, technology, savings, and insurance (B. P. Singh et al., 2021), as well as financial markets (Chakravarty & Pal, 2013).

Finally, Cluster 3 exhibits green colour, which includes some of the most productive writers and appears to indicate the existence of a third research stream related to financial well-being, which means the ability to meet financial goals and have enough money to enjoy life, and demographic research includes financial services as well as the gender gap in financial inclusion, as defined by account ownership, formal saving, and formal borrowing (Beck et al., 2015; Özşuca, 2019). Also, Cluster 1 of the Authors Co-Citation Network and Cluster 2 of the Authors Co-Citation Network shared commonalities, which are easy to see in the diagram.

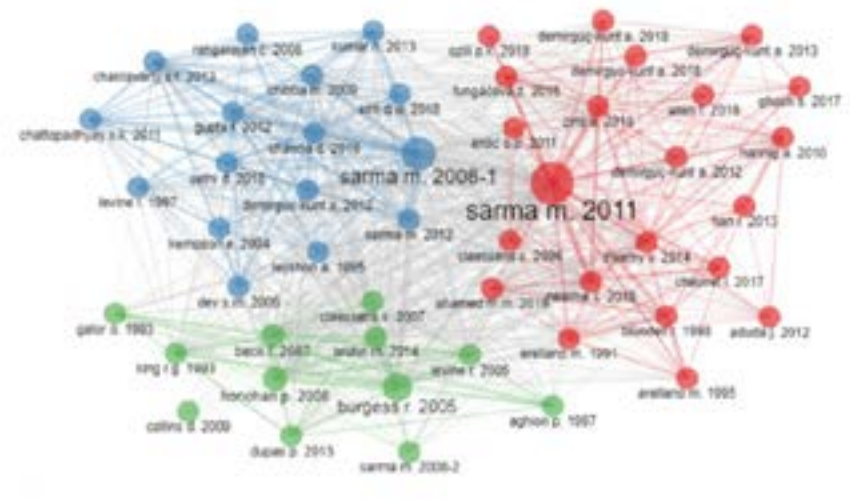

Fig. 3

3.3 Conceptual structure of the publication

3.3.1 Strategic diagram

The strategic diagram depicts the theme by classifying it as focused on centrality and density (Cobo et al., 2015). The degree of connection between the themes is denoted by centrality, while the intensity of

internal linkages within a theme is measured by density (Aparicio et al., 2019). The strategic diagram is divided into four quadrants that represent four different sorts of themes: the motor theme, the periphery theme, the emerging or disappearing theme, and the basic or general theme (Talan & Sharma, 2019). Inter scaling, on the other hand, illustrates the relevant literature as the makers of nearness among the most often cited works by employing notable keywords (with the highest standardized distance of 0.25). High keyword density means that the articles are closer together and share more information, while low keyword density means that they have less in common.

Financial inclusion, macroeconomics, financial performance, and financial technologies and innovations are in the basic theme quadrant with the highest centrality in the strategic diagram, implying that this theme has a lower density of internal ties, indicating the need for future research to study the sub-themes diligently (including financial literacy, macroeconomic performance, banking, financial inclusion index, and digital financial inclusion), while the strength of its ties with the other themes is well established. The word microfinance (which includes poor households, financial intermediation, and corporate social responsibility) is contained in the core topic, but it also covers parts of the developing themes quadrant, so its significance must be investigated more from the perspective of financial inclusion (Demir et al., 2022; Eldomiaty et al., 2020; Fernández-Olit et al., 2020; Ramzan et al., 2021).

While the terms users' welfare, demographics, and financial markets (together with their sub-themes of facilities, financial services, performance, and bank penetration) appear in the niche theme, it emphasizes the importance of studying the impact of other outer themes on financial inclusion (Fernández-Olit et al., 2020; F. Shihadeh, 2021). Furthermore, the term "digital finance" encompasses numerous sub-themes like adoption, technological diffusion, and sustainable development goals are shown in the center of the graph, with equal parts in each of the four quadrants, showing additional opportunities to investigate both internal and external links with knowledge of financial inclusion (Kangwa et al., 2021; Ofori-Abebrese et al., 2020). Moreover, the term access to finance appears in both the motor and basic themes, along with sub-themes such as banks, financial access, the Pradhan Mantri Jan-dhan Yojna, and peer-to-peer lending, indicating that this theme, as well as its sub-themes, investigated further in relation to the other subtexts in the field of financial inclusion (B. P. Singh et al., 2021).

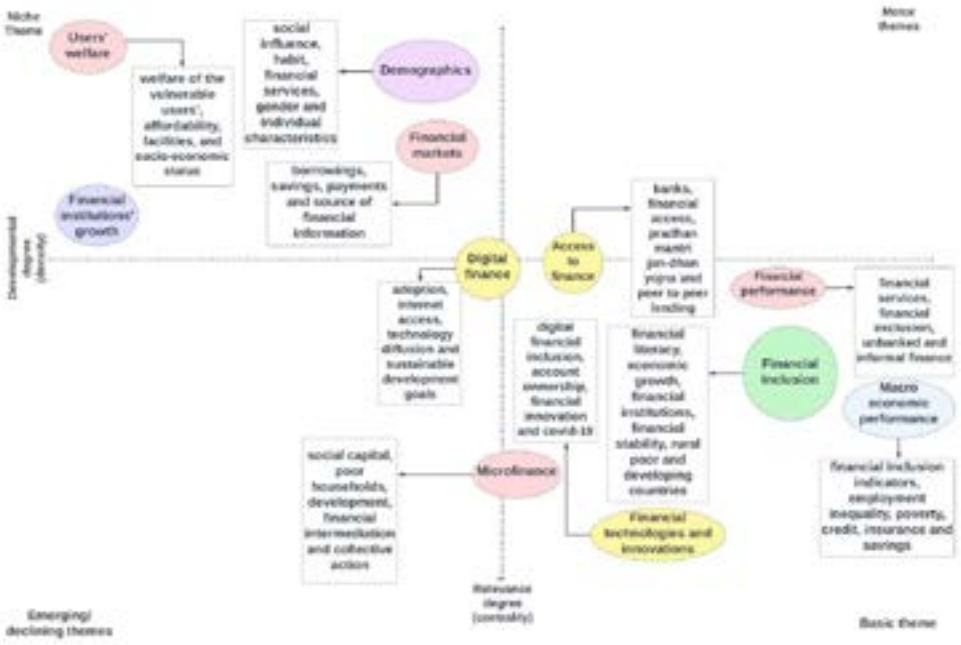

Fig. 4

3.4 Policy implication of macroeconomic performance

Along with formal plans to promote financial inclusion, financial literacy is a key part of financial inclusion in developing countries (Okello Candiya Bongomin et al., 2020). Financial literacy can be promoted, particularly in developing nations, through the provision of financial literacy seminars, workshops, and conferences where consumers can learn about finance and economics in a practical learning manner. Policymakers and financial literacy advocates pay attention to this issue because it will help them make smart financial decisions and choices about how to use complicated financial products offered by rural-based financial institutions (Grohmann et al., 2018).

Policy initiatives promote financial literacy among individuals in order to increase financial knowledge and abilities and, as a result, achieve macroeconomic performance. Financial literacy's impact can be increased by well-designed and targeted initiatives that are simple to understand and focus on the value of certain financial services. A well-designed system like this could change a consumer's perception and feelings about making financial decisions (Mindra et al., 2017). Financial outreach include expanding the number of microfinance institutions and bank branches; encouraging consumers to deposit their savings with banks; and encouraging businesses to use banks to finance investments and working capital. So, policymakers in these developing countries can come up with national policies, programs, and rules that

will make it easier for users' to get access to money and help their economies grow (Emara & El Said, 2021).

As a result, there is a perceived need for government policy support for banking stability by directing financial resources toward the economic upliftment of the resource-poor in any developing economy where a large population is deprived of financial services that are critical to a country's overall macroeconomic performance (Personal & Archive, 2013). Banking stability has a substantial influence on the degree to which consumers and SMEs have access to financial services, highlighting the necessity of establishing an inclusive finance system to attain inclusive macroeconomic performance, particularly in developing countries (Ahamed & Mallick, 2019).

Another policy implication of the current paper is to detect gaps in digital reach for financial transactions (online and mobile banking) due to infrastructure limitations or a lack of information about using digital modes for financial transactions. The former may be attained over time, but the latter can be easily improved in the short term through financial literacy program initiatives (Rastogi & Ragabiruntha, 2018).

Digital finance diffusion has a positive impact on both macroeconomic performance and financial inclusion, implying that governments and marketers could perhaps consider a broader set of policy variables to improve financial sector performance, such as standard setting (particularly in ICT, and security protocols that can improve network externalities and interoperability), infrastructure development (including fibre optic cable, telecommunications networks that provide greater access to financial services), and regulatory reform (Rastogi & Ragabiruntha, 2018). Existing research illustrates the ethical ramifications for customers, banks, and regulators.

4. Discussions and future related agendas

Digital Finance, financial outreach, financial technologies and innovations

Technology diffusion, technology acceptance, digitalization, and financial system expansion influence digital finance (Aziz & Naima, 2021; Deb & Agrawal, 2017; Lashitew et al., 2019). While digital finance has a direct impact on access to finance (Beck et al., 2015). In order to strengthen access to finance, digital finance would play a significant role, nowhere is this more evident than in the emerging mobile money sector that leverages expanding mobile phone access to extend financial and payment services for unbanked populations (Lashitew et al., 2019).

Rural outreach, banking penetration, microfinance, and intermediaries affect financial outreach (Burlando & Canidio, 2017; Sinclair, 2013). Financial outreach can have a direct effect on access to finance (Maskara et al., 2021). Most unbanked population have a primary educational level or low education is associated with low financial literacy, and therefore a greater probability of financial exclusion (Ezzahid & Elouaourti, 2021).

Information and communication technologies, mobile financial services, and financial innovations all have an impact on financial technologies and innovations (Diniz et al., 2012). It may also be noted that financial technologies and innovations have a direct impact on access to finance (Demir et al., 2022).

Technology brings simplicity in conducting financial transactions at a lower cost but it is observed that scepticism (such as fear of technology, and gaps between access and use) from the users and regulators can be the major hindrances to success use of technology in financial inclusion (Bimha, 2015).

While extant literature validates that digital finance service providers relation with their clients regardless of its geographical location have significant impact on financial inclusion (Ndassi Teutio et al., 2021).

The study validated that the impact of financial technologies and innovations positively affects the awareness, ability, and usability of financial services (Siddiqui & Siddiqui, 2020). The price of financial technologies and innovations solutions is lower on average than the price for banking charged by banks which provide users with the possibility of both depositing and withdrawing cash (Della Peruta, 2018).

Financial literacy and demographics

Financial behaviour, financial self-efficacy, financial knowledge, and financial education directly affect financial literacy (Mindra et al., 2017; Okello Candiya Bongomin et al., 2016; Sayed & Shusha, 2019). While financial literacy moderates the relationship between digital finance, financial outreach, financial technologies and innovations, and access to finance (Aziz & Naima, 2021; Beck et al., 2015; Lu et al., 2020; F. H. Shihadeh, 2018). If a user has a higher financial literacy score, they are more likely to use financial services than if they have a lower financial literacy score (Morgan & Long, 2020).

Gender and individual features directly affect demographics (Khmous & Besim, 2020; Koomson et al., 2020). Demographics moderate the relationship between digital finance, financial outreach, financial technologies and innovations, and access to finance (Beck et al., 2015; Naumenkova et al., 2019). The reasons why people opt to use financial services may be better explained by their demographic features (Lotto, 2022).

Literature revealed that increasing individuals' access to finance is a useful strategy for enhancing macroeconomic performance (Kaur & Kapuria, 2020). Gender equality ensures that men and women businesses have access to and can use a variety of financial services as tools to enjoy financial independence and contribute to macroeconomic performance (Manta, 2019).

According to some research, richer and more educated people are more likely to have both formal and informal savings, whereas people with only primary education are more likely to have only informal savings. People in rural areas are more likely to have informal savings than people in urban areas, which may be due to financial behaviour and less ready access to financial services (Morgan & Long, 2020). Research shows that people with a high level of financial literacy and a positive sense of financial self-efficacy feel more independent and confident when making financial decisions about savings, credit, insurance, and money sent back home (Mindra & Moya, 2017)

The overall prevalence of the adoption of various financial services and products means it is critical for developing-country financial institutions to consider expanding their financial products and services in order to correspond with customers' wants and financial expertise (Sayed & Shusha, 2019). The most vulnerable people in society require some degree of financial education in order to determine and

examine financial products such as bank accounts, savings products, credit, and payment instruments that promote efficiency and access to excellent financial services (Okello Candiya Bongomin et al., 2016). Financial literacy and demographics are both important to macroeconomic performance and must be seen in a bigger picture.

Access to Finance, microfinance and financial markets

Government welfare schemes, financial capability, account ownership, financial institutions, and banks affect access to finance (V. K. Singh & Prasad, 2021). Digital finance, financial services, and financial technologies and innovations have a direct impact on access to finance. With access to finance, the poor will no longer rely on their own limited savings to fund their lives and companies, which reduces inequality and improves macroeconomic performance (Soumaré et al., 2016).

Social capital, collective action, and microcredit affect microfinance (Gnanakumar, 2018; Okello Candiya Bongomin et al., 2016). Access to finance has a direct impact on microfinance. Microfinance will assist vulnerable people by providing bank loans and financial information, as well as increasing investment vehicles via advancements in the financial sector and social and economic factors in the coming years, in order to promote financial inclusion in developing countries and improve macroeconomic performance (Lakew & Azadi, 2020).

The flow of savings, deposits, and insurance products affects financial markets (Sethi & Acharya, 2018). While access to finance has a direct impact on financial markets. Financial markets will assist impoverished people in parking their savings in the financial system, ensuring effective deployment of this money into long-term investment projects, securing liquidity risk caused by a lack of funds flowing into the market, and encouraging greater investment (Sethi & Acharya, 2018).

Users' welfare and Financial Stability

The welfare of the vulnerable group, affordability, and socio-economic status affect users' welfare (Mende et al., 2020). While users' welfare has a direct impact on macroeconomic performance. Financial inclusion, in terms of access to bank benefits, credit facilities, and so on, has a positive effect on the economy as a whole. It is also a way to make growth more inclusive by giving people who are poor in both social and economic ways the same access to financial services (Nandru et al., 2021).

The financial inclusion index, institutional quality, and financial performance affect financial stability (Anthony-Orji et al., 2019). While financial stability has a direct impact on macroeconomic performance. Financial inclusion efforts ensure resource efficiency and financial intermediation, which, given that a country has already put in place improved financial infrastructure, boosts financial stability by providing better use of financial outreach and usage to a large section of society, including the disadvantaged group (Siddik & Kabiraj, 2018).

FRA 1	Examining digital finance from the perspective of access to finance
FRA 2	Examine the influence of financial technology and innovations on access to finance.
FRA 3	Assessing the impact of financial outreach on access to finance.
FRA 4	Measuring the impact of various degrees of financial literacy on financial decisions, which leads to greater macroeconomic performance.
FRA 5	Examining the influence of changes in developing countries' demographic on macroeconomic performance.
FRA 6	Identifying the factors that influence access to finance and, hence, macroeconomic performance.
FRA 7	Examining the influence of microfinance on the users' welfare and financial stability of users in the light of macroeconomic performance.
FRA 8	Understanding financial markets' requirements for user welfare and financial stability in the context of macroeconomic performance.
FRA 9	Determining the importance of user welfare to macroeconomic performance.
FRA 10	Assessing financial stability in developing countries to better understand macroeconomic performance.
FRA 11	Using several data sets from various developing countries with varying time spans and data gathering methodologies

Table

The table depicts future research agendas (FRA) of macroeconomic performance. Our findings suggest that the ultimate goal of the key indicators of financial inclusion is macroeconomic performance. The impact on access to finance is determined by digital finance, financial outreach, financial technologies, and innovations, which are influenced by financial literacy and demographics. Furthermore, access to finance has an impact on financial markets and microfinance, but in order to attain improved macroeconomic performance, the impact of financial markets and microfinance on user welfare and financial stability must be considered. For developing countries, it is very important to use key indicators of financial inclusion to improve macroeconomic performance.

5. Conclusion

Macroeconomic performance is a relatively new area of research. Although the distribution of existing research across academic fields bodes well for the field's advancement, it also limits our ability to understand financial inclusion and macroeconomic performance. The research paper conducted an integrative review with a bibliometric study of authors, countries, co-citation, and strategy diagram, as well as integrating the existing literature by integrating the aims, methodologies, predictors, outcomes, and suggestions.

The research paper has contributed in three ways. The authors began by outlining the evolution of the focus on macroeconomic performance. Future research in this field might focus on examining how macroeconomic performance affects cognitive abilities. Our results demonstrate that macroeconomic performance is found in a financial context and is intimately tied to the developments occurring in it, emphasizing a systematic approach to the topic.

Second, the authors' put out a theoretical framework that outlines antecedents-based financial inclusion notions for interventions to achieve macroeconomic performance. According to our research, financial services, financial technologies, and innovations are all indicators of macroeconomic performance. Demographics and financial literacy influence the relationship between access to finance and digital finance, financial services, financial technologies, and innovations. The authors' analysis shows that access to finance facilitates microfinance and financial markets. Furthermore, the authors' observe that microfinance and financial markets have a significant impact on the users' welfare and financial stability, which leads to macroeconomic performance.

Third, the authors' made eleven future research agendas on macroeconomic performance. These plans address the need to study different countries with different levels of financial inclusion, and they include the following. First, examine digital finance from the perspective of access to finance. Second, look into how new financial technologies and innovations affect access to finance. Third, to figure out how financial outreach impacts access to finance. Fourth, measuring the effects of different levels of financial literacy helps people make better financial decisions and improves the performance of the economy as a whole. Fifth, to look at how changes in the way people live in developing countries affect their economies as a whole. Sixth, figuring out what factors affect access to finance and how that affects macroeconomic performance. Seventh, look at how microfinance affects users' welfare and financial stability from the perspective of macroeconomic performance. Eighth, understand how important financial markets are for the users' welfare and financial stability with regard to macroeconomic performance. Ninth, figuring out how important user welfare is to macroeconomic performance. Tenth, evaluate financial stability to learn more about macroeconomic performance. Eleventh, use different data sets from different countries that cover different time periods and collect data in different ways.

There are a few shortcomings in this paper. Even though a method was used to remove bias from the literature review, the results were affected by the scope, research design, and procedures of this analysis. The limitations on those subjects may have had an impact on the dependability of the findings. The restrictions placed on those subjects might have had an impact on the findings. The authors' used a strict strategy for choosing samples and the right keywords to solve this conundrum.

The study will promote additional research that might serve as a springboard for developing theories in this new area. The authors expect that this research will help to understand macroeconomic performance better and give policymakers and marketers a solid basis for advancing financial inclusion, which aims to facilitate access to financial services at an affordable cost and improves users' welfare.

There are a few drawbacks to this paper. First, the authors' conducted an integrative review to better understand the context of macroeconomic performance, and subsequent research may lead to a better understanding of the paths and intensity of the relationship between macroeconomic performance and various indicators of access to finance, such as digital finance and financial services, financial technologies and innovations, as well as indicators of user welfare and financial stability, such as financial literacy and financial markets. Second, in the future, researchers may make and evaluate macroeconomic performance scales as moderating or mediating variables to see what effect they have on the access to finance of the most vulnerable developing countries.

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Decolonising Western Democratic Processes on First Peoples community practices: the underlying tensions in the Victorian Treaty Process

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Decolonising Western Democratic Processes on First Peoples community practices: the underlying tensions in the Victorian Treaty Process

Abstract: *In 2016, the Victorian government was the first Australian state to commence a dialogue about Treaty with its First Peoples residing within its colonial boundaries. The Treaty process recognises that Sovereignty has never been ceded and includes the establishment of the Yoo-rrook truth telling Commission. This paper explores the complexity and challenges of capturing First Peoples Voice in the Treaty process through an Indigenous Standpoint Theory (IST) lens and draws on Employee Voice (EV) and Social Identity Theory (SIT) to cast light on the underlying dynamics. Using vignettes focusing on three key actors in the Treaty process, our paper illustrates the clashes between Western democratic processes and First Peoples ways of being and doing in the move to decolonisation.*

Keywords: Treaty, Indigenous Standpoint Theory, Social Identity Theory, Employee Voice

* We utilise the term First Peoples. Three authors of this paper are First Peoples and self-identify as Gurindji, Yawuru and Gunditjmara. The other two authors self-identify as Anglo Celtic and Chinese.

Australia is the only Commonwealth Country which does not to have a Treaty with its First Peoples. In 2016, the Victorian government was the first Australian State to commence Treaty negotiations with its First Peoples residing within its colonial boundaries. The Victorian Treaty process recognises that First Peoples Sovereignty was never ceded. Treaty is a key step to self-determination for First Peoples, Treaties offers an opportunity for Voice in decision making, they can also include tribunals that revisit and address past wrongs. Importantly, as Mika and Scheyvens (2022) argue in the context of Aotearoa New Zealand, honouring Treaties means enacting a decolonising agenda. In Australia, Treaty also raises awareness for non-Indigenous Australians to acknowledge First Peoples diverse cultures and Governments to recast Australia's national identity (Mansell, 2016; VTAC 2019). However, the brutality of some 250 years of colonisation including policies of genocide and assimilation have created significant challenges. One of these challenges is how does a process, largely based on Western democratic principles and practices, fit with First Peoples ways of knowing, being and doing?

This paper reveals the complexity and challenges of having First Peoples voice Victorian Treaty voice heard in the process. Adopting an Indigenous Standpoint Theory (IST) lens, we integrate Social Identity theory (SIT) and Employee Voice (EV) research to help understand the underlying dynamics. Based on secondary data, we complied stories of three key actors, who are all First Peoples Victorian

Traditional Owners (TO's), involved in the Treaty process. They include an elected Federal government Senator, a Victorian Traditional Owner Land Justice Group executive member and spokesperson and an Elder whose mob have been excluded from the process as their land has been claimed by another First Peoples Nation. In this paper we ask "*What are the challenges at the nexus between a process based on Western democratic principles and First Peoples ways of knowing, being and doing?"*

There are over 56,000 First Peoples living in Victoria (ABS, 2016) including many who are not from these countries (for example Gurindji, Yawuru, Kamilaroi), which we have described as Pan-Aboriginal First Peoples but not Victorian First Nations TOs (Morrissey, 2000). The borders between First Nations TOs existed before colonisation (Mansell, 2016; Warburton & Chambers, 2007), but were decimated by the imposition of colonial states and territories (Mansell, 2016). First Peoples were forcibly relocated onto reserves and Stolen Generations of our children forcibly removed from our families (Australian Human Rights Commission, 1997; O'Donoghue, 2007) This has led to transgenerational traumas and the destruction of traditional communities and our relationship with the land (Australian Human Rights Commission, 1997).

Colonial policies also homogenised First Peoples Nations and ignored our sophisticated social structures (Lore, Customs, Ceremony, Spirituality, Language) and connection to Country; Country is the traditional lands or region from which First Peoples belong (Mansell, 2016). In Victoria, there are 38 Sovereign Nations groups and languages (Victorian Aboriginal Corporation for Languages, 1994). All TOs have their own specific customs, Elders' ceremonies and 'moiety', totem or spirit protector' which are celebrated through ceremony (Peters, 2017). The Treaty dialogue commenced through open forums to hear from TOs and other First Peoples living in Victoria (Victorian Treaty Advancement Commission, 2018). An Aboriginal Treaty Working Group made up of TOs was established to consult with First Peoples residing in Victoria and advised the Victorian Minister for Aboriginal Affairs (Victoria Treaty Advancement Commission, 2019). In 2017, the Victorian Treaty Advancement Commission (VTAC) was established to create an Aboriginal Representative Body which proposed the final recommendations of the Aboriginal Treaty Working Group which included the establishment of a

First Peoples Assembly (Victoria Treaty Advancement Commission, 2019). Through consultation with First Peoples across Victoria in 2020, the Assembly acknowledged that truth-telling is an essential part of Treaty making, calling on the Victorian Government to create a formal Truth-telling process (First Peoples' Assembly of Victoria, 2021). The Yoo-rrook Truth Justice Commission, established in 2021, is the first formal Truth-telling process in Australia, hearing the Voice of historical injustices experienced by First People since colonisation. Its strongest mandate is to create shared history (First Peoples' Assembly of Victoria, 2021).In June 2022 the Victorian government struck an agreement with the First Peoples Assembly and introduced the Treaty Authority Bill. The Authority will be an independent adjudicator with legal powers to facilitate Treaty negotiations between government and TO's and resolve disputes. Marcus Stewart, Co-Chair of the Assembly describes this as 'decolonisation in action' (Kolovos, 2022).

Moving to Treaty in Australia

At the Federal level in 2017, First Peoples activists called for Treaty and recognition through Voice, Treaty and Truth in the Uluru Statement of the Heart (Davis, 2018) and 250 First Peoples leaders gathered at Uluru in Central Australia. They came together in unity resolved to establish 'First Nations Voice' in the Australian Constitution, a 'Makarrata Commission' to administer a process of 'agreement making' and 'truth-telling' between governments and First Peoples (Appleby & Davis, 2018; Davis, 2018). The Uluru Statement of The Heart focused on everyday Australians (Davis, 2018) and sent a message to Government that action was needed. The Statement was call to arms for the Australian people to strive for a 'better future by walking with us', together with a long-term vision (Davis, 2018).

The First Nations Constitutional Convention 2017 was responsible for producing the Uluru Statement. The FNCC was designed to identify from those present at the gathering, what meaningful constitutional acknowledgement would mean to them (Appleby & Davis, 2018). The Statement, outlines the need for self-determination and aspires for justice and a better future for our children (Appleby & McKinnon, 2017). It calls for structural response of our problems to address the "torment of our powerlessness" and constitutional reforms which will empower our people and equal placement in our country. Autonomy over our destiny is essential so that our children can walk in two worlds

where their cultures will be a gift to our country and they will flourish (Appleby & McKinnon, 2017, p. 36). The Uluru Statement prioritised Voice Treaty Truth in that order as a deliberate strategy by the delegates at Uluru convention (Davis, 2018). An enshrined Voice in the Australian constitution gives First Peoples a say on policy and legislation which cannot be repealed (D. Larkin & Rigney, 2021). This Voice would give First Peoples authority to negotiate Treaty on just terms. Whereas Truth-telling alone will not lead to any structural transformation and ongoing benefits for First Peoples. Nor will it change the power disparity First Peoples have with the state (Blackwell, 2022a). In 2022, the incoming Labor Albanese Federal government committed to enacting the Uluru Statement in its first term. Linda Burney the newly appointed Minister for Indigenous Affairs has looked to the experience in Victoria to help guide the Federal process (Blackwell, 2022b).

The Victorian Treaty process has encountered many challenges underpinned by the history and impact of colonisation. Australian State and Territory borders were imposed over sovereign nations borders by colonisation cutting across traditional boundaries (Mansell, 2016). This can create misperceptions, for example First Nation members residing on the New South Wales side of the border might be unaware of their status within the Victorian Treaty process and whether they are considered as a Traditional Owner. Moreover, we are not homogeneous, each sovereign nation has its own Elders and leaders within their communities' they are unique to their Nations Voice and identity. In Victoria there are 38 Nations, each having their own opinions on Treaty. Moreover, while the Victorian Government acknowledges that a colony was formed without appropriate consultation, acknowledgement or participation of First Peoples TO's (Mansell, 2016), no legal effect or rights and obligations are acknowledged in the Victorian Constitution (Mansell, 2016; Victorian Government, 2021).

Another crucial challenge is that the Treaty process was based on Western principles. The Victorian Government established criteria for TO's Nations to be registered thus gaining validation within this Treaty over other Clans. Only Nations registered with the Government were eligible to be representatives in the Treaty and only TO's of those Nations were eligible to be elected candidates. This process disadvantages Clans not registered with the Government. Despite being 38 Clans only 32

seats were allocated for the election. Six Clans were excluded as not recognised by the Government. Eleven seats are Recognised Aboriginal Parties having reserved seats under an endorsed model leaving 21 seats contested electorally through 5 regions across Victoria (VTAC 2019). Moreover, within the process there are other issues including the many levels of identity being tested and the recognition of Nations being represented (VTAC 2019). Added to this all First Peoples living in Victoria aged 16 and over had the right to vote in the Treaty process. However, the bulk of this population eligible to vote are not from the 38 Clans. The title 'Victorian Treaty' could be misleading and could be misinterpreted that only Victorian Nations are included in Treaty. So, while the Victorian Treaty includes the Voices of TO's, because of Victoria's demographics and the impact of colonisation, there are countless numbers of First Peoples from other Countries (Australian States and Territories) living in Victoria that have the right to vote.

Finally, the establishment of the Yoo-rook (Truth in the Wemba Wemba language) Truth-telling and Reconciliation Royal Commission also raises challenges. International evidence shows that Truth-telling unearths transgenerational traumas and hard facts including murders, rapes, and beatings (Gone, 2009; MacDonald & Steenbeek, 2015; Wilk, Maltby, & Cooke, 2017). As Coulthard (2014) contends if there are no clear demands for action and no responsibility mechanisms in the Truth and Reconciliation processes then the Voice of Indigenous people is silenced. It is also important to remember that evidence from Canada, New Zealand, and USA who have Treaties with their Indigenous peoples, suggests that Treaty alone is not a panacea. Indigenous peoples in these countries continue to experience racism, under-employment, high mortality and incarceration rates, and educational deprivation compared with non-Indigenous people (MacDonald & Steenbeek, 2015; Vowel, 2016). In this situation understanding and analysing the complexities of Voice and identity in the introduction of a Treaty in Victoria is essential if it is to lead to decolonisation in action.

Indigenous Standpoint Theory (IST) is a lens that acknowledges First Peoples' ways of knowing, being and doing and captures the multiplicity of our identity and voice (S. R. Larkin, 2014; Lester Irabinna Rigney, 2006). Rose (2017) argues that IST is a paradigm that challenges the status quo as emerging Indigenous academics utilise the approach for cultural, spiritual and intellectual liberation.

IST includes Indigenous knowledge, research and wisdom that has historically been excluded, de-valued or ignored by academic institutions. Indigenous researchers maintain that Indigenous methodology is inclusive of the Indigenous researchers' own standpoint, because it influences their conceptual framework methodology (Moreton-Robinson & Walter, 2010). Indigenous studies by Indigenous scholars identify many commonalities and four principles: Relational accountability, "we shared intertwining with our environment and everyone around them, all our relations, be it air, water, rocks, trees, animals, insects, humans, and so forth" (Steinhauer, 2002, p. 72). Respectful, how you present yourself, your research and the people, events, phenomena you are researching and accepting that not all knowledge shared is for the general public (Louis, 2007). Reciprocal appropriation, "Indigenous research is ultimately about reciprocal relationships between the researcher and the researched" (Henry & Foley, 2018, p. 213). Rights and regulation, research that aligns to Indigenous protocols, encompasses clearly framed goals, and contemplates the impacts of the proposed research (Smith, 2012) to acknowledge Indigenous peoples' rights to 'own' the knowledge shared with the researcher, ensuring that it is a collaboration and any findings shared with and owned by the community (Louis, 2007). Indigenous cultural voice is a tool for interconnectedness through which articulation marries to the past present and future (because in this way ancestors have a Voice in the present). Voice is a way of expression and people are the vehicle articulating of that Voice. (Foley, 2003).

Employee Voice is a useful concept as although it focuses on employees in organisations rather than movements, it identifies voice structures which can be applied to the Victorian Treaty process. These structures can be direct or indirect through formal and informal communication and decision making conduits (Morrison, 2011; Wilkinson, Donaghey, Dundon, & Freeman, 2014). Direct voice is often seen as 'two-way communication between management and employees' (Bryson 2004, p220) allowing employees to voice their concerns directly to management (Dundon & Gollan, 2007). Indirect voice is third party representation (Bryson, 2004; Freeman, Boxall, & Haynes, 2007). Voice can be consultative where final decisions are made by one party or participatory where decision making is consensual (Strauss, 2006). In its broadest sense Hirschman argues that voice "can be graduated, all the way from a faint grumbling to violent protest; it implies articulation of one's critical opinions" (

Hirschman, 1970, p. 16). Evidence suggests that the presence of Voice has an essential role in people's perception of fairness (Brinsfield, Edwards, & Greenberg, 2009). The representation of Voice in the Treaty process is important because Voice can be an agent for change (LePine & Van Dyne, 1998).

Wilkinson et al (2018), argue that voice studies tend apply a universal model that in effect excludes minority voices by utilising inappropriate structures and avenues for including their voice (Wilkinson, Gollan, Kalfa, & Xu, 2018). Evidence shows that members of minority groups are at greater risk of not being valued by colleagues and are afraid to speak up. Recent studies call for diverse but equal treatment for employees from minority group adapting to their unique aspects of identity cultures, language and capacity (Bell, Özbilgin, Beauregard, & Sürgevil, 2011; Wilkinson et al., 2018). There are other reasons why people are silent in the workplace, they include; being ignored or given the 'silent treatment' (Williams, Shore, & Grahe, 1998) or feeling that to speak up would be fruitless or dangerous (Pinder & Harlos, 2001). Outcomes are often that loyal employees become dissatisfied and anguish in silence or disengage, withdrawal or leave (Hirschman, 1970). Without representation minority groups are at very high risk of being silent (Bell et al., 2011; Trau, Hartel, & Hartel, 2013) and historically marginalised and minority people have been denied voice (Bell et al., 2011; Cornwall, 2003). Much of the EV literature focuses on voice within western organisations and societies. Wilkinson, Sun, and Mowbray (2020) argue that this leads to deficits in knowledge around institutional factors (such as regulation and laws), including national cultural aspects that influence EV arrangements and mechanisms and enable voice. They argue 'governance and representation structures of voice are embedded in particular institutional contexts that have deep historical and cultural roots' (Wilkinson et al., 2020). Alang, Stanton, and Trau (2020) and Alang, Stanton, and Rose (2022) explored EV in the context of Indigenous employees in public sector organisations in Vietnam and argued that the use of Voice practices on their own did not lead to Indigenous Voice being included or heard. Instead, they identified inclusive leadership which values the culture and perspectives of Indigenous people, creates a sense of belonging and challenges racism. Within the context of the Victorian Treaty process, an EV lens can help inform how people of race and colour are represented, explore the role disadvantage and marginalisation plays in restricting their 'Voice' and understanding the influence of the institutional context.

Social Identity Theory (SIT) is valuable in understanding belonging. People can belong to multiple social groups which gives them different social memberships including race, ethnic groups, class and culture (Tajfel, 2010). In cultural groups, ones' connection, including beliefs, values, spirituality and how life is structured such as lore, rituals, taboos and protocols become one's identity (Tseng, 2003). People self-categorize as members of a social group and internalise the group values and develop a bond with the group. Hence, the group's interests also become their interests, and the afiliation can give them a feelings of belonging (Hogg, Terry, & White, 1995). First Peoples in Australia can have multiple identities including an Indigenous identity, a Clan identity or an Australian identity. A psychological connection with each social group may vary accordingly to the centrality of this identity and situation (Settles, 2004). In general, Clan membership tends to be central to First Peoples identity as they are deeply influenced by Elders, moieties, Country and rituals, protocols and songlines of their Clans (Mansell, 2016; Lester Irabinna Rigney, 2003). SIT provides a useful lens through which to understand the attitudes and behaviours of the diverse nature of First Peoples in Australia. SIT also explains inter-group relationships. People tend to view others in the same social group as in-groups and other social groups as out-groups (Abrams & Hogg, 1988; Hogg, Abrams, Otten, & Hinkle, 2004; Terry, Hogg, & White, 1999). As a result of the self-categorization process, people may hold favourable views towards in-groups over out-groups (Brewer, 1979). For example, holding positive views towards in-groups and find in-groups to be more trustworthy and worthy of support (Ellemers, Kortekaas, & Ouwerkerk, 1999; Hogg et al., 1995). This bias is motivated by the tendency to enhance one's self-esteem, a sense of confidence and group identity (Ben-Ner, McCall, Stephane, & Wang, 2009), but can lead to adverse consequences towards out-groups, such as prejudice, discrimination and stereotyping (Hogg et al., 1995) (Ellemers et al., 1999; Tajfel, 2010). In-group and Out-group categorisation help explain people's views of their social memberships, and divide people into "us" and "them" (Tajfel, 2010). Prejudice and discrimination can cause direct conflicts and hostility between members of different social groups (Abrams & Hogg, 1988) even leading to eradication of other groups or abuse other groups (Tajfel, 2010). SIT provides a useful lens through which to understand the attitudes and behaviours of the diverse nature of First Peoples in Australia.

The Vignettes

Vignettes are a useful way to examine phenomena in practice. We identified three key actors that have been vocal in the Treaty process. We looked for supporters and opponents of the process and captured their narratives from media reports and commentary including newspapers, television and radio.

Vignette 1: Lidia Thorpe is a Djab Wurrung, Gunnia and Gunditjmara woman who represents the Victoria Greens in Federal parliament – the first Indigenous woman to do so. She is also the Greens Federal voice for First Nations, Justice, and Sport. Senator Thorpe was part of the Aboriginal Treaty Working Group between 2016 and 2019. Thorpe was a candidate in the Victorian Assembly by-election but withdrew. According to reports captured on the Assembly website, Lydia Thorpe stated she originally wished to represent Community 'because she believed in true self-determination and wanted to advocate for people living on and off country'. She argued "It's important that the Treaty process is led by Traditional Owners, the sovereign peoples, and not dictated by government. We need the right people representing Country. " (First Peoples' Assembly of Victoria, 2019)

In 2017, Lydia Thorpe attended the First Nations Constitutional Convention where The Uluru Statement was agreed. However, she was part of a small number of delegates that walked out refusing to sign the final report (Le Grand, 2020b). It was reported in the Age newspaper that she stated that the Uluru process was hijacked by Aboriginal corporations and establishment appointments and did not reflect the aspirations of ordinary Indigenous people (Le Grand, 2020b). In an interview with SBS, Senator Thorpe also argued that while she is supportive of Treaty, she contends it must come first, as the top priority rather than Voice to government (Turner & Nimmo, 2022). The Greens had originally endorsed the Uluru Statement of the Heart in its entirety and in the order of Voice, Treaty and Truth. However, the Party changed their position in 2020 claiming to succeed in the Treaty process the sequence needed to be reordered. They argued that Truth-telling should come first followed by Treaty and then Voice (Blackwell, 2022a). However, according to Parkin (Parkin, 2020) writing in Crikey this was decided through very little consultation or participation with First Peoples .

In 2022. Waleed Aly interviewed Senator Thorpe on Channel 10's The Project. He accused her of ceding her own sovereignty in that as a Senator she had sworn an oath of allegiance to the Crown (Milutin, 2022). Senator Thorpe hit back explaining that it was a requirement in joining the ranks of Senator that she had to swearing an allegiance to the "colonising Queen". In doing so it gave a voice for First Peoples in the media "To make this country put a mirror up to itself and ask, who are we? Where do we come from and where are we going?" (Milutin, 2022)

Senator Thorpe's narrative identifies some of the complexities in the Treaty process. As an elected Senator representing a mainstream political party, she is a player in the Western democratic process. However, she has used this position to challenge the First Peoples Victorian and Uluru community processes. For community the gathering at Uluru was a step to unify all mobs from around Australia. Unification that fuelled the fight for First Peoples Voices to be heard, negotiate a Treaty and bring about the Truth-telling of colonial brutality. The fallout from this process has seen the resignation of two First Nations Greens members. In an interview in the Age newspaper one of these former members Jill Gallagher states; "It's important to have the Voice enshrined in the Constitution as the starting point because it's about empowerment. We, as the First Peoples of this country, have been disempowered for far too long. If we get the Voice right, the rest will follow," (Latimore, 2022). It is a contradiction that the Greens have identified their own demographic process to know what's best for First Peoples.

Vignette 2 Elder Gary Murray is a descendent of Dja Dja Wurrung, Yorta Yorta and Dhudhuroa Waywurru people and spokesperson for the Victorian Traditional Owner Land Justice Group (VTOLJG). Murray is one three Victorian TO's Clans Executive Members of VTOLJG. VTOLJG was instrumental in collaborating with the Victorian Government in producing the Traditional Owner Settlement Bill passed in 2010. This gives an alternative to settling Native Title (NT) claims in Victoria (Victorian Traditional Owner Land Justice Group, 2010). The Traditional Owner Settlement Act (TOSA) provides out of court settlement of NT and permits the Victorian Government to recognise TO's and certain rights in Crown land. The conditions of agreement are that TO's must withdraw any NT claims pursuant to the *Native Title Act 1993 (Cth)* (Australian Government, *1993*). In the Native Title Act a crucial requirement for TOs is establishing an ongoing connection to their traditional lands.

However, the onslaught of dispossession and displacement since colonisation has made it difficult and some claims have failed. TOSA was created to assist Victorian TO's prove their claims (Le Grand, 2021)**.** Against this background, Murray, as a former member of the Treaty Working Group, expressed concern that the Treaty Assembly process, is not representative of all Voices. Murray argues that proven Victorian TO's descendants of Nations have the advantage of being eligible to stand for election or have participatory Treaty talks and share in economic benefits connected to Treaty (Marks, 2018). He argues that Nations can make claims to lands that don't belong to them denying rightful Voice to be represented (Le Grand, 2021)

Vignette 3: Elder Vincent Peters is Ngurai Illum Wurrung. The Ngurai Illum Wurrung is an example of a Clan that have been excluded from the Treaty process as their land and an Elder was claimed by the Taungurung Nation (Schubert, 2021). Peters maintains Taungurung have fabricated ancestry of his great-grandmother to reinforce their land claim agreement with the Victorian government (Le Grand, 2020a). The land in question sits north and north-east Victoria. Ngurai Illum Wurrung and another four Nations have sought in the Federal and Supreme Court to squash the 2018 Taungurung agreement reached through TOSA, and more importantly preserving those four Nations rights to Native Title agreements. In 2018, the Native Title Registrar submitted an application for registration of the Taungurung Settlement as an Indigenous Land Use Agreement (ILUA). In 2020, the agreement was registered by the Native Title Registrar and submitted onto the Register of ILUA. However, the four Nations claim they were overlooked as Nations having reasonable claim to hold Native Title rights and interests over the parts of the land subject to ILUA (Kernebone, 2021). In 2021 the Federal Court of Australia ordered that the agreement be removed from the Register of ILUA, the application remitted to the Native Title Register, for consideration in accordance with the law (National Native Title Tribunal, 2021). Peters' asserts the Victorian government owes it to all TO's to recognise all language groups and that the Ngurai Illum Wurrung are distinct from Taungurung. He argues that the Victorian government failed to consult with the Ngurai Illum Wurrung excluding them and stealing their Country in the agreement made with the Taungurung (Le Grand, 2020a). The Native Title Registrar ruled in favour of the Taungurung. It was decided that the Ngurai Illum Wurrung and

Taungurung had language, laws and customs in common, so it was rational to include Country associated with the Ngurai Illum Wurrung in the proposed agreement with Taungurung (Le Grand, 2020a). The impact of this decision has affected both Nations. The Ngurai Illum Wurrung as outsiders have been excluded of entitlements and the insiders the Taungurung are tied by court proceedings and currently not permitted to hunt, fish, and accessing the land (Schubert, 2021). In this vignette we see the long-term impact of colonisation and contested relationship to Country that Western processes have attempted to resolve but have led to further conflicts between TOs and exclude certain groups from a Voice in the Treaty process.

Conclusions

This paper highlighted the challenges at the nexus between a process based on Western democratic principles and First Peoples ways of knowing, being and doing. These challenges need to be resolved if we are to see decolonisation in action. First, while the process itself includes both direct and indirect forms of Voice as well as both consultative voice and participatory voice, the vignettes have identified examples of excluded voice. This excluded voice can only be understood in the context of the ongoing impact of a colonisation process that destroyed our Nations and created ongoing conflicts between First Peoples Nations. These conflicts have been played out publicly in the courts and threaten to derail the decolonisation process. Second, while the Treaty process recognises that TOs are not homogeneous and there are many Nations each with their own identities, beneath the surface there is a tension between insiders and outsiders based on relationships and agreements with the Victorian government leading to conflict. Again, the genesis of these conflicts is colonisation. Third, while Gary Murray is attempting to walk in both worlds while upholding the integrity of his people, Senator Thorpe's role in the Greens is less clear. While there are differences in First Peoples communities nationwide on a pathway forward on Treaty the Uluru Statement represented an important symbol of coming together. The Greens have taken their position after a lack of consultation with First Peoples communities which has led to a spilt in their own First Peoples membership. Through these vignettes we see contradictions that can only be understood by acknowledging the impact of colonisation, the diverse identities of First Peoples and their challenges in their interactions with the Western democratic processes.

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Stream 8: Business Processes, Innovation and Supply Chain

Factors affecting adoption of digital technologies in horticulture supply chains

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Stream 8: Business Processes, Innovation and Supply Chain

Factors affecting adoption of digital technologies in horticulture supply chains

ABSTRACT

In Australia, AUD3 billion is wasted annually due to inadequate cold chain practices. For tropical fruits such as mangoes, adherence to cold chain practices is important because temperatures outside the biologically safe range damage the fruit. Using the Australian mango industry and its experience with the adoption of temperature monitoring technologies, this research delves into attitudes influencing the adoption of technologies in horticulture supply chains. Based on the Technology Acceptance Model (Davis, 1989), this exploratory qualitative research took a whole-of-supply perspective with in-depth interviews conducted across the industry. The research found that there is limited adoption of temperature monitoring technologies. An integrated TAM is proposed with additional constructs added to increase its reliability: viz., perceived cost, trust, and social influence.

Keywords: *TAM, cold chain, supply chains, digital agriculture, mango industry, temperature*

With the World population expected to reach 9.15 billion by 2050, global demand for food is increasing exponentially and food security is becoming an international challenge (FAO, 2019). Globally one-third of food for human consumption is lost or wasted (FAO, 2017). In 2019, this amounted to approximately 931 million tonnes, with horticulture produce suffering the largest losses across all countries (FAO, 2019; UNEP, 2021). In Australia, 7.6 million tonnes of food is wasted annually, costing AUD 36.6 billion (FIAL, 2021). Fruit and vegetables produce the greatest volume of waste costing the nation AUD 3 billion per annum (Brodribb, McCann, & Motavallia, 2020). Poor cold chain infrastructure and inadequate cold chain practices can be partly blamed for food loss and waste (Brodribb et al., 2020; FAO, 2019; OECD-FAO, 2021).

Technology advances in post-harvest practices, particularly cold chain management, could improve food security by reducing waste and making more food available (Kader, 2004). Reducing food losses and waste can be more sustainable than production increases (FAO, 2019; OECD-FAO, 2021), and has been recognised by the UN as one of the Sustainable Development Goals (FAO, 2019; UNEP, 2021). Although technologies are available to better manage cold chain practices, horticulture supply chains have been reticent to fully incorporate them into their operations (Brodribb et al., 2020; FIAL, 2021). Thus far, limited research has been undertaken into the factors affecting the adoption of temperature monitoring technologies in horticulture supply chains (Brodribb et al., 2020; Estrada-Flores, 2010; McKenzie, Singh-Peterson, & Underhill, 2017).

This study sought to address this knowledge gap by gaining an understanding of current cold chain temperature monitoring practices along the whole chain, from farm to retailer. Specifically, the

research focuses on the Australian mango industry and its experience with adoption of temperature monitoring technologies. This study was exploratory because limited empirical research has been performed into the adoption of such in horticulture supply chain settings. The conceptual framework used is based on behavioural theory models, specifically, the Technology Acceptance Model (TAM) proposed by Davis (1989). A qualitative approach was used, with in-depth interviews of members of the Australian mango supply chain used to gather data. The insights gained through the interview transcript analysis helped to identify current adoption practices and provide insights to inform and encourage the uptake of such technologies.

BACKGROUND

The emergence of the 'digital era' provides agriculture with the tools to tackle productivity post-harvest losses and waste (Lezoche, Hernandez, Alemany Díaz, Panetto, & Kacprzyk, 2020; OECD-FAO, 2021; Villalobos, Soto-Silva, González-Araya, & González–Ramirez, 2019). Of all agriculture industries, horticulture with its intensive production systems, high product loss, waste, and labour intensity, is best placed to benefit from the implementation of digital technologies (Lezoche et al., 2020). Adoption of digital technologies in Australian horticulture could increase the Gross Value of Production (GVP) by 40%, mostly via improvements in cold chain management (Heath, 2018).

Due to the perishability of horticulture produce, continuous monitoring of temperature to maintain an unbroken cold chain during transport and storage is needed (Kader, 2004; Villalobos et al., 2019). Traditionally, temperature monitoring was performed on-site at major points of the cold chain (Brodribb et al., 2020; Estrada-Flores, 2010). With advances in Information and Communication Technologies (ICT) connectivity, technologies for uninterrupted monitoring of optimal temperature (smart dataloggers) have been developed (Lezoche et al., 2020; Pina, Gaspar, & Lima, 2021; Villalobos et al., 2019). Smart dataloggers are dataloggers can that automatically upload data to the web via Wi-Fi connections or RFID transmission to set hubs throughout the chain (DAF, 2020). Such smart dataloggers enable businesses to measure temperature in real-time, intervene and adjust practices when temperature abuses occur (Villalobos et al., 2019). By enabling interventions along the supply chain, real-time temperature dataloggers can reduce waste, and improve efficiencies and profitability (Pina et al., 2021).

However, persistent inadequate cold chain practices in horticulture suggest that supply chains

have not fully embraced these new technologies (Brodribb et al., 2020; FAO, 2019). Although there are global and national efforts aimed at reducing food waste by improving the cold chains (FIAL, 2021; UNEP, 2021), the success of such efforts is limited by the slow adoption of temperature monitoring technologies. Scant has been undertaken on adoption of technologies used in post-harvest management (Kamrath, Rajendran, Nenguwo, Afari-Sefa, & Broring, 2018), but not on the adoption of technologies used to monitor temperature. Hence, the need for research into determinants of technology adoption of such technologies. Moreover, studies have focused on the adoption of technologies at the enterprise level, with relatively few studies being undertaken at the supply chain level (Shi & Yan, 2016). The implementation of cold chain practices and uptake of temperature monitoring dataloggers requires joint effort involving several businesses along the supply chain (Cappellesso & Thomé, 2019).

In Australia, federal and state governments and Peak Industry Bodies (PIBs) are investing in improving cold chain practices to reduce food waste (FIAL, 2021). In horticulture, reducing waste has been identified as one of the industry's sustainability pillars (Hort Innovation, 2021), with substantial funds being invested to improve cold chain practices in supply chains (DAF, 2021). For tropical fruit, such as mangoes, management of the cold chain is critical because the fruit is highly perishable and sensitive to temperature abuse (Ntsoane, Zude-Sasse, Mahajan, & Sivakumar, 2019). The optimum temperature for mango is between 10º C and 12º C, with fruit stored below 10° C typically developing chilling injury and those stored above 12° C tending to soften and rot (DEEDI, 2010). The mango industry suffers high post-harvest losses, with up to 46% of fruit loss in the supply chain before reaching consumers (Ambiel et al., 2019). In one study tracking mangoes from farm packhouse to ripener, 85% of the mango trays transported were outside the recommended temperature range (Hort Innovation, 2020). Thus, the mango industry is not making full use of the available technology, while factors hindering adoption are unknown. As Governments and PIBs continue to invest in improving the cold chain, understanding adoption is imperative to support improvement programs.

CONCEPTUAL FRAMEWORK

To evaluate the adoption of temperature dataloggers in mango supply chains, the Technology Acceptance Model (TAM) was explored. TAM suggests that behaviour is processed in the continuum of belief-attitude-intention-behaviour and the model assumes that an individual's intent to use a

technology is determined by their attitudes and beliefs towards using the technology (Davis, 1989). Davis (1989) proposed that a person's beliefs about the Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) determine a person's attitude toward using a technology. PU is defined as 'the degree to which a person believes that using a particular system would enhance his or her job performance' (Davis, 1989, p. 320). PEOU refers to 'the degree to which a person believes that using a particular system would be free of effort' (Davis, 1989, p. 320). Attitude to Use (ATU) refers or the user's evaluation of the desirability of employing a particular technology (Davis, 1989). As shown in Fig. 1, PU and ATU influence Behavioural Intention (BI), which in turn determines technology use.

Insert Figure 1: Technology Acceptance Model

In agriculture, TAM has been used to study adoption of diverse technologies and practices (Michels, von Hobe, Weller von Ahlefeld, & Musshoff, 2021; Pillai & Sivathanu, 2020). These studies found that TAM is a satisfactory theoretical foundation to explain adoption. However, they also recognise that new constructs may be added to TAM to increase its applicability. For instance, Kamrath et al. (2018) added the constructs of subjective norm and perceived control in a study of post-harvest technologies adoption and found the additional constructs to strongly predict behaviours.

Technology Acceptance Model has also been used relatively extensively to investigate technology adoption in agriculture at enterprise or industry sector levels, such as with growers (Michels et al., 2021), retailers (Roy, Balaji, Quazi, & Quaddus, 2018), traders (Kamrath et al., 2018), and logistic managers (Gligor, Tan, & Nguyen, 2018). However, research is limited on the application of TAM to study adoption along the entire cold chain in horticulture supply chains, from growers to retailers (Asare, Brashear-Alejandro, & Kang, 2016). TAM research can fail to consider the complex inter-firm relationships in supply chains, wherein a high level of collaboration is needed for businesses to adapt processes and invest in costly systems (Grossman, 2004). A literature gap thus exists regarding understanding the versatility of TAM to provide a holistic picture of the challenges faced by supply chains when adopting technologies. This study aims to contribute toward filling this perceived gap and enriching the literature with more practical applications of TAM in supply chains.

RESEARCH METHODOLOGY

This research focused on members of the Australian mango supply chain, from growers to

retailers. Given that only a few studies have been conducted on the adoption of temperature monitoring technologies in horticulture supply chains, an exploratory qualitative research approach was used. Thirty in-depth interviews were undertaken with members of the Australian mango supply chains and services providers supporting the industry. Interviewees were selected based on a purposive sampling technique, where participants are not randomly sampled, but were selected because of their specialised knowledge or experience (Tremblay, 1957). The in-depth interviews followed a semi-structured interview protocol with open-ended questions relating to cold chain practices. To facilitate discussion, three types of temperature dataloggers were used as 'prompts' in the interviews: viz., USB-enabled, RFID, and Wi-Fi type dataloggers (Table 1). The in-depth interviews lasted approximately 1 hour and took place in the respondent's workplace. The interview sessions were recorded and manually transcribed by the researcher to ensure data quality. Transcripts were coded using NVivo 12, the functionality of which made coding and subsequent identification of themes straightforward (Leedy & Ormrod, 2015). The thematic analysis approach of Colaizzi (1978) was used to interpret and code the interview responses through a descriptive phenomenology lens. This approach helped to gain an understanding of themes and subthemes based on the lived experiences of interviewees (Morrow, Rodriguez, & King, 2015).

Insert Table 1 – Description of dataloggers

Participants

The 30 participants in this study represented all sectors of the mango industry, from small-scale growers to large vertically integrated farming operations and interacting businesses offering diverse services (Table 2). The interviews revealed that mango supply chains are complex, with supply chain members playing multiple roles. For example, businesses involved in mango farming were engaged in packing, consolidating, wholesaling, and exporting. Service providers also supported a range of horticultural crops and provided varying expertise, such as agronomy and ICT consultation.

Insert Table 2 – List of interview participants

Only four of the 30 businesses or advisors dealt exclusively with the mango industry. The individuals interviewed were predominantly male, with only six service providers being female. The

business operations were located throughout Australia, with farms spanning the Northern Territory, Queensland, Western Australia, and Northern New South Wales. Warehouses and logistics facilities were in capital cities. The interviewees from the farming operations represent more than half of all Australian mangoes produced and encompassed the key mango varieties of Kensington Pride, R2E2, Calypso®, and Honey Gold®.

FINDINGS AND DISCUSSION

Current cold chain practices and adoption of temperature dataloggers

Interviewers believed that mango supply chain has appropriate on-site cold chain management systems to care for fresh produce. As stated by one industry representative, 'Basically from where the product is loaded there is usually temperature monitoring going on from that point forward'. However, this research uncovered serious breakdowns in the supply chain. Limited temperature monitoring takes place resulting in widespread cold chain mismanagement as shown in Figure 2. Scant communication takes place regarding quality conditions as fresh produce moves along the chain. Systems that integrate the temperature data collated and allow for information sharing are almost non-existent. Current systems do not allow for feedback back to the grower. Quality problems are only found at the end of the supply chain, with growers only becoming aware of problems when the fruit is rejected by buyers.

Insert Figure 2 – Critical inadequacies

Interviewees were asked about their awareness and use of temperature dataloggers (Table 3). Awareness of USB-enabled dataloggers and other temperature devices was high at 100% (30 out of 30); while awareness of smart dataloggers was less prevalent, with 73% (22 out of 30) and 60% (18 out of 30) reporting awareness of RFID and Wi-Fi-based dataloggers respectively.

Insert Table 3 – Use of dataloggers position here

Interviewees indicated no regular use of temperature dataloggers in their operations. Some confirmed they were using them on an ad-hoc basis, with 57% (viz., 17 of 30) using USB-enabled dataloggers. However, the use of smart dataloggers was very low, with just 5 out 30 using RFID and only 3 out of 30 using Wi-Fi-based dataloggers (Table 3). When probed, most interviewees indicated that dataloggers are used sporadically to comply with insurance requirements when fruit was to be exported. Temperature measurement was generally limited to stationary sites at individual business

premises and was typically done at the point of receival using handheld devices. Interviewees reported that monitoring is often done to investigate partners, as stated by one grower: 'We do it to conduct covert surveillance of our partners because we want to know what they are doing'. Interviewees believed that temperature fluctuations are less likely to cause produce damage because mangoes are transported at a hard-green maturity stage, and that, because the fruit moves quickly throughout the chain, there is a minimal risk of damage. As noted by one freight forwarder, 'Mango customers very rarely want temperature recorders in mangoes. Because mango is a product that will seat quite comfortably between 16° C and 18° C'. The belief that temperature variations do not damage the fruit was unexpected given extensive scientific research on temperature management (Ntsoane et al., 2019) and governments' efforts to improve cold chain practices in the mango industry (DAF, 2019, 2021). This finding affirms that underlying beliefs affect attitude and, in turn, affect adoption behaviour (Davis, 1993; Venkatesh & Davis, 2000).

Determinants of adoption

Through thematic analysis, a range of themes and subthemes explaining the adoption of dataloggers was identified, as shown in Table 4. The key initial coding and themes/subthemes related to attitudes towards cold chain monitoring, ease of use, and usefulness of technology as with classical TAM. Further analysis produced new codes, subsequently revealing additional themes and subthemes related to trust, technology trust, and social influence.

Insert Table 4 – Adoption themes and subthemes

Attitudes towards cold chain monitoring - Interviewees agreed that temperature is one of the most significant factors affecting shelf life and product quality. However, limited continuous temperature monitoring was taking place in practice. The interviewees considered that temperature fluctuations are less likely to cause damage because mangoes can withstand variations. One PIB representative commented 'There is not strong acceptance that core pulp temperature management along the supply chain … has a major negative impact on quality'. Small-scale growers had a negative attitude towards using the technologies because buyers (viz., retailers, exporters) might use the data to penalise them. ICT developers were also concerned that the attitude to adopt can be impacted if produce buyers use the data to discount prices. Interviewees who expressed a positive attitude towards

cold chain monitoring were more open to using dataloggers in their business practices. Those businesses monitoring regularly reported benefits in terms of enhancing chain transparency and improved business relationships. Such findings confirm that businesses are more inclined to use the dataloggers if they hold a favourable attitude towards them.

Usefulness of technology - All 30 interviewees agreed that there was limited uptake of temperature dataloggers as the technologies do not offer clear value. Most failed to see the benefits of having semi-real-time or real-time data. This was because the businesses do not have processes to take corrective action if the fruit suffers from temperature abuses while in-transit. On the other hand, some interviewees recognised that, by using these dataloggers, visibility and traceability could be improved. One grower stated '[We] use dataloggers to ensure that our product is in mint condition when it gets down there [market]. That is why we want the dataloggers'. Those businesses recognised that fruit quality could be maintained because dataloggers facilitate identifying and rectifying shortcomings in their cold practices. Economic benefits were also reported as the data collected made it easier to process insurance claims (exports), and retailers reported waste reduction when using temperature dataloggers. These findings attest that PU affects attitudes to adopt, since interviewees who believe dataloggers are of value held a positive attitude towards the technology. PU also affects behaviour, as those reporting benefits of using the technology are more likely to adopt it.

Ease of use - Interviewees reported that digital temperature dataloggers are often more difficult to use than older paper-based or handheld devices. USB-enabled dataloggers need to be physically retrieved to download the data. For RFID and Wi-Fi-based dataloggers, the complexity is greater as additional digital skills to handle and analyse the captured data are needed. Interviewees identified other technology challenges, such as poor internet connectivity and data integration issues. For example, 'black spots' where internet access was unreliable in rural Australia, particularly in northern Australia where most of the mango farms are located. As stated by an exporter, 'One of them [viz., barriers] will be access to decent internet services, especially for northern Australia where there is not much access'. In addition, for the data to be captured and used effectively, smart dataloggers need to be integrated into existing practices. This was reported to be difficult as for RIFD dataloggers, RFID hubs need to be installed, connected to the wireless system, and plugged into the electrical

outlet at the partners' facilities. The findings confirm that PEOU affect attitudes, as those who believe that minimal effort is needed to use dataloggers are more likely to have a favourable attitude towards them. PEOU also affects PU as it is likely that users will find it useful if the technology is easy to use.

Cost of technology and implementation - Cost was by far the most mentioned barrier to adoption by all interviewees. Most believed that the cost of adopting real-time temperature data versus the added benefit of access did not justify the expense. For RFID dataloggers, costs are relatively higher because it requires purchasing new hardware, application software, and tags and incurs a cost of integration into daily operations. Interviewees commented that Wi-Fi-based dataloggers costs can be up to AUS100 per unit and cost increases significantly if more than one chain is to be monitored. An exporter stated, 'It is cost-based … those [data loggers] that have the SIM mobile, they are AUD130 each, if you put two in a container, it is AUD260 … with very low margin, that is a lot of money'. There was no consensus as to which businesses should be paying for the dataloggers. Some interviewees believed that businesses selling the final product, such as wholesalers, exporters, and/or retailers, should pay. For others, the growers, who have initial control of the product, should pay. Such findings indicate that costs directly affect the intention to use.

Trust in the supply chain - Trust was a factor identified by all interviewees as affecting technology adoption. An exporter stated 'A historical problem with our value chains in horticulture is the communication and the integration between the different segments. So, no communication leads to low or no trust, which leads to low or no integration'. Interviewees believed the reluctance to use dataloggers is because business failings and shortfalls can be uncovered, and the data collected may be used to apportion blame. They commented that distrust is a feature of the wholesaler–growers' relationship. Thus, price-setting mechanisms are obscure and subject to manipulation. A grower stated, 'This is a very old problem, and you have somebody that has a business that can make as much money as they want and don't have to tell you anything'. Wholesalers, however, believe that although growers demand transparency, growers are not 'transparent'. One wholesaler lamented, 'The growers command transparency back up the supply chain, but the growers are not entirely transparent with the market. So, they want the information, but they withhold the information'. Additionally, due to the strong competition to secure mango supplies, many businesses are not prepared to disrupt existing relationships; thus, no negative feedback is communicated through the supply chain. A service

provider commented, 'The traditional wholesaler never gives bad news to the grower … They are not sending market signals'. Such findings indicate that trust affects perceived usefulness. That is, the more trust is present in the chain, the more likely the benefits of the technology are recognised. Conversely, if mistrust exists, then businesses will tend not to perceive benefits.

Social influence - Interviewees reported that industry associations and governments play a central role in encouraging technology adoption by investing in R&D projects, providing information, and conducting technology training workshops. As confirmed stated by one small-scale grower, 'I keep a close eye on the AMIA [PIB] newsletters … So, industry-based newsletters and emails are probably key for me.' Some of the projects trialling the new dataloggers have been financed by federal and state governments and supported by horticulture PIBs (DAF, 2021). Government and PIB sponsored or cosponsored projects in Australia operate under an industry-led R&D investment model where levies are collected from growers and then matched by funds from the Australian Government. In addition, ICT developers and traders tend to collaborate with PIBs and governments when introducing innovations to gain widespread acceptance by industry. This R&D investment model recognises that growers tend to get their information on innovations from their peers (Pannell et al., 2006; Phillips, 1985; Ramirez, 2013). The findings indicate that social influence affects attitudes.

The Amended Technology Acceptance Model

The overall findings affirm the applicability of classical TAM constructs, namely ATU, PU, and PEOU. As proposed by Davis (1989) and validated in various TAM-centric studies (Michels et al., 2021; Pappa, Iliopoulos, & Massouras, 2018), beliefs regarding PU and PEOU of technology (viz., dataloggers) are the primary determinants of attitude towards using them, thereby affecting behavioural intention to use. However, this research also found that adoption in supply chains is very complex, as a high degree of collaboration is needed to facilitate the integration of the new technology into existing practices. In this light, an amended TAM model was proposed with new constructs to increase predictability, namely perceived costs, trust, and social influence derived from themes and subthemes emerging in the research data (Figure 3). Although the additional constructs (perceived costs, trust, and social influence) have been previously adopted in TAM research, and thereby tested empirically, this is the first time these constructs are used in an integrated model to explain adoption

in horticulture supply settings. The propositions developed can be tested in further work and are outlined in Table 5.

Insert Figure 3 – Amended TAM model

Insert Table 5 – Proposed TAM propositions

Perceived costs - This construct refers to costs incurred in the process of technology adoption and use (Machogu & Okiko, 2012). The present findings indicate that businesses are less likely to adopt when the costs do not outweigh the benefits, particularly when there is a reluctance to collectively bear the costs. Perceived cost is recognised as having a significant negative impact on technology uptake in supply chains (Asare et al., 2016; Shi & Yan, 2016). Pappa et al. (2018) found that cost is the most important factor influencing the intention to use and install electronic traceability systems in supply chains. Accordingly, it is proposed that the perceived costs affect intention to use.

Trust - Trust is defined as the belief that individuals behave responsibly, fulfilling their trusting party's expectations without taking advantage (Pavlou, 2003). Uptake of temperature dataloggers introduces risk due to the dangers of exposing one's internal business practices and risking financial penalty if cold chain practices are inefficient. Trust is considered especially important when assessing the adoption of business-to-business (B2B) technologies in supply chains (Asare et al., 2016). In horticulture, trust is critical for the effective deployment of technologies, as a shared vision to engage in process improvements is needed if B2B efficiencies are to be achieved (Collins & Dent, 2022). It is proposed that trust affects PU, as the more trust in a supply chain, the more likely businesses will see the technology as being of mutual benefit.

Social influence - Social influence is defined as 'the degree to which an individual perceives that important others believe he or she should use the new system' (Venkatesh et al., 2003, p. 451). This research identified that social influence is a determinant of attitude as businesses might have a positive attitude towards a technology if others in their network believe that the technology should be used. In Australia the social aspect of technology adoption in agriculture has been recognised, thus technologies have typically been introduced first and supported by governments and PIBs (Hort Innovation, 2021). The social influence construct is even more significant when the use of the technology is mandated (Venkatesh et al., 2003). In the amended TAM, social influence affects attitudes.

CONCLUSION

Using the mango industry and its experience with uptake of temperature monitoring technologies, this research contributes to the literature in two areas. Firstly, it provides insights into adoption of digital technologies in horticulture chains and, secondly, it explores whether TAM explains adoption in the horticulture supply chain settings. The research found that the adoption of temperature monitoring technologies in mango supply chains was poor, and cold chain systems were inadequate. Secondly, the research established that TAM alone has limited explanatory power in relation to adoption in that it failed to recognise complex interactions among supply chain partners. The findings indicate the TAM can be amended to explain technology adoption in complex supply chain settings by the inclusion of the three additional constructs of perceived costs, trust, and social influence. Accordingly, practitioners might consider these variables when designing new technologies and planning their introduction into supply chains. For example, by working to improve trust among business partners, engaging with PIBs/peers when introducing a technology, and considering cost-sharing data services amongst all in the supply chain. The propositions developed are subject to further theoretical development in subsequent quantitative research.

In concluding, although there is perceived value in temperature management, better business cases for undertaking temperature monitoring in horticulture still need to be made. Accordingly, a policy implication is that PIBs and Governments, in collaboration ICT developers and traders, need to espouse the benefits of temperature monitoring, demonstrate the technologies, and show how they add value to individual businesses and to overall supply chains operations. If not, then efforts to improve fresh produce cold chains by adoption of new and improved 'smart' technologies may be delayed at best and missed at worst. The comprehensive TAM adoption framework proposed in this paper can guide researchers and ICT developers in the design of technologies to drive adoption of improved cold chain management systems. As a possible area for further research, the amended TAM model and propositions presented could be quantitative tested. In addition, it could be useful to extend the amended TAM to other supply chain settings.

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Stream 8: Business Processes, Innovation and Supply Chain

TABLES AND FIGURES

Figure 1: Technological Acceptance Model

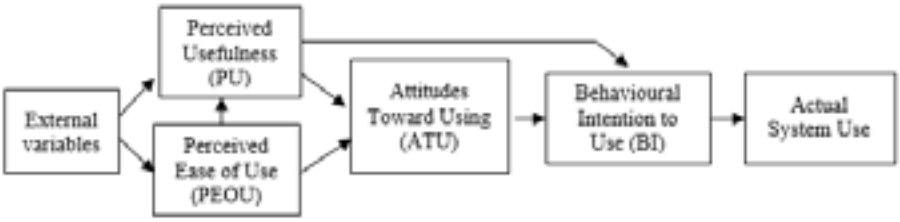

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Table 1: Description of continuous temperature dataloggers used in this study

USB-enabled dataloggers	RFID enabled dataloggers	SIM-enabled dataloggers
USB-enabled dataloggers have an internal sensor & an in-built USB sensor port to facilitate data transfer. UBS data loggers enable in-transit monitoring & can incorporate alert functions. These loggers need to be retrieved to access the data.	RFID dataloggers can sense environmental changes via RFID tags & transmit data automatically wirelessly to an RFID reader. The reader transfers the data to a computer for processing & analysis. Allows for semi-real-time data acquisition.	SIM-based dataloggers connect to the cloud & periodically transmit temperature data. Location can also be captured. Data can be accessed in real-time anywhere in the world via the internet.

**Note* After DAF (2020)

Table 2: List of supply chain members participating in the in-depth interview

Interview participants	Interview participants
1. Large grower, packer & exporter – Qld, NT	16. Horticulture Export advisor
2. Large grower, packer & exporter – Qld, NT, NSW, WA, NSW, VIC	17. Industry body representative
3. Grower//wholesaler/consolidator & exporter - Qld, NT, NSW, WA, NSW	18. PIB Horticulture representative
4. Small grower – Northern NSW	19. Plant biosecurity advisor – Federal
5. Small grower – Central Qld	20. International post-harvest technologist
6. Ripener & packer/consolidator – national logistics	21. Horticulture QA assessor
7. 3PL services / transport – national logistics	22. National Export industry representative
8. Transporter – national logistics	23. Domestic developer of ICT services
9. Freight forwarder – national & international logistics	24. Post-harvest specialist - NT government
10. Freight forwarder – international logistics	25. ICT providing data monitoring services
11. Phytosanitary service – national logistics	26. Horticulturalist advisor – Qld government
12. National retailer	27. Supply chain advisor – Qld government
13. National retailer	28. Horticulturalist R&D academic
14. Wholesaler / exporter - domestic / international	29. Horticulturalist advisor
15. Wholesaler/exporter - domestic / international	30. Horticulture industry development officer

Figure 2: Critical inadequacies through the domestic and export mango supply chains

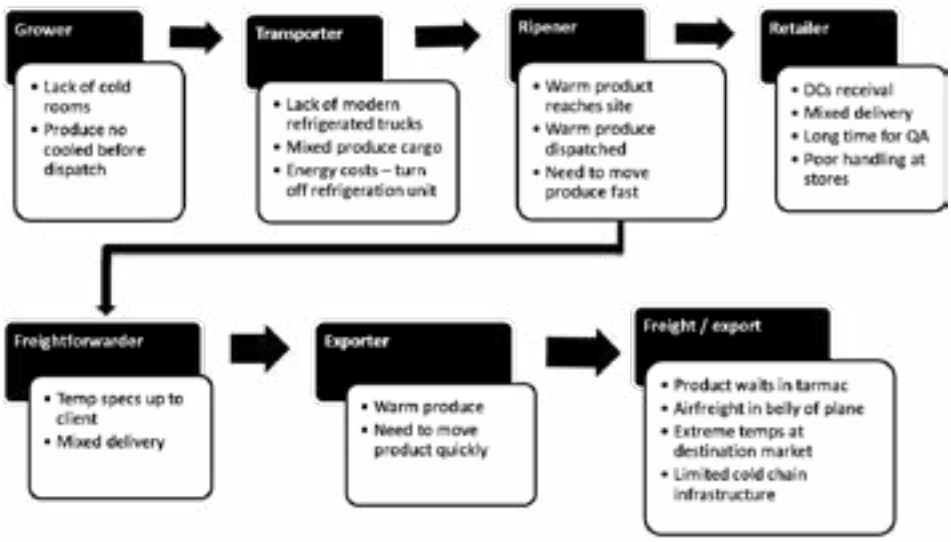


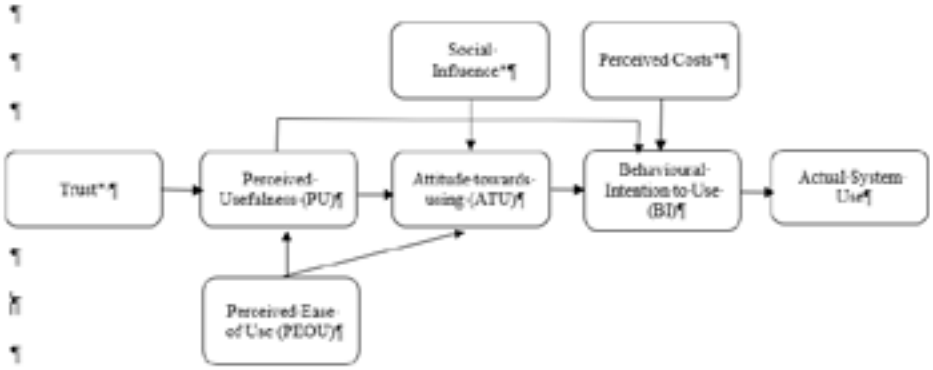
Table 3: Reported use of smart temperature monitoring in technologies in mango industry

Dataloggers	Awareness	No use	Limited use	Regular use	Reported usage	Supporting claims
Semi-stationary (handheld or cold room temperature sensors)	30	0	0	30	Extensively used as part of cold chain management.	'I have a phone app, which tells me what my temperature in the cool rooms always are.' (Freight forwarder)
USB-enabled	30	13	17	0	Limited reported use in domestic supply chains. Used predominantly when exporting to manage transport risks.	'It is about insurance … the more data that you have, the stronger your claim is against the insurance company. I see [using the loggers] as insurance.' (Exporter)
RFID-enabled	22	25	5	0	Used by overseas suppliers. Limited use by mango supply chains. Trials taken place.	'Anecdotally, I'd say that we would tend to see these new technologies in imported produce before we can see it in Australian produce.' (Freight forwarder)
Wi-Fi - enabled	18	27	3	0	Limited use by mango supply chains. Trials taken place driven by Governments & retailers.	'We look at them in our Commonwealth project … to use them in transit on the ship, but how is that going to help me? It is in the middle of the ocean; how does it help me? I cannot do anything.' (Grower & exporter)

Table 4: Themes and subthemes emerging from analysis of data - adoption of temperature dataloggers

Themes	Subthemes	Supporting claims
Attitudes towards continuous temperature monitoring	• Established on-site cold chain practices • Only minor temperature fluctuations • Limited quality affects due to temperature mismanagement • Most fruit current meets quality standards • Seasonality affects quality • Only used for insurance cover	'There is not strong acceptance that core pulp temperature management along the supply chain … actually has a major negative impact on quality.' (PIBs)
Ease of use	• Difficult to use as no training or skills • Predictive tools underdeveloped • Limited information on technologies • Poor connectivity in farms & transport • Difficult to retrieve data • Integration issues in supply chains	'Everyone got a different solution out there for one reason or another they all say it is the best solution, but it comes to something that it is easy to use.' (Grower)
Usefulness of technology	• Greater transparency • Process improvements leading to better quality • Improved financial returns • Less produce loss & waste • Meet export protocols • Meet product specifications	'From a retailer point of view [adoption] is driven by waste. [Produce] got a much lower shelf life and the setting is not controlled well … That is what droves us. The waste for the retailers is huge in fresh produce.' (National retailer)
Supply chain trust	• Lack of communication • No feedback loops • Lack of transparency • Limited industry cooperation • Ad-hoc relationships • Poor cooperation to integrate technology	'This is a historical problem with our value chains in horticulture is the communication and the integration between the different segments. So, no communication leads to low or not trust, leads to low or no integration of the different segments.' (source)
Cost of technology and data	• Cost of hardware & software • Costs of access and & services • Costs of implementation • Potential penalties for mismanagement • Unclear costs vs benefits • Low margins in industry • No financial rewards for adoption • Businesses unwillingness to invest	'Those [dataloggers] that have the mobile phone they are $130 each, if you put two in a container it is $260 … with very low margin, that is a log of money to spend it in a disposable item.' (Transporter)
Technology and data challenges affecting technology trust	• Limited trust in technology • Limited use for real-time data • Potential for data overload	'I think the lack of trust stems from lack of understanding … It's easier to say, I don't trust the system. But if they take the time to ask the questions and truly grasp how the technology works and embrace it, the level of confidence goes up.' (ICT developer)
Social influence and industry culture	• Role of PIBs & peer groups • Supply chain structures • Government support • Business & ICT service providers • Regulation – legal & supply chain	'Because the compelling case has not been made by industry, temperature management in mangoes is really lousy.' (Service provider)

Figure 3: Amended Technology Acceptance Model



Note After 'User acceptance of information technology: system characteristics, user perceptions and behavioral impacts' by David, F.1993, International Journal of Man-Machine Studies, 38(3), Copyright Elsevier Ltd.

*New constructs in amended TAM

Table 5: TAM Propositions developed from the data

Proposition	Supported (Y/N)
P1 – Attitude has significant effect on Behavioural Intention	Y
P2 – Perceived Usefulness has a significant effect on the Attitude	Y
P3 - Perceived Ease of Use has a significant effect on Attitude	Y
P4- Perceived Ease of Use has a significant effect on Perceived Usefulness	Y
P5 –Trust has a significant effect on Perceived Usefulness	Y
P6 –Social influence has a significant effect on Attitudes	Y
P7 – Perceived Cost has a significant effect on Behavioural Intention	Y

Title: Organisational support for bereaved employees in Australia

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Stream 1: Human Resource Management

Abstract Only in Program (state only if opting out of full publication in proceedings)

Interactive Paper

Title for ANZAM paper:

. **Organisational support for bereaved employees in Australia**

ABSTRACT:

This research explores the complex, multidimensional issues relating to inadequate organisational support for bereaved employees. The grieving employee, maybe suffering physically, and emotionally, and is generally not well protected or catered for through policies or legislation. Support is often left to practices of unsupported managers and co-workers. The hidden impacts affect both the employee and employer and remains under researched. This research aims to identify and examine the impact of workplace policies and practices that support bereaved employees and to develop a framework for bereaved organisational support. This paper presents a work in progress towards a PhD and includes a synthesis of the literature, gaps in the literature, the study's conceptual framework, research design and preliminary results from Phase I.

KEYWORDS: bereaved employees, Perceived Organisational Support (POS), thanatology

Problem statement and significance

The research explores the complex and the multidimensional issues relating to the inadequate organisational support for a bereaved employee in Australia, through the lack of appropriate policies and practices. Grief is as unique as the individual person experiencing the grief (Hazen, 2008). The death of partner/spouse is rated as the highest stressful event (Holmes & Rahe 1967), with the loss of a child being the most intense and painful experience (Jacob & Scandrett-Hibdon, 1994). A bereaved employee that is inadequately supported in the workplace, may suffer more which may negatively impact the organisation (James & Friedman, 2003; Tehan & Thompson, 2013). Managers are provided with little guidance and policies and practices are often left to the discretion of the manager, which leads to inconsistency and ambiguity (Flux, Hassett, & Callanan, 2020).

The problem is likely to increase, as the impact of an ageing population is likely to see more bereaved employees in the workplace (O'Connor et al. 2010). There is a clear tension between the Western society organisations, which are generally governed within a capitalistic society, where productivity, competition and consumerism are important for economic growth and expansion, and the human experience of grief. The impact of grief on the employee has the potential to impact productivity. If the employee adheres to the social rules they will be excused for a brief period, but this will be time limited (Harris, 2009). In Australia employment related leave provisions are determined by the National Employment Standards (NES) . Within these Standards is provision for Compassionate Leave which provides for two days of paid leave.(Fair Work Ombudsman, 2010). The NES have neglected to include bereaved employees in the eligibility for flexible working arrangements. There is one exception to this, which is embedded in the "Parental Leave" provisions, but clearly equates to a form of bereavement leave. This exception relates to an employee who has a still born child or their infant under 24 months of age dies. The parent is then entitled to the 18 weeks paid leave scheme and the 24 months unpaid leave. They are also eligible for flexible working arrangements (Office of Parliamentary Counsel, 2021). The labour standards appear to be misaligned with the experiential phenomena of bereavement. (Macdonald et al., 2015, p. 522). There is no evidence that the experience of grieving a child dying is age dependent. In this example the parent of

the 28-month-old will rely on the managers discretion in regard to flexible working arrangements and either rely on other forms of leave, or if they can afford it take unpaid leave. They may have no choice but to return to work, often before being ready or able (Tehan & Thompson, 2013).

There are many ramifications, for both the employee and the employer, some of them are of high risk such as the increased risk of injury and some will impact the employer such as errors that impact them financially (James & Friedman, 2003). Other ramifications will only impact the bereaved employee such as derailing their career (Hazen, 2006) and others will impact the team and the team cohesion (Kutach, 2019).

Literature and Gaps in the Research

After an extensive literature review, there are 24 studied identified that look at grief and the workplace in the last 27 years. Five of these studies are literature reviews. 13 of these studies are qualitative in nature and have small number of participants n=7 to 40. Nine of the nineteen appear to be absent of theoretical account. The studies that did use or reference theory, five were related to grief theories (Eyetsemitan 1998; Thompson 2001; McKenzie 2013; Bauer & Murray 2018; Kutach 2019; Flux, Hassett & Callanan 2020). Four used or referenced social support or social support theory (Leger 2000; Gibson, Gallagher & Tracey 2011; Kutach 2019; Flux, Hassett & Callanan 2019). Two made reference to role theory (Fitzpatrick 2007; Kutach 2019), two referenced Conservation of resources theory (Gilbert et al., 2021; Kutach, 2019), and one study relied on a number of theories already referenced and additionally team member exchange and social capital theory (Kutach 2019).

The studies, although most of them had limitations around the sample size, diversity, and location, and several of them were narrowly focused to a group or themes, combined they all provide a rich data source. The data from the literature has been synthesized by the researcher to draw out some of the more common themes that appear throughout the literature. These themes and the themes from the phase I data are presented in the preliminary findings.

The research gaps identified and the suggested as themes for future research include; more research in general (Maxim & Mackavey 2005; O'Connor et al. 2010; Wilson et al. 2019; Gilbert et al.

2021) larger sample and more generalisable studies (Davis, 2012; Fitzpatrick, 2007; Hall, Shucksmith, & Russell, 2013) the effects of grief on different jobs and other organisation and industry variables (Bauer & Murray, 2018; Davis, 2012; Eyetsemitan, 1998; Kutach, 2019; D. Thompson, 2001); cultural and/or gender and diversity specific studies (Bauer & Murray, 2018; Fitzpatrick, 2007; Kutach, 2019; D. Thompson, 2001); Specific studies based on specific roles within organisation (Flux et al., 2020; Gibson, Gallagher, & Tracey, 2011; Gilbert et al., 2021; Kutach, 2019; McKenzie, 2013; D. Thompson, 2001); Impact of the different way the individual died (cause of grief) and the relationship with the person(Bauer & Murray, 2018; Gilbert et al., 2021) Unwanted support that is imposed(Gilbert et al., 2021).

The overall objectives of this research are to; RO1. Identify significant workplace policies and practices that currently exist to support the well-being of a grieving employee in Australia; RO2. Examine the impact of current organisational support on a grieving employee in Australian workplaces; RO3. Develop a framework for workplace support of bereaved employees in Australia.

CONCEPTUAL FRAMEWORK AND CONCEPTUAL MAP

The conceptual framework as described in figure 1 provides a high-level overview of the different fields of study that this research draws on. There are two parent fields of study, Thanatology and Organisational Behaviour (OB). Thanatology will be examined at the micro level of analysis drawing particularly on the field of Loss Grief and Mourning and a more in-depth review of the workplace and grief literature that is available. This field is important in understanding how grief manifests in an employee. The field of OB will be studied at the meso level of analysis and draws on the broader concept of Organisational Support Theory (OST) and perceived Organisational Support (POS). This provides an understanding of how an employee may perceive they are cared about by the organisation and demonstrate why organisations need to support a bereaved employee.

Given the above discussion and the review of the literature, a conceptual map, as illustrated in Figure 1, has been developed. It captures the connections and dependencies of various theories and frameworks identified in the literature.

Figure 1: Conceptual Map

Insert Figure 1 about here

The study is concerned with how an organisation supports a bereaved employee. 'Loss, grief and trauma are subjects that have tended to be neglected in the management and human resources literature and, equally the workplace has been a neglected area of thanatological study' (N. Thompson & Lund, 2009, p. 3). Thompson and Lund (2009) expressed a hope that these two fields would be further studied and developed as they are 'doubly neglected to date' p.4. The hope didn't come without a warning. Thompson and Lund (2009) pointed out that addressing these issues will be fraught with some very difficult circumstances, finding solutions will not be easy. They suggest that by developing a firm foundation of understanding, the contribution that can be made can maximise the chances of helping rather than hindering the bereaved employee. In responding to this call for further studies into this phenomenon and understanding the complexity of the subject, this research draws on two fields of study, OB, and Thanatology.

Organisational Behaviour

Grief and loss experienced by a bereaved employee occurs within an organisation context. The theory that has been drawn on as a framework to study the phenomena, is from the well-established OB field of Organisational Support Theory (OST) and Perceived Organisational Support (POS). OST explains the relationships between an employer and the employee which is based on social exchange theory (Baran, Shanock, & Miller, 2012). POS is the degree that the employee believes the organisation values them and cares about their well-being, in exchange this will be reciprocated through increased performance and commitment (Baran, Rhoades Shanock, & Miller, 2012; Rhoades & Eisenberger, 2002). The higher the level of POS, the higher the employee will reciprocate that support to the organisation (Kurtessis et al., 2017). The major and contemporary antecedents of POS have been organised into three broad categories as described in figure 2 they are 'employee-organisation relationship quality, Treatment by organisation members and Human resources practices and job condition (Kurtessis et al., 2017), the mechanisms and the outcomes of POS include the

orientation towards the organisation, behaviour outcomes and employee wellbeing (Eisenberger, Rhoades Shanock, & Wen, 2020). Figure 2 is a visual depiction of the elements of POS which has been developed through the review of the extant literature by the researcher.

Figure 2: Visual Depiction of POS through a review of the extant literature

Insert Figure 2 about here

The POS antecedents are used as a framework to study the phenomenon of bereaved organisational support and therefore helps to ground this study in the OB field. The field of thanatology provides insight, background, and context into the different bereaved employees experience in the workplace.

Thanatology

Thanatology is an applied and academic field of study that examines death, dying, grief and loss. Thanatology came about due to the concept that death be excluded from social life. With extended life spans, came the inability to cope with death (Fonseca & Testoni, 2011). Loss, grief, and mourning is considered a field of study within thanatology. The norms that surround death, dying and grief continue to need to be researched, as tensions exist in the field as individuals experience these dramatic life events on their own terms (Chapple et al. 2017). 'Grief along with its associated thoughts, feelings, and behaviours, is one of the most powerful emotions that humans experience' (Rack, Burleson, Bodie, Holmstrom, & Servaty-Seib, 2008, p. 401). People who have suffered a significant loss such as the death of a child or a spouse can often experience recurring sorrow for years and even a decade after the event (Hazen, 2003) and the loss of a spouse has been rated as a life event needing the most intense readjustment according to the social readjustment rating scale (Stroebe, Schut, & Stroebe, 2007). The individual's grief responses could be psychological and behavioural, physiological, and spiritual. These grief experience does not happen in isolation and are embedded in factors such as: personal and background factors, event-related factors, and socio-environmental

factors (Moos and Schaefer 1986) as described in Figure 3. Figure 3 has been developed by the researcher to help synthesise the literature and key concepts of thanatology.

Figure 3: Visual Depiction of key concepts of thanatology, through a review of the extant literature

Insert Figure 3 about here

The significance of the literature is that it provides insight, background, and context into the different bereaved employees experience in the workplace. It explores the bereavement experience from a holistic viewpoint and considers the various factors as to why one person's experience of grief may differ from another's. it is important to understand the complexity of grief and at the same time debunk some myths and beliefs about grief that may influence the norms and actions of others. It also highlights that the workplace is, a part of these influencing factors, as it is a socio-environmental factors.

The following research questions are posited:

RQ1. What are the current policies and practices in Australia that support bereaved employees?

RQ2. How does grief and the grief process impact the Australian workplace and the ability of employees to work in these workplaces?

RQ3. What organisational support will best support the well-being of a grieving employee in Australia?

RESEARCH DESIGN – APPROACH AND METHODS

Methodology of critical realism

Methodology which describes the strategies for generating and justifying empirical knowledge, defines the causality stating, 'causality is not about controlling for extraneous variables but is embedded in processes; causality is inherently bound by context and thus local', Creamer (2020), p8. Maxwell & Mittapalli (2010), suggest that the realist alternative to the dominant regularity model of causality recognises the explanatory importance of the context of the phenomena studied. This relies fundamentally on an understanding of the situation and events rather than addressing only general patterns. This study which brings together the very human actions associated

with grief and how the support in the workplace is perceived by the griever, is an example of where causality needs to be studied in context as there are so many variables. The researcher believes that the reality of the grief experience, which is made unique by factors that are personal, event related and socio environmental, combined with the variables associated with the employee and employer relationship bind causality in context that can only be explored by understanding the situation.

Critical realism has been chosen as the philosophical foundation for a number of MMR studies (Barrett, M., Zachariadis, M., Scott, 2010; Modell, Morris, & Scapens, 2007; Walsh & Evans, 2014). Critical realism, which reflects the researchers philosophical stance is compatible with the methodological characteristics of a mixed method study (John W Creswell & Plano Clark, 2018). It can contribute to the overall perspective within which qualitative and quantitative methods and assumptions can be integrated better, offering specific insights and strategies that assist the researcher to better understand the context and process of the phenomenon that is being studied (Maxwell & Mittapalli, 2010). The value of critical realism, although compatible with different approaches to research and its pragmatic orientation to methods, has a real contribution to make to an MMR study. This can include the way the researcher establishes relationships with participants and stakeholders ensuring they are seen as a real component in the research design (Maxwell & Mittapalli, 2010). This research has emphasised the value of the lived experience and participant voice in the research design.

The methodological choice considered to be the most appropriate to answer this complex social issue, is an exploratory sequential mixed method research (MMR) design. The intent of the exploratory sequential MMR design is to develop and apply a quanatative measure such as a survey that has been grounded in the qualitative data (John W Creswell & Plano Clark, 2018). The design of this research will use a MMR approach that views both the qualitative and quantitative methods as equal in importance, although different, minimising the risk of a lack of participant voice and increasing the generalisability of the findings (DeCuir-Gunby & Schutz, 2017).The depth obtained through the qualitative phase is important to explore and understand the phenomenon, the quantitative

phase is seen as important to ensure the findings are not bias to that group and are relevant to the cohort within the wider population.

The design is three phased as described in Figure 4. This design initially explores the issues of organisational support in the workplace for bereaved employees, by conducting in-depth interview with the sample population of employees who were working at the time of the death of a spouse/partner or child. These participants will be referred to as the employee representatives.

This first phase will also include semi structured interviews with representative from the organisation such as executive, human resources, managers and workplace health and safety officers. These participants will be refereed to as the employee representatives. This provides both an organisation perspective as well as an employee perspective on the issue. The total sample size of phase one is 16 participants.

The data from the first phase will be analysed using thematic content analysis. The results of this phase will then be summarised in a joint display and be used to help create a Likert-type scale survey. The joint display will be designed to show the link between the qualitative results from the first phase and the survey. The second phase is the development of the survey. This is one of the key points of integration of the data in this MMR design. Tunarosa and Glynn (2017) stated that integration, although at the heart of mixed method research, can be the greatest advantage and the greatest challenge. The quantitative survey which is developed from the results of the qualitative exploration ensures that it is grounded in the participants perspectives (John W Creswell & Plano Clark, 2018).

The third phase of data collection is quantitative, this will be an online survey using the newly developed Likert-type scale survey. The sample participants will be attracted mainly through social media and support groups that have been set up to support people grieving significant loss, the sample size is 300. Once the final quantitative stage is complete the two sets of data will be integrated in another joint display. This joint display will show the results of the tested quantitative phase against the themes of the first phase and identify if there are any new themes that have evolved (John W

Creswell & Plano Clark, 2018). It is envisaged that the quantitative survey results will improve the understanding and generalization of the qualitative results (John W Creswell & Plano Clark, 2018).

Data analysis in mixed method research requires that both the qualitative and the quantitative data collected be analysed separately. It also involves integrating the two data sets and the results (John W Creswell & Plano Clark, 2018). By interpreting the integrated results, the true value of using the MMR design can be gleaned. A more thorough insight into the data can arise beyond that provided by the quantitively or qualitative results alone (John W Creswell & Plano Clark, 2018).

Figure 4: Sequential Exploratory Design: Instrument Development Model - Note. The Sequential Exploratory Design: Instrument Development Model informs the survey questions used in Phase III.

Insert Figure 4 about here

Phase I Interviews and Questionnaire

The first phase of the data collection includes in-depth interviews and a questionnaire from the employee representative and semi-structured Interviews with employer representative. This data has been collected concurrently.

Phase I Sample

The first sample of participants are employees who were in paid employement when they experienced the death of a child or spouse/partner. This group have been purposefully sourced and asked if they wish to volunteer to be part of this research. Two of the 11 participants have been sourced through both the prime organisation, the rest were sourced through social networks and snowballing methods.

The second sample who represent the employer includes executive staff, specialist professionals roles such as Intrnal Audit and Risk and Workplace health and safety as well as a local manager who has over 200 staff working for her. The diversity of roles of the participants offer a different persepective on the phonemomon. These participants again fit the intense description as a

sample scheme, they have been sourced through the prime organisation and have been contacted via email and direct contact. The prime organisation is a charity in Australia that has over 3,000 staff and operates a number of programs to some of the most vunerable community members in Queensland.

Phase II

Phase II is the design of the instrument. The instrument is a Likert-type scale. The Likert scale invention was attributed to Rensis Likert in 1931 who described this technique for the assessment of attitude's (Gliem & Gliem, 2003). Gliem and Gliem (2003) highlight the imperative to calculate and report Cronbach's alpha coefficient for internal consistency reliability for any scales or subscales and not individual items, as individual items will not provide reliability estimates. The development of the survey is informed by the finding of the first phase.

Phase III

The quantitative data will be gathered through an online survey with participants being found through using social network groups, support groups and snowballing. The participants will be sort through initially constructing a list of what possible groups exist. The administator of the group or contact person within the organisation will be contacted to gain permission to post a request for volunteers within their group. The administrator will be given some background to the research and what the participants criteria is, how long the survey should take and what would be involved. Confidentiality, data security and assurance is also explained.

Phase III Sample

The participants for this phase will be employee representatives from anywhere in Australia. They will be people who fit the criteria of working when they had experienced the death of their child, partner or spouse and had returned to work or were not able to return to work due to the changed circumstances. The quantitative phase will employ a inclusion criterion as the sample scheme. This is described as the group or individuals who are chosen because they fit one or more of the criteria. Both phases are classified as purposeful sample, therefore the sample design is a non- random combination for both the qualitative and quantitative phases. This is considered the most common combination of

sampling schemes used in mixed methods research, regardless of the mixed method research goal (Onwuegbuzie & Collins, 2007).

PRELIMININARY RESULTS PHASE I DATA AND SYNTHESIZING OF THE LITERATURE RELEVANT TO WORKPLACE AND GRIEF

The themes that are coming through the synthesizing of the literature and the phase I data are grouped into four main themes with 10 subthemes as described in Figure 5.

Figure 5: Preliminary findings of the extant literature and phase I data analysis

Insert Figure 5 about here

Theme One: Impact of grief on the bereaved employee. The subthemes include reactions, which are describing the mind and bodies unconscious manifestation of grief, the second subtheme is coping strategies, which describe the conscious and considered response to coping with the reactions to grief in the workplace and the final category is the repercussions of being a bereaved employee. These subthemes have been further broken up into subheading.

Reactions: emotional reactions; health related issues, cognitive impairment, reduced energy levels and an increased inner strength.

Coping strategies: suppression/controlled emotions, feigning normality, digression from grief, extra time off and assistance and/or work adjustment.

Repercussions: disenfranchised grief, safety issues, financial implications, career impacts and changed level of organisational commitment.

Theme two, is the impact for the workplace. The subthemes include Legal obligations, financial and productivity losses and impact on employees and teams. These subthemes are further broken up into subheadings.

The legal obligations; Legislative Acts and Industrial instruments

The financial and productivity impacts; absenteeism and presenteeism, impaired performance; employee replacement costs, improved performance.

Impact on teams and individual employees; increased workload, compassion fatigue, team cohesion.

Theme three, is organisational policies and practices. The subthemes are organisational policies, and the practices of the supervisor and manager and co-workers. The subthemes are further broken up into subheadings

Organisational policies; bereavement policy.

*Supervisor/manager***;** acknowledgement; discretion of management, lack of knowledge and ambiguity of entitlements; lack of support and guidance for supervisor/manager; lack of understanding of grief, lack of support skills.

Co-workers include apprehension, social support and team cohesion, workload, compassion fatigue, team support, organisational support and guidance.

Theme four, is what the bereaved find effective or ineffective regarding the organisational policies and practices. This includes: the voice of the bereaved; helpful and unhelpful policies; helpful and unhelpful supervisor/manager and co-worker's support.

The Voice of the bereaved: Impact of imposed support and return to work plans (Gilbert et al., 2021)

Helpful and unhelpful policies; Unhelpful included: Ambiguity and Insufficient bereavement leave (McGuinness, 2009); inconsistent and unfair application of policies (Hall et al., 2013); no recognition of cultural requirements. (McGuinness, 2009). Helpful includes; bereavement policies (DiGiulio 1995), paid bereavement leave , (Breen & O'Connor, 2011; DiGiulio, 1995), accommodating arrangements(Gibson, Gallagher, & Tracey, 2011), privacy(Bauer & Murray, 2018); a named person in the organisation to go to (Gibson, Gallagher, & Tracey, 2011).

helpful and unhelpful –Mangers/supervisor and co-workers; Unhelpful practices include: Lack of acknowledgement (Gilbert et al., 2021) unhelpful advice (Thompson & Lund 2009), invading a person's privacy(Lincoln 2000); lack of knowledge of policies (Barclay & Kang 2019); lack of knowledge of grief and unrealistic expectations (including feeling bullied) (Gibson, Gallagher, & Tracey, 2011), discouraging expressions, insensitive remarks or comments (Gibson, Gallagher & Tracey 2011); helpful includes: Attendance at the funeral (Breen & O'Connor 2011; McGuiness 2009) proactive in offering support (Gibson, Gallagher, & Tracey, 2011) can facilitate work changes needed (Gibson et al. 2011) active listening (Thompson 2009) acknowledgement, sensitivity, including them in conversations, made to feel respected and needed (Gibson, Gallagher & Tracey 2011) Communicating what had happened to others (Flux et al., 2020; Gilbert et al., 2021)

CONCLUSION

People who have suffered a significant loss such as the death of a child or a spouse can often experience recurring sorrow for years and even a decade after the event (Hazen, 2003). Grief is multidimensional and individualised, no one person's experience will be the same as another's. The workplace is a factor that will influence a person's experience of grief, but a bereaved employee will also impact the workplace. The POS antecedents provide evidence that human resources, supervisor support and to a lesser extent co-workers, have a greater influence on POS for employees than other factors, using these antecedents as the framework to guide the interviews ensured the collection of data was focused on proven areas of importance for employees. The workplace and grief as a topic have not previously been well researched with 24 studies conducted in the last 27 years. Although there are not a lot of studies, they contain rich data. Using this data and data collected from phase I of this study the four themes and 10 subthemes have been identified as important elements. These themes and subthemes will help inform the development of the survey instrument, grounding the survey in the voice of the bereaved employee. The survey will then be used to collect the data for the second phase of the research, which will be integrated with the data from the first phase and will be elemental in the development of the conceptual framework for bereaved organisational support (BOS).

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Figure 3: Conceptual Map

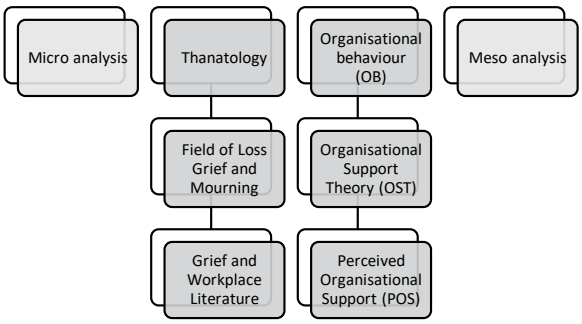
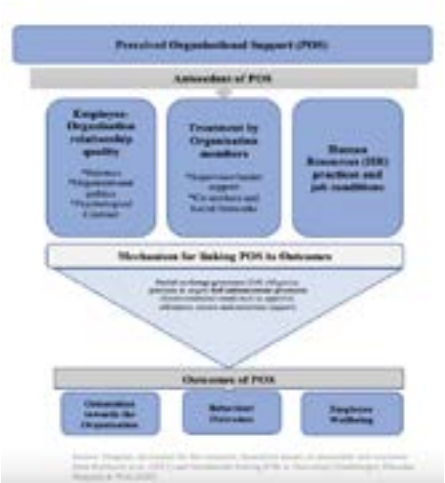
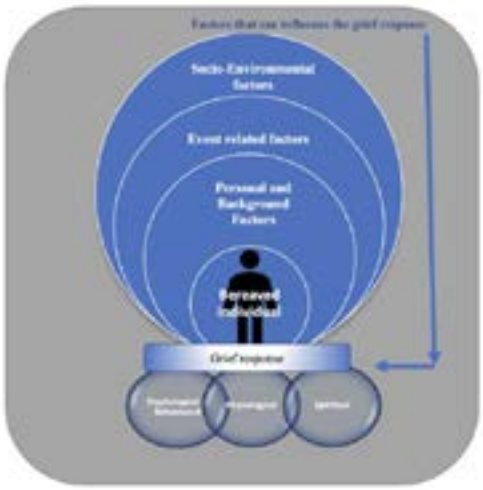


Figure 4: Visual Depiction of POS through a review of the extant literature



Source: Developed by the researcher, visual depiction of the elements of POS which has been developed through the review of the extant literature by the researcher with sources of components referenced.

Figure 3: Visual Depiction of key concepts of thanatology, through a review of the extant literature



Source: Illustration created by the researcher through ; Grief response categories have been adapted from the categories outlined by (Meagher & Balk, 2013) and (Doka & Martin, 2010); Factors that influence the grief response has been illustrated based on the groupings outlined by (Balk 2013 p.160; Moos & Schaefer 1986)

Figure 4: Sequential Exploratory Design: Instrument Development Model - Note. The Sequential Exploratory Design: Instrument Development Model informs the survey questions used in Phase III.

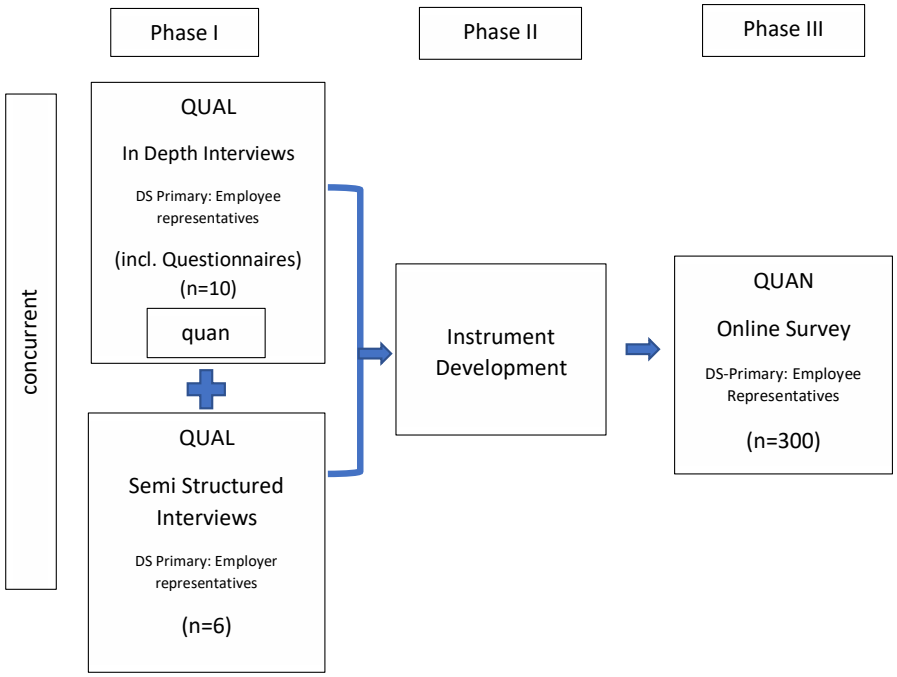


Figure created by researcher based on (J. W. Creswell & Plano Clark, 2011; Tashakkori & Teddlie, 2008)

Figure 5: Preliminary findings of the extant literature and phase I data analysis

Source: Created by researcher

Stream Nine:
Health Management and Organisation

Hospital Leadership and the Impact of Social Identity on Perceptions of Leadership Effectiveness – Do you need to be one of us to lead us?

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Hospital Leadership and the impact of Social Identity on Perceptions of Leadership Effectiveness – Do you need to be one of us to lead us?

ABSTRACT: *Extant research into leadership and social identity suggest that those leaders considered to represent the most influential group (prototypical), may be more successful in gaining support from followers. Within the hospital setting, doctors are commonly understood to be the most influential group, however whilst many hospital CEOs have a clinical background, few are medically trained and therefore not prototypical of the most influential group. This research examines the experiences of being a medical or non-medical leader with a major public Australian hospital through discussion with 12 senior healthcare leaders and suggests that those CEOs that exhibit humility, engage in storytelling and subscribe to servant leadership theories may achieve success in creating a shared identity thus transcending professional boundaries.*

Keywords: servant leadership, social identity, humility, engagement, storytelling

The sustainability of Australia's health care system is largely dependent upon its ability to respond to the changing socioeconomic challenges to which it is subjected, and the recent COVID-19 pandemic has brought into sharp focus the critical nature of healthcare leadership both domestically and internationally. The population of Australia is ageing (ABS, 2016) and increasingly experiencing chronic health conditions requiring complex and ongoing care arrangements. With Australia spending more than $140 billion per year on healthcare (Duckett, Breadon, Weidmann, & Nicola, 2014) and with huge variation in costs among health care providers (AIHW, 2019) the need to tackle systemic issues and improve productivity has never been more compelling.

Research undertaken by the Grattan Institute in 2014 identified an estimated $928 million of avoidable costs in publicly funded hospitals every year (Duckett et al., 2014); other research into patient safety in Australia indicates that as many as 9% of admitted patients in some regions are experiencing adverse outcomes as a result of hospitalisation (AIHW, 2019). It has become increasingly apparent that in order to bring about improvements in quality and efficiency of care, new approaches to healthcare leadership must be introduced and existing paradigms, hierarchies and professional boundaries must be examined and where necessary, challenged.

The leadership task is to ensure direction, alignment and commitment within teams and organisations (Drath et al., 2008). The healthcare system operates within a complex matrix of professional and social networks, hierarchies and relationships which means that the question of who will lead and who

will follow is not found within the structure of the organisational chart, but within the underpinning and often unconscious attitudes and values that permeate professional relationships. Hospital executives, particularly those with a non-clinical background, may find that their leadership credentials do not necessarily resonate with those whom they are employed to lead.

The social identity theory of leadership (Haslam & Platow, 2001; Haslam, Reicher, & Platow, 2011; Hogg, 2012) suggests that the most successful leaders are those with whom the followers most closely identify, in other words, a *prototypical* leader (Geissner, Van Knippenberg, & Sleebos, 2009; Hogg, 2001). The aforementioned research also suggests that the leader should represent the 'in' group, or the group considered to have the most power and influence. Within the hierarchically-ordered hospital setting, the most influential group are the senior medical officers whose professional jurisdiction and enculturation have remained relatively unchanged since the time of Hippocrates (Martin, Siebert, Howieson, & Bushfield, 2017). However, the majority of hospitals within Australia are led by non-medical Chief Executive Officers, which leads us to reflect on how these non-prototypical leaders perceive the experience of leadership in this context. It also leads us to question how they are perceived by those senior medical officers who ostensibly constitute the 'in' group.

This research considers the experiences of six Senior Medical Officers and six Chief Executive Officers working in public, tertiary hospitals within Australia, using an interpretive phenomenological analysis approach to address the question:

> *'How do chief executive officers and senior medical executives in healthcare organisations perceive and make sense of their experience of leadership and the impact of social identity on authenticity, credibility, power and influence?'*

LITERATURE REVIEW

Social identity theory (SIT) was developed in the late 1970s primarily by Henri Tajfel (1978) and John Turner (1986) and described the manner in which people classify themselves and others into various social categories. This theory contends that social identity relates to an individual's awareness of their membership of one or more social groups, together with the emotional significance and value they attach to that membership (Tajfel & Turner, 1979). The authors also referred to this as the *relational and comparative* aspects of social identity. In contrast, *personal identity* refers to one's unique sense of self which includes personal attributes, behaviours and personality traits that distinguish individuals (Brewer

& Gardner, 1996) which Turner later defined as *self-categorization* (Turner & Onorato, 1999).

Social identity theory contends that an individual's identity is inextricably linked and intimately connected to 'others'. That the development of a set of cognitive representations about self can only be undertaken through a comparative process involving values, judgements and analysis of self in relation to others. Through this process of analysis and comparison, individuals construct a view or belief about themselves and where they fit within the various situations, relationships and networks in which they participate.

One of the assumptions of social identity theory is that individuals will strive for a *positive* social identity. Within the hospital setting, membership of social groups is integral to the workplace culture of the organisation and roles in the health professions remain well established along traditional lines both professionally and socially (Mannion, McKimm, & O'Sullivan, 2015). Identification with work units (departments) within an organisation has been shown to take precedence over identification with the organisation as a whole (Spurgeon, Long, Clark, & Daly, 2015). This results in clinical leaders demonstrating reluctance to be identified with their management colleagues. One explanation for this antipathy may be found in the socialisation process that individuals go through in order to achieve their professional qualification. Often referred to as 'the hidden curriculum' (Franks, 1994; Lingard, Reznick, DeVito, & Espin, 2002; Mahood, 2011), medical students and trainees are indoctrinated into the profession via a non-formal system of discussions, observations, associations and experiences. Whilst undertaking their post-graduate training in hospitals, junior doctors are exposed to a diverse array of disparate and often contradictory opinions regarding what it means to be 'one of us'. One of these enduring beliefs concerns the attitude towards management and that it is somehow an anathema to the role of clinician.

This antipathy towards management roles has been labelled 'going to the dark side' (Chandrasiri, 2015; Glick, 2006; Ham, Clark, & Spurgeon, 2011; Loh et al., 2016; Spurgeon et al., 2015) which indicates the negative perception associated with this transition. The research conducted into this phenomenon highlights the importance of professional identity and what it means to be a doctor, with identity formation beginning early in training (Reimer et al., 2019). However, these attitudes and beliefs vary significantly between countries and 'physician as administrator' is historically an acceptable career path in the USA (Ackerly et al., 2011; Wolter, Tarnoff, & Leckman, 2015).

Nonetheless, physicians in the USA still consider themselves first and foremost clinicians (Lerman & Jameson, 2018; Quinn & Perelli, 2016).

Research conducted by Goodall (2011; 2012) investigated the performance of physician-led hospitals in the USA compared with those led by non-physicians. The studies concluded that hospitals led by doctors outperformed those led by non-doctors. Proponents of 'Physician as Leader' model have used this evidence to further support the need for medical leadership (Allison, Goodall, & Bastiampillai, 2016; Berger, Goodall, & Tsai, 2019; Grady & Hinings, 2019; Sarto & Veronesi, 2016; Veronesi, Kirkpatrick, & Vallascas, 2013) within healthcare. Similar research has not, to my knowledge, been conducted in Australia, however there are major differences between the two countries regarding education, training, medical culture, and career pathways. In addition, system differences make it difficult to apply these findings to an Australian context.

METHODOLOGY

This research focuses on senior healthcare leaders' perceptions of leadership effectiveness and considers the influence of social identity on these perceptions. The research paradigm of this study followed a phenomenological interpretivist approach, where the methodology was carried out using an inductive process through a series of semi-structured interviews and follow up interviews. IPA is focused on understanding how particular phenomena are experienced and understood from the perspective of particular people within a specific context (Smith, Flowers, & Larkin, 2009) and uses small, purposefully-selected samples. IPA involves both the researcher and the participant in a process of rich engagement and interpretation (Peat, Rodriguez, & Smith, 2019) that is commonly referred to as the double hermeneutic approach to analysis whereby the researcher seeks to make sense of the participants own sensemaking.

Twelve senior leaders of major tertiary public hospitals in Australia were interviewed: six Chief Executive Officers and six senior medical officers holding executive positions. Participants were purposefully selected on the basis of their positions within the respective hospitals and were recruited via letter of invitation, professional relationship or referral. The table below outlines the background, experience and professional qualification of the interview participants.

Figure 1 about here

Interviews were held either face-to-face in the participants' place of work, or online utilising Zoom with follow-up interviews held with four participants. The interviews were recorded and transcribed with the data analysed using NVivo software for qualitative data analysis. The data were then coded to form themes using the language provided by the participants to form patterns that were consistent across interviewees.

Initial coding saw the identification of over forty themes which were further refined through a process of reflection and analysis which resulted in four major themes relating to perceptions of leadership effectiveness: identity, culture, leadership attributes, and engagement strategies. The diagram below outlines the major and subordinate themes

Figure 2 about here

FINDINGS AND DISCUSSION

A key focus of the study was to consider the role played by social identity in perceptions of leadership effectiveness. Extant research into social identity theory informs us that followers are more likely to support leaders within whom they identify. The social identity theory of leadership suggests that successful organisational leaders are likely to represent the most influential group within the organisation (doctors), however few hospitals in Australia are led by doctors.

The findings of the study highlighted two main areas for discussion: factors impacting perceptions of leadership effectiveness and strategies for successful engagement.

Factors impacting leadership effectiveness

Credibility

Study participants identified credibility as an important factor in the perception of leadership effectiveness and having a clinical background was considered useful for establishing credibility. When asked whether their clinical background was important in their role as CEO, DF comments: *'I'd say I'm probably more successful because of that training and experience and how people perceive you, and I do draw on it'*

A senior medical executive also commented:

'If I talk to people about clinical work or I talk about research or education or the business side of the hospital I've got the qualifications and experience to be able to talk about that'

Attributes

However, whilst a clinical background was considered useful in terms of establishing credibility, it was not considered essential for success. When asked whether it would be possible for a non-clinical CEO to be successful, it was suggested that this was predicated on the leader adopting a collaborative, distributed style of leadership, ensuring broad consultation:

Senior Medical Executive MS said:

'In think they can, if they work in a collaborative, distributed leadership style that allows them to get the expert advice that they require in order to be able to succeed in their job.'

The salient phrase here is '*the expert advice that they require'* which reflect the belief that without the expert advice from senior medical staff, the CEO would be unlikely to succeed in their job. The need for consultation was reiterated by both clinical and non-clinical CEOs with (non-clinical) CEO DA observing:

'You don't, as a non-clinical, ever go into a particular situation where there's a lot of content and try and dominate the conversation. Because if you don't have the knowledge or the background, you lose your credibility pretty quickly.'

However, the research tells us that the most influential group prefer to be led by someone with whom they identify, a prototype. Does this mean that the interviewees believed a doctor would be the most appropriate person to lead the hospital? Interestingly, this was not a view held by those interviewed who suggested that shared values were more important that shared qualifications. When describing the (non-clinical) CEO to whom she reports, senior medical executive AD commented:

'He's got a really strong moral compass, he's got a lovely, patient safety focussed moral compass and although he's not got the clinical background, he seems to know what is the right thing to do.'

Here AD is affirming the view expressed by other participants, that being an effective leader of a hospital does not rely on a medical degree, but the ability to share the beliefs and goals of the clinicians working in that setting and to work collaboratively towards a shared purpose.

Culture

When considering why the research into the social identity theory of leadership is not supported by the findings of this study, it is important to consider the cultural differences underpinning attitudes towards medical administration in the US and Australia. An emerging theme in the literature refers to a phenomenon known as 'going to the dark side' to describe a medical practitioner moving into an administrative role (Glick, 2006; Ham et al., 2011; Loh, 2015). This attitude reflects the scepticism shown by some doctors towards peers who elect to take on managerial rather than clinical responsibilities and feel that their colleagues have somehow taken the 'other side'. As Senior Medical Executive EL notes:

'You're moving to the business side, the money side. That's one of the easiest things clinicians always pick on is the fact that they want to save lives and you are saying 'no' to them, you become the perceived enemy I think.'

One of the questions asked of interview participants was in reference to leadership effectiveness. CEOs were asked what personal attribute's they possessed that contributed to their success as a leader, and Senior Medical Executives were asked what attributes their leader possessed that contributed to their success as a leader.

Whilst the terminology varied, many responses were interpreted as humility, for example:

'That epitomizes what his approach is from a leader's perspective, it is about humble inquiry

''He does not dictate; he has authority but is very humble'

'She is very comfortable with what she knows and what she doesn't'

'It's about people knowing that I'm not perfect'

'I did not try and pretend that I knew anything about their world, I said, "I'm really going to need your help"

'Actually, I don't have all the answers, and I'd much prefer that we work together to find a solution'

'I think there's got to be a dose of kindness. There's got to be, not arrogant, humble'

'The humility you show as a leader, leads directly into organisational culture'

When interpreting the responses of the participants, it was apparent that respectful consultation and trust was an important factor in perceived effectiveness.

Throughout the interviews, a common theme was the ability of the leader to build relationships and work in collaboration with medical professionals. Understanding the needs of the patient, either through experience or consultation with experts was seen as an important indicator of engagement within the organisation.

Effective Engagement Strategies

The study into the perceptions of senior hospital leaders uncovered both *factors* contributing to their perceived effectiveness such as identity, culture and attributes and *strategies* that the leaders were implementing that contributed to their success. Strategies in this instance are defined as actions undertaken by the leader to enhance the organisation's positive outcomes, in other words, what do they **do** that enhances their perceived effectiveness.

Relationship Building

Interview participants commented on the critical role of building relationships and establishing partnerships within the organisation as a means of achieving successful outcomes. The ability to build effective coalitions between teams and departments that are often competing for resources was a commonly referred to strategy that was underpinned by respectful and trusting interactions and empathetic communication. As senior medical executive CC explained:

'Some CEOS are so operationally focused that all they can see is we've got to get, you know, ten patients on that operating list because otherwise we don't generate enough income. So really understanding that it's not all about bums in beds and numbers that go through outpatient clinics and things like that.'

When describing his own approach, CEO DP commented:

'My preferred style is to take people on a journey and to be able to realise everything together as much as you can. My approach in connecting with people like that is just to listen and to coach them and to support them.'

Senior medical executive EL observed:

'If you are working in the public system and you are serving people in health, I think that whole Servant Leadership model, which is what I believe in, is important.'

Servant Leadership

Reflecting on the comments of DP, CC and others who discussed their and their leaders' engagement strategies, the approach could be described as aligning to a servant leadership model. Whilst interest in servant leadership has continued to grow since inception, it has not been the subject of extensive research (Parris & Peachey, 2013). Robert Greenleaf first proposed the concept of servant leadership in the 1970s when he stated:

"The leader is servant first….it begins with the natural feeling one wants to serve, to serve first. Then conscious choice brings one to aspire to lead" (Greenleaf, 1970)

This concept of service is closely aligned to the values associated with public health and those doctors electing to work in the public health system. Central to the Australian Medical Association's (AMA) Code of Ethics is the care of the patient (AMA, 2017) and the importance of placing the interests of the patient above all other considerations including financial or commercial interests. This underpins the tension often arising between management and clinical decision making but highlights the foundational belief in service to others as a primary focus of the profession. Perceptions of the leader's effectiveness are therefore enhanced when these beliefs are put into action. As CEO AN states:

'My job is to help you get your job done. And then I'd go away and do something to help them get their job done.' Other leaders articulated similar beliefs:

As non-clinical CEO commented:

'I'm not a clinician, I'm not hands-on with patients but I know that what I do, or I like to think that what I do, has an impact on the patient care through my team, through the time I spend doctors with nurses.

Senior medical executive CC, when describing how effective CEO's operate observed:

'So really understanding the patient/clinician interaction, understanding it from a patient's perspective as well.'

This motivation to serve is illustrated in a conversation with CEO DP who said:

'Now the two careers that I thought about going into when I was in school, one was to be a teacher and the other was to be a nurse in health. Those two are not going to make me a million (laughs) So those intrinsic motivators for me would see me go down that path.'

A useful definition of servant leadership was provided by Eva et al. (2019) in their systematic review of servant leadership where they state:

"Servant leadership is an other-oriented approach to leadership manifested through a one-on-one prioritising of follower individual needs and outward reorienting of their concern for self towards concern for others within the organisation and the larger community." (p. 114)

For example, when discussing how others would describe his values CEO DP comments:

'I value developing people and love seeing them grow, develop and expand.'

Whilst leaders did not necessarily use the term 'servant leadership', many of the actions and underlying values discussed were aligned with our understanding of this leadership style. Clinical CEOs have the advantage of tacitly understanding and relating to those elements of servant leadership relevant to healthcare through their own experience. However non-clinical CEOs who are able to assimilate these values and incorporate them into their own actions were perceived as effective by their senior medical colleagues.

Storytelling

Stories have the power to elicit and evoke emotional responses that cannon be achieved through the more traditional means of information sharing. The purpose of storytelling is to create a shared meaning between the storyteller and the listener and when leaders wish to assist others in seeing things from their perspective, there are fewer strategies more effective than storytelling (Armstrong, 2021). Whilst not initially included in the original interview questions, when discussing how leaders engage with diverse groups to create a collective vision, it became apparent that storytelling played a useful role in establishing a shared identity.

One story told to the interviewer related to the induction of new interns at the hospital. The CEO reflected that the usual power point slides and diagrams were unlikely to inspire or create a resonance amongst the new cohort, so she instead elected to tell the story of the foundations of the hospital which was created by a religious order of nuns. CEO AN reflects:

'A lot of people who work at [hospital] know the story and feel connected to it and so I just continue and part of my job as CEO is to steward the culture. I do a lot of my leadership work through storytelling.'

She then went on to provide an example:

'There is an iconic photo taken in the 1940s in the laneway behind our sister hospital in Sydney. It's black and white and in this photo in the laneway there's a whole lot of men sitting in the gutter and then there's a table with a starched white tablecloth on it and the big breakfast spread. And one of the Sisters is pouring one of the men a cup of tea into a cup; a china cup and saucer in this back alleyway. So I told the story behind the photo because it was in the 40s during the Great Depression and the men in the gutter are queuing up for work. And so what the photo is about is not just recognising that the men needed to eat that day but the thing they needed most was to know that they were valued and respected.'

She goes on to explain to the interns that it's not just what you do, its how you do it:

'And it is important and that extra care and that extra love; I talk about love for those ten minutes, is part of the care that we provide.'

The use of stories is compelling and meaningful and clearly resonates with those listening, as AN commented:

'They may not remember what I said, but they will remember how I made them feel.'

Other leaders conveyed stories of loss and grief, acts of compassion and selfless commitment. What is powerful about storytelling in this context is its ability to transcend professional boundaries that may exist within the hospital setting and tap into those shared values that underpin the purpose of the healthcare organisation.

CONCLUSION

Participants of this study were asked to reflect on leadership through the lens of social identity and to consider the factors influencing perceptions of leadership effectiveness. Despite extant research suggesting the organisational leader should be prototypical of the most influential group (doctors), this view was not widely supported within the study group cohort. Whilst a clinical background was considered useful for those undertaking the CEO role within the hospital, more important was the ability to engage, consult, collaborate and build positive relationships. Those leaders who demonstrated elements of servant leadership by prioritising the needs of others and built a shared vision through compelling storytelling were perceived as effective and were recognised for their humility and ability to build cohesion.

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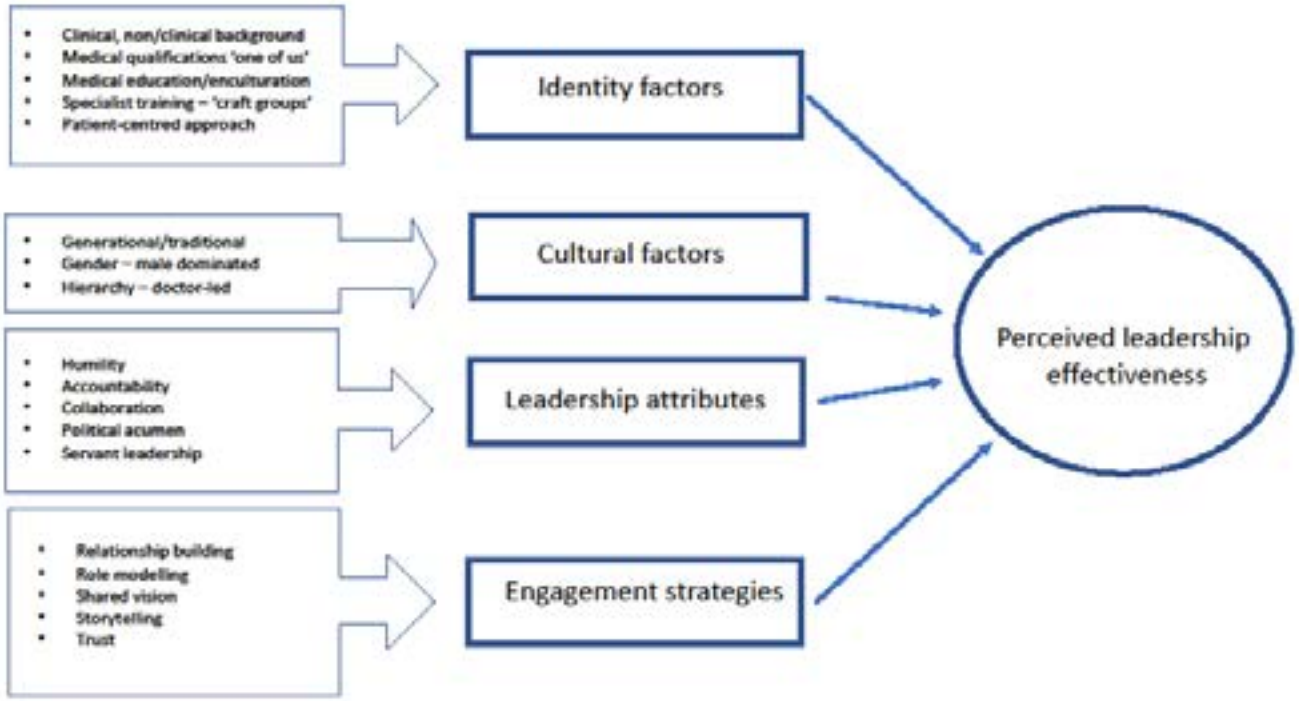
Figure 1

Role	Organisation	Professional Background	Qualification	Years in position
CEO	Major Tertiary	Physiotherapy	B.Sc, MBA	11
Group Chief Medical Officer	Major Tertiary	Medicine	MBBS, LLB (Hons) PhD, MBA, FRACMA	1
CEO	Major Tertiary	Nursing	MBA, GAICD	14
CEO	Major Tertiary	Nursing	MBA	16
CEO	Major Tertiary	Accounting	BBus (Acc), CPA, GradDHRM	6
Chief Medical Information Officer, Executive Director, Medical Services	Major Tertiary	Medicine	MBBS, FRACP	1.5 9
CEO	Major Tertiary (Regional)	Business	BCom, CPA, MBA	6
Chief Medical Officer, Executive Director of Medical Services & Clinical Governance	Major Tertiary	Medicine	MBBS (Hons) BSc (Hons) MRCPCH (UK) FRACP PhD AFRACMA	10
Chief Executive Officer	Major Tertiary	Accounting/ Business	CPA	4
Chief Executive Officer	Major Tertiary	Medicine	MBBS, MD, HonDMedSci MBA	9
Chief Medical Information Officer/Specialist Anaesthetist	Major Tertiary	Medicine	MBBS, MPH, FANZCA	2 23
Deputy Chief Medical Officer/Specialist Psychiatrist	Major Tertiary	Medicine	MB.ChB, FRANZCP, Cert PoA, FRACMA	3

Figure 2


Clinical, non/clinical background
Medical qualifications 'one of us'
Medical education/enculturation
Specialist training – 'craft groups'
Patient-centred approach
Identity factors
Generational/traditional
Gender – male dominated
Hierarchy – doctor-led
Cultural factors
Humility
Accountability
Collaboration
Political acumen
Servant leadership
Leadership attributes
Relationship building
Role modelling
Shared vision
Storytelling
Trust
Engagement strategies
Perceived leadership effectiveness

Stream 4 Gender, Diversity and Indigeneity

Theory of Gendered Organizations: A Systematic Review and Plan for Future Research

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Stream 4 Gender, Diversity and Indigeneity

Theory of Gendered Organizations: A Systematic Review and Plan for Future Research

ABSTRACT

Gender equality concerns have garnered unprecedented public attention and societal debate. Despite this attention, gender inequality persists, especially in the workplace. The disparity is frequently attributed to gendered organizations. The gendered organization is described as one that is inherently gendered and an organization that is defined, conceptualized, and structured by men that reflects their interest and advantage, which inevitably enhances gender inequity in the workplace. Acker's theory of gendered organizations is the leading theoretical framework for understanding gender equity within organizations. This paper systematically reviews 62 empirical studies using Acker's theory published in ABDC-ranked journals between 2012 and 2021 that have applied the theory of gendered organizations. Three major themes were identified – re-affirmation of gendered organizations, undoing gender, and emergent topics. Discussions of the findings and potential avenues for future research are presented.

Keywords: theory of gendered organizations**,** gendered organizations, gender, gender equality, ideal worker

INTRODUCTION

Gender equality has long been a source of intense debate around the world. (e.g., Hideg & Krstic, 2021; Van den Brink, 2015; Vasconcelos, 2021). While scholars acknowledge that women are making progress in leadership roles, they also report that gender disparities persist (Carli & Eagly, 2016; Hideg & Krstic, 2021; Schultheiss, 2021; Williams et al., 2012). The workplace continues to be a stronghold of gender inequality (Hideg & Krstic, 2021; Schein, 1973). The gendered organization is described as one that is *inherently* gendered and an organization that is defined, conceptualized, and structured by men that reflects their interest and advantage, which inevitably enhances gender inequity in the workplace (Acker, 1990)

There have been many scholars who paved the way in the development of gendered organizations field (Cockburn, 1988; Ferguson, 1984; Kanter, 2008), but it was Acker's influential research that provided scholars with a theory that explained organizations as a gendered phenomenon (Martin & Collinson, 2002). In her theory, gender is viewed as intricately entwined in the very structure of work organizations (Acker, 1990) and is ingrained in hierarchical power dynamics (Ridgeway & Smith-Lovin, 1999). According to Acker, a gendered organization is one in which "advantage and disadvantage, exploitation and control, action and emotion, meaning and identity are patterned

through and in terms of a distinction between male and female, masculine and feminine" (Acker, 1990, p. 146).

The following section discusses the theory of gendered organizations before outlining the review's methodology. The findings of the literature review are then presented and analyzed prior to the discussion of potential avenues for future research.

Theory of gendered organizations

The theory of gendered organizations posits that gender inequality is embedded into the structure of work organizations, namely through five gendering processes; 1) gender divisions, 2) gender symbols, 3) gender interactions, 4) individual identity, and 5) organizational logic (Acker, 1990).

First, gender divisions, refer to organizations that maintain a gendered structure of jobs, hierarchies, authority, and subordination (Acker, 1990). Later, the concept was expanded to encompass not only sex segregation of labor, but also practices or recurring patterns of conduct that contribute to gendering in organizations (Dye & Mills, 2012). Second, gender symbols are societal creations of symbols, artifacts, or representations that justify or maintain gender divisions (Acker, 1990). This concept often takes the form of masculinity and femininity symbols and images found in organizations (Payne, 2018). For example, a job ad that explicitly states that physical strength is a must illustrates male traits. Third, gender interactions refer to the interactions between men and women in the workplace, including dominant and submissive behaviors (Acker, 1990). This process is mirrored in how women are treated or spoken to, such as whether they can openly express their viewpoints (or are interrupted or cut off) or whether they are included in the organization's social activities or any critical decision-making process. Fourth is the individual identity which Acker describes as how individuals navigate their gendered identities within organizations and how this navigation is led by gender-assigned expectations of how one should look and behave (Acker, 1992). To adapt to the current workplace expectations, some women compromise their gender identification, by adopting more masculine traits (Wijayawardena et al., 2017). The final gendering process, organizational logic, relates to how gender is implicated in the fundamental, ongoing processes of creating and conceptualizing social structures (Acker, 1990). This is a central notion in Acker's

theory, describing the normative systems of rules and policies, job descriptions, pay scales, and job evaluations that govern organizations yet reproduce inequality (Mickey, 2019; Williams et al., 2012).

Notwithstanding the popularity and widespread dissemination of Acker's theory, some scholars and practitioners argue that the theory is frequently employed to validate the notion that organizations are gendered rather than determine whether this is the case (Bates, 2021). It is suggested that the theory has significant inadequacies in its understanding of the processes behind the formation and reproduction of these gendered organizations. (Dye & Mills, 2012). Some scholars, on the other hand, argue that the theory should be updated to reflect the changing nature of work and organizations in the new economy, where job instability, collaboration, career mapping, and networking are becoming more prevalent (Williams et al., 2012). Furthermore, the recent COVID-19 pandemic has altered the workplace scene, making working from home the norm rather than the exception. To close these gaps, two research questions (RQ) guide this review: RQ1: How has Acker's theory of gendered organizations theory informed current research? RQ2: What are the suggestions for future research? Finding answers to these research questions will provide a comprehensive picture of academic research on gendered organizations and enable future research in this field.

METHODOLOGY

The following section discusses the methodological approach used to conduct this review. The descriptive and conceptual analysis of the data is then presented and discussed in order to respond to RQ1. The final section of the study gives some critical thoughts and identifies avenues for the advancement of research, which provide answers to RQ2.

This review is guided by a methodical and transparent process outlined by (Torraco, 2005) and (Xiao & Watson, 2019). We employ a systematic literature review methodology to critically appraise previously published papers on the theory of gendered organizations. Our aim is to add new insights to the existing theory (Torraco, 2005, 2016). Systematic reviews investigate specific research questions within the literature but differ from narrative reviews because they deploy more rigorous and structured review processes (Cronin et al., 2008) and can be replicated in a transparent manner

(Tranfield et al., 2003). For these reasons, a systematic literature review is deemed an appropriate method for achieving our study objective, which is to organize and understand the current state of the literature and how the theory has been applied to identify new avenues for future research.

Literature Identification and Selection

The objective of this systematic review is to produce a thorough yet focused review of studies that utilize the theory of gendered organizations, either in its entirety or partially. Three electronic databases were employed to conduct this review: Web of Science, Scopus, and ProQuest. These encompass multidisciplinary fields, peer-reviewed literature, and prestigious journals in management, human resource development, social sciences, applied psychology, and business disciplines (Gusenbauer & Haddaway, 2020; Xiao & Watson, 2019). This also responds to requests for scholars to use interdisciplinary insights to open up new research avenues and make well-grounded recommendations for future research (Jones & Gatrell, 2014).

The search terms for this review were derived from the research questions (Xiao & Watson, 2019) and the same strings of keywords are utilized across all three databases to guarantee consistency. Three principal sets of keywords are employed in this review: 1) "theory of gendered organization" OR "gendered organization theory" OR "gendered organisation theory" 2) "gendered organisation" OR "gendered organization" 3) "gendered organisations" OR "gendered organizations". These keywords are meant to address the alternative spellings of organization (s) that are processed differently by the databases. For example, Web of Science recognized ‘organization” and ‘organisation’ separately, unlike Scopus and ProQuest Central. Our review also focuses on the theory of gendered organizations; hence, keywords that are synonyms of organizations, such as 'company' and 'firm' were not employed. The string of keywords was searched within the title, abstract, or author keyword search options. Applying these criteria resulted in an initial list of 1356 articles. The inclusion criteria for article selection were established, and these were informed by research questions (Torraco, 2005; Xiao & Watson, 2019). Building on Acker’s (2012) guest editorial commentary in the journal *Equality, Diversity and Inclusion*, this review is limited to research published between 2012 and 2021 to avoid repetition and to ensure the analysis is current and relevant. The application of

inclusion criteria resulted in 62 articles. A PRISMA flow diagram of the literature identification and selection process based on the inclusion criteria is illustrated in Figure 1. PRISMA is commonly used to assure methodological rigor and quality in systematic literature reviews (Pati & Lorusso, 2018).

Insert Figure 1 about here

FINDINGS AND DISCUSSIONS

The next section presents descriptive and thematic analysis of the reviewed articles.

Descriptive analysis

The selected literature was sourced from 33 different scholarly journals that cover a wide range of fields as shown in Table 1. A significant proportion of the articles, 29 of the 62 (46 percent), are published in journals devoted to gender studies, with Gender and Society having published the most studies.

Insert Table 1 about here

As depicted in Figure 2, there was a substantial increase in publications after 2018 among the sampled literature. Emerging topics such as the effect of the pandemic and increasing interest in generation Z are partly responsible for the increasing trend.

Insert Figure 2 about here

Most of the studies adopted a qualitative, followed by quantitative and mixed-method approaches. Of 36 qualitative studies that used interviews for data collection, 18 studies engaged both males and females, whereas the remaining 18 studies had only females (16) or only males (2) as their research participants. This observation underscores the predominance of women in gender equality efforts when it should also be applied to men (Hideg & Krstic, 2021).

Thematic analysis of the theory of gendered organizations literature

Utilizing a thematic approach to identify major themes within the literature, we uncovered three primary ways that the theory of gendered organizations informed research: 1) re-affirmation of gendered organizations, 2) undoing gender, and 3) emergent topics.

Re-affirmation of gendered organizations

Many studies use Acker's theory of gendered organizations as their major theoretical lens to highlight gendered activities and affirm or uphold assertions that organizations are gendered. For some, the theory was not central to the article's main contribution but was used in framing and understanding gender. Institutions such as academia (Teelken et al., 2021; Zippel, 2018), talent agencies (Simon, 2019), airlines (Dye & Mills, 2012), veterinary (Clarke & Knights, 2018), and municipal services (Björk & Härenstam, 2016) are demonstrated to be gendered organizations. Intriguingly, a case study of one feminist organization, Stewardesses for Women's Rights, revealed that although claiming to be a feminist organization, its organizational logic was similar to that of other male-gendered groups (Boone Parsons et al., 2012). This conclusion illustrates that not only must the social structures within organizations undergo radical change, but also those in the greater social milieu (Acker, 1990).

The theory of gendered organizations has also been extended to highlight the gendering practices in non-organizational settings such as academic research conference (Walters et al., 2021), company social events (Ortlieb & Sieben, 2017), product innovation (Poutanen & Kovalainen, 2013), entrepreneurship programs (Cochran, 2019), research collaborations (Zippel, 2018), and in home-based work in Turkey (Sarıoğlu, 2013). These extended investigations indicate the possibility of acquiring new insights by analyzing the continual generation of complex disparities in many forms (Acker, 2012).

Gendered organizations unearthed several underlying barriers to women's ascent to leadership roles, such as gender role division, which limits women to non-critical occupations (Bryan et al., 2021; Mickey, 2019), gender bias and discrimination (Figueroa-Domecq et al., 2020), gender stereotype (Teelken et al., 2021; Topić, 2021), family or motherhood penalty (Górska et al., 2021; Thébaud, 2016; Thun, 2019), and organizational policies and practices that hinder women’s careers (e.g., Calinaud et al., 2021; Yates & Skinner, 2021). The investigation also examined the experiences of non-mothers in the workplace and their reasons for leaving their positions. According to Wilhoit (2014), these women want purpose in their work, more autonomy, and they have a specific definition

of success. Similarly, women opted out of their jobs to pursue entrepreneurial careers due to inflexible organizational practices and family obligations (Thébaud, 2016). While all these studies highlighted organizational and societal factors as barriers to women's job advancement, others found individual-level barriers. Self-imposed barriers such as lack of self-confidence, and negative opinions of their work capabilities all contribute to women's career stagnation (Anthony & Soontiens, 2019; Segovia-Pérez et al., 2019). These accounts of self-imposed barriers, however, constitute a minority of the narratives contained within the reviewed literature.

Apart from elucidating the barriers impeding women's advancement, several empirical studies examined the relationship between variables associated with gendered organizational practices. These studies evaluate the link between gender composition screening and hiring discrepancies (Campero & Fernandez, 2019), company's technological level and women in leadership (Figueroa-Domecq et al., 2020), the moderating effect of female managers on job stress and emotional labor (Yun et al., 2019) and, the inflexible organizational practices, family factors and pathways to entrepreneurship (Thébaud, 2016). These cause-and-effect studies increase knowledge by identifying variables that reinforce the theoretical framework.

The notion of the 'ideal worker' is frequently utilized to empirically demonstrate its manifestation in an organization or a particular occupation in affirming gendered organizations (Fagan & Teasdale, 2021; Walters et al., 2021; Yates & Skinner, 2021). The concept of the 'ideal worker' emerged from the theory of gendered organization, which Acker described as a "male worker whose life centers on his full-time, life-long job, while his wife or another woman takes care of his personal needs and his children" (Acker, 1990, p. 149). Studies on how women navigate the barriers in their careers (Fagan & Teasdale, 2021; Yates & Skinner, 2021) revealed the importance of performing as an ideal worker and adopting masculine traits to match the prevailing work role expectations. Interestingly, while women in these studies recognized the inherent gendered preference for ideal workers as unfair, they also knew that they needed to conform rather than challenge the rules to advance their careers. Accepting and not challenging the norms perpetuates gendered structures and practices in organizations (Fagan & Teasdale, 2021; Trotter, 2017).

Acker's theory focused on women's experiences in gendered organizations, although two studies analyzed men's experiences in female-dominated industries: public relations (Pompper & Jung, 2013), and a kindergarten (Yang & McNair, 2019). Both studies showed that men too suffer gender imbalance, which leads to negative repercussions and requires coping mechanisms to fit in and counteract adverse effects such as rejection, lack of confidence, and gender stereotypes expressed by women. Despite their negative experiences, these men acknowledged the privilege of being a minority, confirming the glass escalator effect (Pompper & Jung, 2013; Yang & McNair, 2019). These findings are consistent with William (1992) that concluded that although men and women experience a certain level of discrimination by being in the minority group, men gain from the glass escalator effect while women suffer from the glass ceiling effect.

Undoing gender

In addition to studies focusing on utilizing the theory of gendered organizations to demonstrate organizations as gendered, other scholars took an alternative path by focusing on undoing gender or changing the gendered organizations' narratives. These include studies that examine women as agents of change (Stainback et al., 2015), leading change through quantitative key performance indices (KPIs) (Springer, 2019), role of context in gender equality policy execution (Ní Laoire et al., 2020), leading institutional transformation (Laursen & De Welde, 2019) intervention strategies (de Vries & van den Brink, 2016; Gray et al., 2019) and new research approaches (Dashper et al., 2020; Heiskanen et al., 2018).

A longitudinal study of proposal documents used to enhance gender equity in science, technology, engineering, and mathematics (STEM) uncovered three key findings that may provide insights for identifying effective solutions for gender inequality (Laursen & De Welde, 2019). First, the document analysis showed an increasing awareness of equity rather than representation, implying that, while the number of women in the workforce is increasing, this does not mean that their possibilities for advancement are equally distributed. Second, a growing focus on the intersection of gender, ethnicity, social class, and other identities that intersect to produce differential experiences and outcomes for individuals from various socioeconomic backgrounds, and finally, the realization that "one size does

not fit all." Women's needs and interests vary, so it is imperative to explore ways to adapt successful strategies in varied contexts (Laursen & De Welde, 2019). This view is congruent with findings from Ní Laoire et al. (2020) that emphasize the critical role of context in the interpretation, enactment, and impact of gender equality policies in various universities.

A discussion of undoing gender would be incomplete without addressing intervention strategies. Coaching-based development program for female leaders was found to significantly affect women's promotion and self-confidence, while simultaneously dismissing the ideal worker concept as a career obstacle (Gray et al., 2019). This study studied transformative gender interventions utilizing a bifocal approach, combining 'fixing women' and 'fixing organizations' philosophies. The strategy was developed to generate a cascading impact of 'small wins', integrating individual and organizational change. The strategy was purposefully developed through iterative cycling between theory and practice, emphasizing women's development as a catalyst for organizational transformation (de Vries & van den Brink, 2016). This is deemed the best strategy given the difficulties of initiating organizational transformation and the possibility of significant incremental improvements.

Research methods that reveals a deep understanding of topics might help build intervention strategies. Heiskanen et al. (2018) underline the effectiveness of the work conference method, which focuses on dialogue with employees and its intersectional factors (gender, age, occupational status, division) in identifying patterns of inequality and seeking alternatives. Dashper et al. (2020), on the other hand, introduce the Ketso technique to encourage participants' active participation in their application for gender equality charter accreditation. These strategies are effective because they unify the experiences and viewpoints of the organization's members. Other techniques using the same principle can be explored.

Emergent topics

Acker's theory of gendered organizations has also been applied to examine emergent topics, such as new generational cohorts, transgender, and gendering practices in the new economy. All of these topics have helped spur discussion about revising the theory.

Combining Acker's theory with a feminist communicology framework revealed a shift in how organizations are gendered when viewed through new generational cohort lenses. In Gen Z (born in the mid-1990s), workplace communication moves away from masculine command-and-control acts to feminine acts of care and expands organizational logic from competitive to collaboration, rendering organizational hierarchy irrelevant (Lucas et al., 2016). In a focus group study, Gen Z's perspectives on gender equality in sport are sought. The study's findings demonstrate a strong awareness of gender inequality in sports, especially in the media and in school sports, while revealing how differences are shaped in school and sports contexts (Schaillée et al., 2021). This result reveals gender disparity trends and their underpinnings, which is crucial.

In the so-called new economy, job insecurity, teamwork, career mapping, and networking are becoming increasingly prominent (Williams et al., 2012). A study of women in the male-dominated oil and gas industry showed how gendered organizations persist in the new economy. Women are still forced to promote themselves, fight gender bias, and network in gendered ways that disadvantage women (Williams et al., 2012). Women do not gain from organizational policy and work culture reforms because expectations remain anchored in the ideal worker narrative (Brumley, 2014a, 2014b). Coworking is a new workplace concept in the new economy. In coworking groups, professionals from many organizations share a workspace and develop community, yet inequality is still replicated (Sargent et al., 2021).

Transgenderism is another interesting emergent topic but was not as thoroughly investigated through the lens of gendered organization. Nanney and Brunsma (2017) examined transgender admittance policies at women's colleges in the US. The study highlights the inconsistencies in defining woman across women's colleges which ranges between "biology-based," "identity-based," and "legal-based" criteria.

As the ideologies about gender begin to shift, the theorizing of gendered organizations needs to be updated in tandem with the change. Emerging topics emphasizes the significance of understanding and accepting the changing social, cultural, political, and legal context and reflects the field's potential for growth.

AVENUES FOR FUTURE RESEARCH

Three themes emerged from the analysis of gendered organization theory and how it informs empirical research: re-affirmation of gendered organizations, undoing gender, and emergent topics. This review demonstrates that the narratives of gendered organizations are still centered on illustrating the gendered nature of organizations and the barriers that are associated with it. While uncovering and highlighting gendered practices that hinder women's success is important, the focus must shift to theorizing change. First, the theory of gendered organizations provides a strong foundation for recognizing gendered organization patterns, but additional evidence is needed to understand its mediating and moderating variables. Organizational transformation is also an area where policy can make a significant difference in achieving gender parity in the workplace. Most of the research on organizational policies was investigated in terms of how they were interpreted and enacted in various contexts, but not in terms of the paradoxical repercussions for gender equality and inclusion in organizations despite claiming to be gender neutral. These studies can be linked to creating a more integrated and nuanced approach to changing gender inequalities.

Second, there is a lack of research on the intersections of race, gender, and class, even though individuals, structures, processes, practices, and systems all interact to form organizations. The notion of intersectionality is congruent with Acker's guest editorial commentary, which stated that "we can no longer represent social realities by discussing only gender inequality" (Acker & Sayce, 2012, p. 209). Many scholars concur that understanding gendered inequalities requires an examination of the effects of racial and class processes. While Acker acknowledges that few researchers employ her extended theory of inequality regime to investigate intersectionality, it is also recognized that concurrently analyzing several perspectives is a challenging undertaking (Acker, 2012). Moreover, the lesbian, homosexual, bisexual, and transgender (LGBT) community increasing exposure over the previous decade adds to the complexity that must be incorporated into the formulation. Developing a robust research technique will be critical for addressing this complexity.

Finally, this analysis demonstrates the lack of research on men's roles in 'doing' and 'undoing' gender. Doing gender is conceptualized as creating gender difference (gender inequality) and undoing

gender as reducing gender difference (gender equality) (Deutsch, 2007). While much attention has been paid to women in organizations, the role of men in gender equality is less well understood. This assertion is consistent with calls for broader conceptualization and a paradigm shift to include both genders in future gender equity research (Krstic & Hideg, 2019; Olsen, 2021). Furthermore, the theory of gendered organizations needs to be revised to account for changing societal norms. Many men today see fathers as more involved in child-rearing activities than traditional breadwinners and financial providers (Burnett et al., 2011; Sayer et al., 2004). Focusing on men and women will highlight the nuance of factors such as long working hours that undermine gender equality for both men and women (Padavic et al., 2019). Table 2 summarizes the themes and potential future research questions.

Insert Table 2 about here

LIMITATIONS AND CONCLUSION

While this review provides avenues for future research, it is not without its limitations. This review is limited to research published between 2012 and 2021 to ensure the analysis is current and relevant. In addition, we only included peer-reviewed empirical articles and those ranked by the ABDC, omitting studies published in lower-ranking journals and from other sources. While these materials are not included in our evaluation, they do contribute to our understanding of gendered organizations and therefore their exclusion may limit our understanding of how the theory of gendered organizations has been applied. Although the subject of gendered organizations is vast and encompasses a variety of research subjects and contexts, this review focused exclusively on works that employed Acker's theory as the underlying theoretical framework. Therefore, this review may lack context and perspectives from other theoretical lenses that may add to the knowledge of gendered organizations.

Although research on the theory of gendered organizations has developed since 1990, there are still exciting new avenues that deserve scholarly attention. By providing an overview of the domain, this review contributes to our knowledge of the forces driving gender equality in the workplace, in tandem with changes in the workplace landscape and a shift in societal expectations.

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Stream 4 Gender, Diversity and Indigeneity

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Figure 1: PRISMA Flow Diagram for Literature Identification and Selection Processes

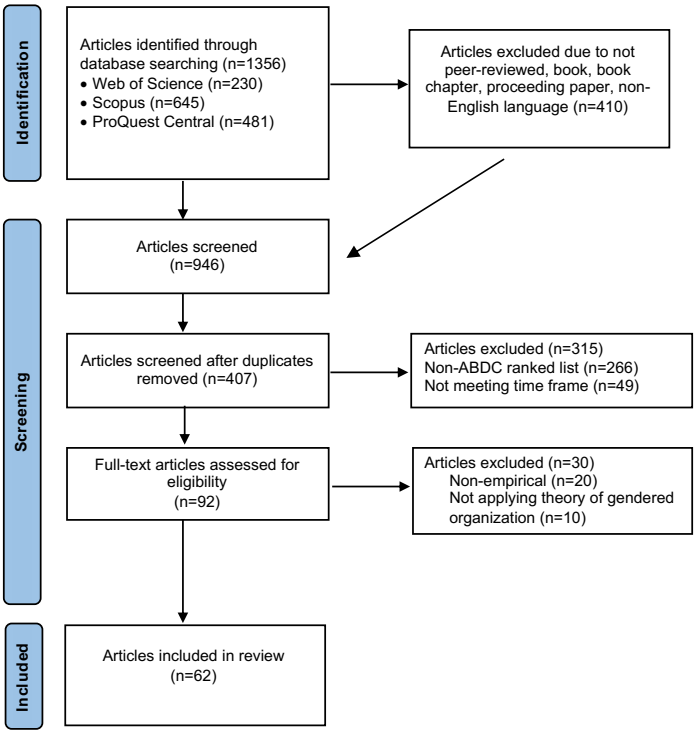

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Figure 1 Number of Publications of Reviewed Articles

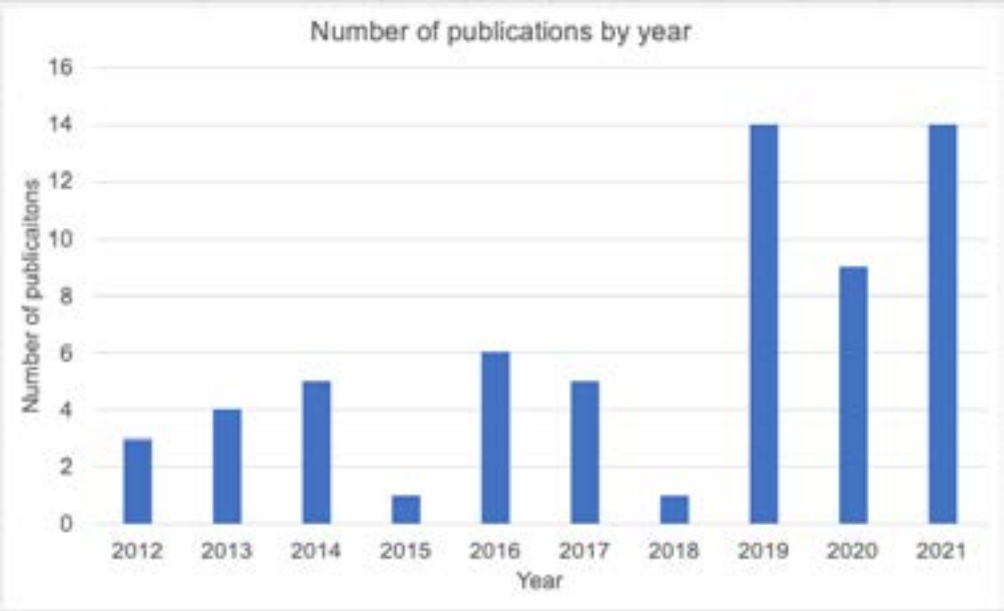

Table 1: Journal title and articles per journal included in the review

#	Journal title	Article count	ABDC ranking
1	Gender, Work and Organization	14	A
2	Gender and Society	11	A*
3	Equality, Diversity and Inclusion	5	B
4	International Journal of Organizational Analysis	2	B
5	Work, Employment and Society	1	A
6	Career Development International	1	B
7	Entrepreneurship: Theory and Practice	1	A*
8	European Journal of Training and Development	1	C
9	Gender and Education	1	A*
10	Gender in Management	1	C
11	Information Technology and People	1	A
12	Information Technology and Tourism	1	B
13	International Journal of Event and Festival Management	1	B
14	International Journal of Gender and Entrepreneurship	1	B
15	International Journal of Hospitality Management	1	A*
16	International Journal of Human Resource Management	1	A
17	Journal of Business Ethics	1	A
18	Journal of Construction Engineering and Management	1	A*
19	Journal of Hospitality and Tourism Management	1	A
20	Journal of Management and Organization	1	B
21	Journal of Management Inquiry	1	A
22	Journal of Small Business Management	1	A
23	Journal of Sustainable Tourism	1	A*
24	Organization Studies	1	A*
25	Politics and Gender	1	A
26	Public Personnel Management	1	B
27	Public Relations Review	1	A
28	Scandinavian Journal of Management	1	B
29	Sex Roles	1	A
30	Social Forces	1	A
31	Social Science Japan Journal	1	C
32	Sport, Education and Society	1	B
33	Studies in Higher Education	1	A
	Total	62	

Table 2: Summary of themes and examples of prospective future research questions based on reviewed articles

Themes	Articles	Example of potential future research questions
Re-affirmation of gendered organizations	(Almer et al., 2020),(Anthony & Soontiens, 2019), (Banihani & Syed, 2017), (Bates, 2021), (Björk & Härenstam, 2016), (Bolzendahl, 2014), (Boone Parsons et al., 2012), (Bryan et al., 2021), (Calinaud et al., 2021), (Campero & Fernandez, 2019), (Chew et al., 2020), (Clarke & Knights, 2018), (Cochran, 2019), (Dye & Mills, 2012), (Fagan & Teasdale, 2021), (Figueroa-Domecq et al., 2020), (Gains & Lowndes, 2014), (Grandy & Mavin, 2020), (Greene & Robbins, 2015), (Poutanen & Kovalainen, 2013), (Miller & Roksa, 2019), (Mooney, 2017), (Ortlieb & Sieben, 2017), (Palmer & Bosch, 2017), (Pompper & Jung, 2013), (Reynolds & Bamford, 2015), (Sarıoğlu, 2013), (Segovia-Pérez et al., 2019), (Simon, 2019), (Teelken et al., 2021), (Thébaud, 2016), (Thun, 2019), (Tibbals, 2013), (Topić, 2021), (Trotter, 2017), (Tyler et al., 2019), (Vasconcelos, 2021), (Walters et al., 2021), (Wijayawardena et al., 2017), (Wilhoit, 2014), (Yang & McNair, 2019), (Yates & Skinner, 2021), (Yun et al., 2019), (Zippel, 2018)	How does the intersectionality of gender, race, and class reproduce gender disparities in organizations?
Undoing gender	(Dashper et al., 2020), (de Vries & van den Brink, 2016), (Gray et al., 2019), (Heiskanen et al., 2018), (Laursen & De Welde, 2019), (Ní Laoire et al., 2020), (Springer, 2019), (Stainback et al., 2015)	What are men 's role in undoing gender? What is the effect of organizational policies in promoting change in gender inequality?
Emergent topics	(Brumley, 2014a), (Brumley, 2014b), (Fujita, 2021), (Górska et al., 2021), (Lucas et al., 2016), (Mickey, 2019), (Nanney & Brunsma, 2017), (Sargent et al., 2021), (Schaillée et al., 2021), (Williams et al., 2012)	What are the experiences of LGBT community in gendered organizations?

2. Organisational Behaviour

Do employees remain innovative while working remotely?

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2. Organisational Behaviour

Do employees remain innovative while working remotely?

ABSTRACT: *Innovation is regarded as one of the primary strategies for organisational competitive advantage and success. One way to increase organisational-wide innovation is to focus on the innovative potential of employees, as innovations often evolve from ideas of employees. However, understanding the antecedents to fostering employee innovation remains under-developed when it comes to remote working environments. Recent Covid-19 pandemic has added another layer of complexity with the seismic shift in remote working. To understand how employees remain innovative, this paper explores the relationship between remote working and innovative work behaviour within the professional services industry.*

Keywords: Remote working, Innovative Work Behaviour, COVID-19 pandemic, Innovation, professional service organisation

Innovation is imperative for organisations to maintain their competitive advantage and succeed (Cooper & Edgett, 2010; Tidd & Bessant, 2018). Increasingly, the sources of competitive advantage are found within an organisation's intellectual capabilities, where creativity and innovation are the foundations for success and firm performance (Ali, 2021; Sheth & Sinfield, 2022). However, organisations cannot be innovative without their employees, as individual employees are often the source of new or novel ideas (De Jong & Den Hartog, 2007). 'One option for organisations to become more innovative is to encourage their employees to be innovative' (Agarwal, 2014, p. 43).

The emergence of the COVID-19 pandemic triggered an unprecedented set of government actions which included restrictions on movement, quarantine requirements, restrictions on gatherings and non-essential services and the closing of Australia's borders to non-residents. As a result, subsequent lockdowns by the Australian State governments ensued a fundamental shift in the way organisations did business. Employees moved from the office to their homes, and online working, video conferencing and teleconferencing rapidly became the new normal (Merone & Whitehead, 2021). According to a recent Gartner survey, up to 88% of organisations in Australia either encouraged or required employees to work from home during the pandemic (Mitchell, 2020). The Families in Australia Survey: Towards COVID Normal found that 67% of survey respondents were sometimes or always working from home during COVID-19, compared to 42% pre-COVID (Baxter; & Warren, 2021). In the second year of the pandemic, the Australian Bureau of Statistics stated 41% of employed

people regularly worked from home. This was an increase from 32% from the previous year (ABS, 2021). As a result, Australian organisations faced the challenge of managing increased levels and at times mandatory remote working, whilst at the same time ensuring they remain innovative and competitive. However, understanding the impacts of remote working on employee innovation remains underdeveloped (Coenen & Kok, 2014; Giannetti & Madia, 2013; Martínez-Sánchez, Vela-Jiménez, Pérez-Pérez, & de-Luis-Carnicer, 2011). There is an abundance of research on innovation at a firm level, there is a lack of knowledge about encouraging innovation at an individual level (Bos-Nehles, Renkema, & Janssen, 2017).

Whilst the academic community has paid extensive attention to both concepts separately, little is known about the relationship between them. 'The systematic and comprehensive new ways of working management philosophy can be considered a novel research theme. So far, only a few academic studies have been published' (Ruostela et al., 2015, p. 382). In addition, the role of employees' contributions in the innovation process remains underdeveloped (Crossan & Apaydin, 2010). Conflicting knowledge about IWB and how it can be influenced by workplace policies and structures hinder the organisation's ability to innovate because it is unclear how to 'trigger employees in a way that will encourage them to engage in IWB' (Bos-Nehles et al., 2017, p. 1229). In addition, while the existing literature shows that employee innovation is critical for organisations to maintain competitive advantage, the relationship to remote working is a relatively unexplored area. Moreover, the existing IWB studies conducted are largely quantitative studies based in the US and Europe and employer focused.

This paper examines remote working and its impact on employees innovative work behaviour (IWB) within the professional service sector in Australia. As part of a larger study, preliminary insights from early-stage research examines employee perceptions and the influence working remotely has on their IWB. The nature of how and where work gets done has fundamentally shifted over the past decade, with employees increasingly given the autonomy and flexibility to organise their work to best suit their tasks. COVID-19 pandemic has further amplified this trend.

LITERATURE REVIEW

Remote working

The term remote working is used interchangeably with telecommuting, telework, virtual work and work from home (WFH) (Sullivan, 2003). The term 'telecommuting' was first introduced by engineer Jack Nilles in 1973 (Nilles, 1994). His proposition was to move the work to workers rather than move workers to the work, with the aim to reduce energy consumption and reduce traffic congestion (Allen, Golden, & Shockley, 2015). Remote working allows employees to do their work partly from home or elsewhere outside of the official office building, while interaction and coordination with colleagues inside and outside of the organisation is enabled by the extensive use of digital tools (Gajendran & Harrison, 2007). Previous research suggests that it is predominantly utilised by part-time employees and female employees (Bailey & Kurland, 2002; Gajendran & Harrison, 2007), and largely suited to white collar and knowledge workers i.e., employees whose work does not require extensive physical efforts such as managerial, clerical and administration. Their work involves tasks that can be performed digitally on a laptop or mobile device and allows for freedom in the way in which the work is to be done, as long as the goal or task outcome is achieved. It is no longer necessary for employees to conduct their work in the main office building; and likewise, many tasks and processes no longer have to be done at specific times.

Innovative Work Behaviour

'Innovation and creativity in the workplace have become increasingly important determinants of organisational performance, success and longer-term survival.'

(Anderson, Potočnik, & Zhou, 2014)

Innovative work behaviour (IWB) refers to innovation at the individual level. This assumes that innovative efforts and resulting outcomes arise from activities undertaken by individuals. These activities involve exploring and proposing new ideas, testing ideas, building support for the idea and ultimately implementing these ideas. Fostering innovation within employees is a crucial factor to organisational performance and sustained competitive advantage (Anderson et al., 2014; Axtell et al., 2000; Oldham & Cummings, 1996; Ramamoorthy, Flood, Slattery, & Sardessai, 2005; Sanz-Valle &

Jiménez-Jiménez, 2018) and overall organisational levels of innovation. Employees need to be encouraged, motivated and willing to exert innovative behaviours (Agarwal, 2014; De Jong & Den Hartog, 2007; Janssen, 2000). Individual employees are a critical resource, being close to the customer or process, they can look for opportunities, develop ideas and determine how to implement them (Carmeli & Spreitzer, 2009; Kozlowski & Klein, 2000). Employees 'are often on the front line with customers and see opportunities for change and improvement in work processes and procedures that are invisible to managers or others formally responsible for innovation in the organisation' Carmeli and Spreitzer (2009, p. 171).

A number of studies have sought to examine the factors which influence IWB through shaping individual's attitudes, behaviours and knowledge (Beugelsdijk, 2008; Jimenez-Jimenez & Sanz-Valle, 2008; Laursen & Foss, 2003). These factors include job factors (job characteristics, role orientation, autonomy); individual factors (personality, intrapreneurship, education level); team factors (team support, team climate, team leadership, team interaction); relationship factors (leadership styles) and lastly organisational factors (strategy, culture, climate). The findings show conflicting results about IWB and concludes that further research is needed to fully understand the factors that trigger employees in a way that will encourage them to engage in IWB (Bos-Nehles et al., 2017).

The literature describes IWB as a series of different phases. Table 1 describes the various phases of innovation as adopted in key IWB literature. However, as noticed in the table, for the most part, they describe the same process of activities, but with slight differences in the number of phases and in terminology used. (Desouza et al., 2009) summarised the most commonly referred to innovation phases as idea generation, mobilization, advocacy and screening, experimentation, commercialisation, diffusion and implementation.

Insert Table 1 about here

All these studies describe a process by which employees are generating new ideas, championing ideas and then developing ideas into a valuable output. The employee actively seeking out opportunities to improve a product or process before they generate the idea is the first phase of IWB. 'The start of an innovation process often has an element of chance: the discovery of an opportunity or

some problem arising' (De Jong & Den Hartog, 2010, p. 24). The last phase is the transfer or diffusion of the innovation, referring to commercialising the idea (Kanter, 1988). A number of studies have proposed a method to measure IWB. Table 2 provides a summary of studies that developed a questionnaire to measure IWB. For the most part, these studies remained as one-dimensional studies, focusing on IWB as a combination of phases. Taking the view that IWB is a one-dimensional construct, these studies have not acknowledged the differences of the activities and behaviours that occur in each of the IWB phases. Whilst employees could be engaged in various phases simultaneously and similar behaviours could be exhibited in each phase, a deeper investigation of each phase separately warrants investigation. Further, the majority of these studies focused on product industries, within Europe and the United States, as opposed to the service industries and Australian organisations, which is also a current gap in the knowledge.

Insert Table 2 about here

Innovation at professional service firms

'…a Professional Service Firm's innovation capability may be critical to it achieving superior performance and competitive advantage.'

(Hogan, Soutar, McColl-Kennedy, & Sweeney, 2011, p. 522)

Although professional services includes a number of different service industries, they all 'specialize in the creation, validation, and application of knowledge in order to solve client problems' (Reihlen & Apel, 2007, p. 141). Professional Service firms (PSF) are characterised as highly knowledge-intensive, low capital intensity, using a well-educated and professional workforce, to deliver specialist services that involve a high degree of customisation, interaction, discretionary effort and personal judgment from their employees (Reihlen & Apel, 2007; Von Nordenflycht, 2010). Since the 1960's, the professional services industry has experienced major growth, becoming one of the fastest growing sectors of the world economy (Bello, Radulovich, Javalgi, Scherer, & Taylor, 2016; Dotzel, Shankar, & Berry, 2013), however the sector is now facing many challenges. These include deregulation (allowing new entrants), cost-down pressures (clients wanting better value), commoditisation of services, lower cost internet enabled business models and competition from

cheaper offshore providers (Ross, 2016). As a result, PSFs are recognising that they need to innovate, in order to reduce costs and increase the value they provide to clients. A PSFs ability to provide innovative services and solutions more effectively and more efficiently than its competitors is acknowledged as a key driver to winning new clients as well as retaining existing clients (Hogan et al., 2011). Consulting firm professionals are facing a challenge to go beyond the mandatory and routine tasks, to instead look for new ways to create client value in an effort to ensure business sustainability (Guthrie & Parker, 2016).

In spite of these challenges faced in the PSF industry, there can be an aversion and lack of motivation to change in these organisations, rendering innovation in this sector difficult. This is attributed to the often conservative nature of PSF's, in particular accounting organisations, coupled with tight regulations and legislation (Chang, Hilary, Kang, & Zhang, 2013; Ross, 2016; Sordi Schiavi, da Silva Momo, Gastaud Maçada, & Behr, 2020). Hogan, McColl-Kennedy, Sweeney, and Soutar (2007) extended this lack of drive by suggesting that many of these firms did not think it was possible in their industry to innovate. They suggested 'government regulations, legislation, professional associations and the type of work provided to clients, which is often standardised' (Hogan et al., 2007, p. 897) such as compliance don't lend themselves to be novel or innovative by nature.

Despite the importance of innovation to all types of organisations, there is a lack of academic research of innovation in the PSF context, in contrast to other industries such as manufacturing (Ettlie & Rosenthal, 2011; Gupta, Smith, & Shalley, 2006) and what does exist, is fragmented and underdeveloped (Breidbach, Smith, & Callagher 2013). Innovation in a PSF is markedly different to innovation in a product-based business, namely as the value provided to clients or customers is not a physical product. Product-based businesses must have clearly defined business methods and processes to develop, manufacture and supply a standardised product. This creates a structure for innovation to occur. In contrast, PSF are a people-based offering, employees provide a service based on their expertise. Innovative capability in these organisations relies on the motivation and composition of human resources, created from the expertise and knowledge of these employees producing customised client solutions in everyday service delivery (Gallouj & Weinstein, 1997; Malhotra, Smets, & Morris, 2016). Innovative capability hinges on how the PSF organises this valuable expertise of their front-line employees. Organisations need to think about how they can foster an environment and develop and

internal structure whereby these employees are enabled to diagnose problems, think creatively and develop novel solutions, as well as question prevailing norms and processes.

Remote work and innovation at Professional Service Firms

Covid-19 caused a rapid shift to remote working for many Australian employees, with many organisations facing mandatory work from home for a majority of their workforce. The examination of remote work in service industries is not new in the academic literature, with studies looking at the impacts to areas such as productivity, communication, teamwork, and well-being. With respect to innovation and remote working, previous long held beliefs were that innovations were only possible from a laboratory or office environment, not possible to evolve from home environments (Dash, 2022). However, the pandemic not only forced organisations to ponder the impact of remote working on their ability to innovate and remain competitive, but it also forced many organisations to adapt quickly and introduce innovations in their processes and services in order to continue to do business and service clients. The pandemic itself created the perfect environment for organisations to test how they can perform in this new world of working and continue to work once the pandemic was over. Studies have shown that the pandemic stimulated changes in the way PSF's interacted with and delivered services to their clients, through process and structural changes.

A recent study by Deloitte found that efficiency and productivity of remote working employees during the pandemic resulted in the delivery of services of the same or higher standards than before the pandemic (Billa, 2021). This draws a parallel to a PwC remote work survey that found employers considered innovation performance improving under remote work. Only 18% of survey respondents felt that the activity of 'Innovating products or service' was worse than pre-COVID-19 and only 17% felt that 'Collaborating on new projects' was worse than pre-COVID-19 (PwC, 2020).

METHODOLOGY

Employee's working remotely is an increasing trend, and the future of work. Prior to COVID-19 already saw significant numbers of Australian's working from home (33% of employees worked from home regularly (ABS, 2019)).Within the last decade, Australia's leading professional service firms had already launched their own versions of flexible working such as PwC's 'All Flex' and KPMG's

'Everyone AGILE'. In response to COVID-19 and government restrictions, service firms like consulting organisations were able to quickly move to a fully remote workforce. A December 2020 survey from PwC found that 74% of employees want to continue working from home at least two days per week post COVID-19 and fewer than one in five employers themselves say they want to return to the office as it was pre pandemic (PwC, 2020).

As remote working will continue to rise, it is important to better understand the factors that influence employee's innovative behaviour, thus, the data collection focuses on the employee's perspective of working remotely and IWB. The Person-Environment Fit (P-E fit) theory best suits this type of study as P-E fit theory focuses on the interaction between the attributes of the individual and their environment, where the individual, in this case the employee, not only influences their environment but the environment also influences the individual (Bam, De Stobbeleir, & Vlok, 2019; Duan, Li, Tang, Zhang, & Cheng, 2019). 'The adequacy of this fit between a person and the environment can affect the person's motivation, behaviour, and overall mental and physical health' (Holmbeck, Jandasek, Sparks, Zukerman, & Zurenda, 2008). To this end, the methodological approach utilised in this research is both quantitative and qualitative to generate information in both numerical and narrative form that can be triangulated to better understand the relationship between remote working and IWB. The discussion in this paper is based on early findings of the quantitative data collection phase and reports on the measures of frequency. Logistic regression will be used as the statistical analysis method for the overall study once all data is collected. This will assist in the determination of the interactions between the various constructs and to measure the strength of the relationship between remote working and IWB.

Data Collection and Sample Size

As this study is part of a larger research, at this stage, only preliminary data is available that has been collected from two mid-tier Australian professional services firms. The data was collected between August 2021 to February 2022, using an online survey sent to employees by the Head of Human Resources and Head of Operations of these organisations. The survey consisted of demographic questions and 27 questions framed within the four phases of IWB as described by De Jong and Den Hartog (2010), being idea exploration (IE), idea generation (IG), idea championing (IC)

and idea implementation (II). Respondents were asked to rate the extent to which they demonstrate behaviours to generate, promote, and implement new ideas when they are working remotely, using a 5-point Likert scale ranging from never to always. The source of the questions came from three IWB measurement studies; De Jong and Den Hartog (2010), Kleysen and Street (2001), and Messmann and Mulder (2012). There was a final question asking the respondent if they would like to participate in a one-on-one interview to discuss their experiences with working remotely. If they selected 'yes' they were taken to a new screen where they could submit their email address to arrange a suitable interview time. Several respondents provided a favourable response. These interviews will form part of phase 2 data collection, being semi-structured interviews using Zoom and face-to-face with employees from these organisations. The online questionnaire was emailed to 116 employees across both organisations with a total of 52 responses, a 45% response rate for this stage of data collection. An additional two firms, have since agreed to participate in the study and their data will be included in the overall research study.

Survey data

60% of the respondents were aged between 23 years and 40 years. 52% were female, 46% male and 2% preferred not to disclose. 82% were full time employees, and 15% were part-time. There were no casual or temporary employee respondents. 73% of the employees had been at the organisation less than 5 years, with 40% less than 2 years. 12% had been at the organisation for more than 10 years. The majority of respondents were from Tax department with 23%, a further 21% from Audit department and 17% from Consulting and Advisory department. An additional 27% were from internal business functions such as marketing, IT, HR and operations. Overall, 67% of respondents were classed as billable employees, meaning their clients were external to the organisation and their work was fully charged to client activities. 26% were non-billable employees, and the remaining 4% were both billable and non-billable, meaning a portion of their work was charged to client activities. 23% of respondents were at the Senior Analyst level, a further 23% were either graduates or analysts, at the beginning of their consulting careers. 35% were Managers to Directors and a further 19% were Partners, the highest level within the organisation.

DISCUSSION

Employee's IWB is critical to organisational success. The research discussed here aimed to increase our understanding of what impact working remotely has on innovative behaviour across the four phases of idea exploration (IE), idea generation (IG), idea championing (IC) and idea implementation (II). The data revealed that the phases which required greater interaction with colleagues saw less innovative behaviours as compared to the phases which are predominantly undertaken individually.

When respondents were asked how often they engaged in innovative activities while working remotely, 38% felt they would sometimes engage with innovative activities, at least 2 to 3 times per month, while a further 37% said they often engaged in innovative activities, at least 4-8 times per month. Only 7% felt they always engaged in these types of activities, and 4% expressing they never did.

If we break this down by the four phases of IWB, the majority of respondents felt they often exerted these behaviours during the IE and IG phases. Over 55% reported generating solutions for problems at least 4 to 8 times per month. Almost half would just as often ask critical questions about existing processes, wonder how things can be improved and actively look for opportunities to improve an existing process/product or service.

However, the rate dropped during the latter two phases of IC and II, where the majority felt they only sometimes exerted these behaviours. So, once they had generated the new idea, only 24% of these employees would promote the new idea to colleagues, while only 22% would share their new ideas with their managers at the same frequency of 4 to 8 times per month. Almost 40% would rarely put in the effort to develop the new process/product or service or would implement the change, and a further 13% would never contribute to the idea being implemented.

On average, the majority of employees working remotely would engage in innovative activities 5 times per month during IE and IG, dropping to 2 times per month on average for the latter phases of IC and II.

The first two phases are activities that employees can predominately undertake on their own, and do not always require input or collaboration with colleagues. These include, wondering how things can be improved, looking for opportunities to improve processes, generating solutions to

problems, and finding new approaches to execute tasks. It may be the result of a problem that has arisen, inconsistencies or gaps, new emerging trends or an envisaged opportunity to improve effectiveness. Basadur (2004) states the exploration phase involves the employee observing, diagnosing, and gathering information and data in order to look for ways to improve current products, services or work processes or finding a solution.

Then the employee moves towards the creation of the actual idea. The aim of this phase is to generate ideas and solutions based on the problem or opportunity. 'The key to idea generation appears to be the combination and reorganization of information and existing concepts to solve problems or to improve performance' (De Jong & Den Hartog, 2010, p. 24). Employees can perform these types of activities whether they are in the office or not.

However, the latter two phases require greater interaction with fellow employees, to bring the idea into fruition. This includes promoting ideas to colleagues to obtain their support, encouraging fellow employees to be enthusiastic about a new ideas, putting effort into developing new processes and contributing to the implementation of new ideas. The employee needs to mobilize resources, by persuading and influencing, pushing and negotiating, challenging and taking risks. The employee looks for support for the generated idea and assembles a group of advocates that will 'sell' the idea across the organisation (Kanter, 1988; Scott & Bruce, 1994). The idea needs to be advocated by the appropriate employees in an organisation who have the 'expertise, resources, contacts, influence and formal power to drive a successful implementation' (Moll & de Leede, 2016, p. 99). This building of coalitions could include co-workers, supervisors or managers. The need for coalition building is because ideas will signify a change for employees, teams, or the organisation, and require a financial and resource commitment from the organisation. So, whilst the idea may address an issue or problem or improve performance, there may still be reluctance to change. Therefore, the idea must be promoted, and to do this successfully, the employee who generated the idea has to go out and mobilise backers and get sponsorship to champion the idea with them to convince management to support the implementation of the idea. These types of activities can be expected to be more challenging when employees are working remotely. You don't have the impromptu bumping into colleagues and sharing thoughts and ideas as you do in the office. Reduced face to face communication is often replaced with increased email usage, and video conference meetings tend to be pre-arranged with fixed agendas.

To move from creativity to innovation, the new idea has to be developed into a valuable output or outcome. The idea moves from being created, supported and then approved for implementation, which includes the development, testing or modification of the new process or product/service. De Jong and Den Hartog (2010) stated that innovative employees need to display a results-oriented attitude combined with expending considerable effort to realise the idea, in order to overcome organisational constraints such as funding, scarce resources, resistance to change or bureaucracy.

The data reveals an important finding that remote working employees are less likely to exert innovative behaviours during the phases which require increased interaction with fellow employees. The finding has major implications for organisations competitive success.

Further data collected during phase 2 with in-depth interviews will look to extrapolate possible reasons for this, using the Person-Environment theory to guide the study. Factors such as isolation, mental health and well-being, collaboration and teamwork behaviours, communication methods and home-work life balance will be explored to fully understand the relationship between remote working and IWB.

CONCLUSION

This paper aims to shed light on remote working experiences to understand the influence it has on employee innovative behaviours. During a period that has seen a rapid increase in the number of Australian employers working away from the office spurred by the Covid-19 pandemic, it is found that remote working employees will often explore and generate new ideas, however the degree of promoting new ideas and implementing them declines in comparison. This can be attributed to the fact that early-stage innovative work behaviours can be undertaken more readily by the individual on their own, whereas as the idea progresses and needs to be discussed around the organisation and to be implemented, a greater reliance on fellow employees is required. As part of the larger study, aspects of collaboration, teamwork, motivation, autonomy and well-being during remote working will be examined to understand what role these play in the four phases of innovative work behaviour. This is an important contribution given remote work will continue for workplaces into the future, irrespective of the COVID-19 pandemic.

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Table 1: Phases of Innovative Work Behaviour

Innovation Phase	Kanter (1988)	Scott and Bruce (1994)	Janssen (2000)	Kleyson & Street (2001)	De Jong & Den Hartog (2010)
Exploring ideas		Problem Recogntion and Idea Generation		Opprotunty Exploration	Idea Exploration
Generating ideas	Idea generation and activation		Idea Generation	Generativity	Idea Generation
				Formative Investigation	
Gathering support for ideas	Coalition building	Sponsor seeking	Idea Promotion	Championing	Idea Championing
Implementing ideas	Idea realisation	Idea Production	Idea Realisation	Application	Idea Implementation
	Innovation Production				

(Source: compiled by author):

Table 2: Studies that developed IWB Questionnaires

Author(s)	IWB Questions	Sample	Country	Type of organisation
Scott and Bruce (1994)	6 items	172 Engineers, scientists and technicians	United States	Industrial
Spreitzer (1995)	4 items	393 mid level employees	United States	Industrial
Basu & Green (1997)	4 items	58 supervisors and 225 employees	United States	Manufacturing Printing
Janssen (2000)	9 items	170 employees and 110 supervisors	Netherlands	Food manufacturer
Kleysen and Street (2001)	14 items	225 employees	United States	Various
Krause (2004)	8 items	399 middle managers	Germany	Various
Dorenbosch, van Engen and Verhagen (2005)	16 items	132 employees	Netherlands	Local Government
Reuvers et al. (2008)	4 items	355 employees	Australia	Hospitals
De Jong and Den Hartog (2010)	10 items	879 managers and 703 employees	Netherlands	Various Service firms
Messmann and Mulder (2012)	24 items	154 employees (study 1) 265 employees (study 2)	Germany	Car manufacturer
Messmann and Mulder (2020)	8 items	185 employees (study 1) 184 employees (study 2)	Germany	Various domains

(Source: compiled by author)

Stream 10: Public Sector, NGOs and Not-for-Profit

Employee Performance Management: The Impact of Red Tape, PSM And Competing Goals

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Stream 10: Public Sector, NGOs and Not-for-Profit

Employee Performance Management: The Impact of Red Tape, PSM And Competing Goals

When done well, performance management benefits employees, organisations and wider stakeholders. But it is often done poorly, and public sector contextual influences, including unclear goals, red tape, and even PSM, pose challenges to doing it well. In this qualitative study public sector environmental factors are found to have wide ranging impacts into how both formal and informal aspects of PM reinforce or undermine each other. To work well, modern performance management could be reconstrued more as a psycho-social process and be better adapted to emerging public sector challenges. Practical insights into barriers and opportunities to improve are identified. Data was collected via interviews with managers in public sector organisations.

Keywords: Performance management, qualitative, competing goals, red tape, public service motivation, new public management.

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INTRODUCTION

Public sector studies of employee performance management (PM) find it can be effective when done well, although, it is often done poorly and seen as a time-wasting administrative ritual, focussed on getting rid of poor performers (Blackman et al., 2017). Challenges include: providing adequate feedback, establishing realistic performance expectations, and recognising both employee contributions and the role of managers' in optimising employee performance (Australian Public Service Commission 2012, 2014a). This study looks at how line managers conduct PM, both formal and informal, within difficult public sector contexts.

PM is increasingly seen as a much broader set of practices than the formal appraisal and rewarding of employees. Performance management is "the broad collection of activities designed to maximize individual and, by extension, organizational performance. It includes setting expectations, measuring employee behaviors and results, providing coaching and feedback, and evaluating performance over time to use in decision-making. The purpose is to align individual efforts to achieve organizational goals" (Society for Human Resource Management [SHRM], 2017 p.7). It also commonly includes development (Aguinis, 2009; Smither, 2012). Recent studies, often outside of public administration, see it now including not only a formal administrative system, but also an informal social-psychological system which is less attended to in the literature, but which is critical to the perceived fairness and effectiveness of the formal system. This informal social psychological system includes regular and informal feedback, coaching, and other forms of development, with formal documentation of PM happening intermittently (Blackman & West, 2015). These two systems, formal bureaucratic, and informal psychological, need to work well together for PM to be effective: informal systems need to be supported with formal administrative processes to be legitimate and to carry consequences; and formal systems risk harming exchange relationships if introduced without consideration of psychological welfare.

Public sector organisations provide a unique context for PM, likely to shape both how and whether it is effective (Sole, 2009). They often have competing goals and priorities, which potentially

undermine the clear and specific goal setting that is embedded in modern PM practice (Vu et al., 2019). Public sector environments often have red tape and emphasise formal bureaucratic processes over interpersonal ones, of which the latter is increasingly recognised as critical to effective PM (West & Blackman , 2015; Vu et al., 2019). Public sector employees have high PSM, meaning that motivational techniques differ from those in some private sector jobs (Perry, 1996; Taylor, 2014).

Studies of PM in public sector contexts are relatively rare, but evidence points often to poor alignment, integration and low credibility, perhaps because of poor implementation (West & Blackman 2015; Taylor; 2014; de Waal & Counet, 2009). How both formal and informal PM systems, intertwine and reinforce, or undermine, each other in public sector organisations is the purpose of this paper. Our overall research aim is pragmatic: to identify how both formal and informal systems of performance management can work well in public administration environments.

This study makes three contributions to the literature. First, the role of the public sector context on performance management, specifically competing goals, red tape and PSM. Second, we look at the interplay between formal and informal strategies and practices public sector managers use. Third, we look at effective responses to these challenges and opportunities.

This qualitative study sought rich, descriptive data, that were analysed through an interpretive lens. Twenty-two semi-structured interviews were conducted with managers across the New Zealand public sector.

LITERATURE REVIEW

Traditionally, employee performance management was an appraisal process for administrative purposes of benefits and discipline (Blackman & West, 2015; Vu et al., 2019). In performance appraisal (PA) it was often something of an empty ritual (Vu et al., 2022). This narrow administrative focus has given way to the birth of what we now consider the broader and richer set of practices known as employee performance management (Shields et al., 2015). In this set of practices, appraisal is still important, but it is no longer seen as the most important determinant of an effective system.

Appraisal is now one part of a suite of practices that comprise goal setting, feedback, development or training, performance evaluation, rewarding good performance, and handling poor performance (Aguinis, 2009; Shields et al., 2015; Smither, 2012).

In practice, however, supportive relationships between these subsystems are not always achieved, and cause unintended consequences (Franco-Santos & Otley, 2018): the wrong goals are set, so the wrong behaviours are rewarded; staff are not given development opportunities to improve and so feel injustice in the face of perceived unfair pay; or formal review processes make dealing with poor performance too difficult and so cause resentment amongst colleagues (Hill & Plimmer, 2021; West & Taylor, 2015). Much of the research on "unintended dysfunctional consequences has taken place in public-sector organizations" and found that PM can cause "perverse (rather than necessary evils), not just for the users of the system, but also for other stakeholders (e.g. public, patients, students, society in general)" (Franco-Santos & Otley, 2018 p.719).

Manager resources, such as time and skill, possibly contribute to these problems (de Waal & Counet, 2009). While the *formal* logic of PM is administratively coherent, in practice it only operates well with a parallel *informal* system, where procedural and interactional justice perceptions are maintained before formal systems are invoked. Distinctions between formal and informal systems are well established in organisation studies (Mintzberg, 1999). Formal systems rely on bureaucratic rules that allocate tasks in standardised processes (Gould-Williams, 2004). In stable settings they can work well, but public environments are no longer stable (Van der Wal, 2020).

In sum, we argue that while the rhetoric of formal performance management is logical and coherent, it leans heavily on informal psychosocial processes. This duality, of formal and informal systems is problematic for many reasons, and what looks good in theory may not work well in practice. We now turn to the subsystems of PM and the problems they face through informal processes.

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Table 1: Formal and informal PM practices

Formal administrative process and logic	Informal practice and problems
Goal setting	
- Align with the direction and values of the organisation (Mone & London, 2018); - Provide a framework for assessment, feedback, development, and reward decisions (Locke & Latham, 2002; Vallance, 1999). - Can cover performance, learning, and behavioural goals (Ford, 2017)=.; - Supports employee motivation (Mone & London, 2018); - Directs attention and intensity of effort (Locke & Latham, 2002);	- Biases for short-term quantifiable goals lead to neglect of longer term and harder to measure goals (Franco-Santos & Otley, 2018); - Biases in favour of performance goals over learning and behavioural goals (Ford, 2017); - Biases in favour of motivating staff with incentives at expense of developing them (Mone &London, 2018). - Insufficient feedback for effective goal setting (Locke & Latham, 2002).
Feedback	
- Should be provided on an ongoing basis (Whitaker & Levy, 2012); - Be timely, constructive and frequent (Vu et al., 2019); - The manager's responsibility (Aguinis et al., 2012); - Identifies both strengths and weaknesses, and can be used to coach employees to continuously improve (Aguinis et al., 2012; Johnson, 2021); - Negative feedback can motivate employees to change (Shields et al., 2015), - The employee needs the ability to scrutinise the feedback to verify it; accept it, and have resources.	- Requires managerial capability, exchange relationship, and a good organisational climate (Diamantidis & Chatzoglou, 2019); - Employees need to be willing to receive feedback; often difficult, avoided or softened by managers (Aguinis et al., 2012; Aycan, 2005; Larson Jr, 1989). - Negative feedback effectiveness requires employee belief that they can do something positive in response, and that the manager is trustworthy, credible, genuine and well intentioned; belief (Shields et al., 2015).
Development	
- Supports performance (reference Blackman). - The 70 (experiential learning):20 (social):10 (formal training) model used in PA (Johnson et al., 2018). - Need budget time and effort, can include formal training, coaching, and challenging work assignments (Blackman, 2021). - PM can support training transfer (Johnson et al., 2018).	- Coaching and experiential development takes time, capability and sometimes risk for managers (Johnson et al., 2018; Shields et al., 2015). - Experiential learning, often unstructured, does not always lead to capability development (Johnson, 2018).

	- Insufficient post-training PM limits training effectiveness (Blackman, 2021; Johnson et al., 2018; Vu et al., 2019).
Appraisal	
- Usually refers to formal evaluation conducted at the end of a performance period (often annually) (Shields et al., 2015); - Determination of rating influences reward decisions based on earlier goals (Shields et al., 2015). - Distribution matters for reasons of fairness and natural variation in performance. (Mone & London, 2018).	- Appraisals limited by biases such as central tendency, recency and halo; measurement of quantifiable short term goals (Franco-Santos & Otley, 2018); - Assumes all performance is measurable - Requires earlier feedback to support procedural justice (Aguinis, 2009).
Rewards	
- Includes tangible (extrinsic motivators), or intangible (intrinsic motivator) - Public sector employees value intrinsic rewards more than private-sector counterparts (Georgellis et al., 2011).	- Employees demotivated by insufficient meaningful rewards (Brown et al., 2019; Mone & London, 2018). - Financial incentives less effective in public sector, risk of perverse effects (Madhani, 2021).

Despite the above problems, public sectors have been enthusiastic adopters of performance management (Lane, 2002). Its formal accountability logic aligns with New Public Management (NPM) reforms, which focus on goals, accountability and private sector management practices (Plimmer et al., 2017; Taylor, 2015). In practice, however, PM has mixed results in PA (Blackman et al. 2021), that reflect poor implementation, rigidity and a failure to adapt. The distinct features of public sector work perhaps make PM inherently difficult. Competing goals, red tape, and PSM are three such distinct features.

Public sector workers and organisations often face competing pressures, and goals, from internal and external stakeholders, as well as public calls for both accountability and transparency (Berman et al., 2021). External stakeholders, which can include other public sector organisations, ministers, citizens and service recipients can have different perspectives on what goals should be, and what success should look like (Song and Meier, 2018), creating ambiguity which filters down to ambiguous and contested job goals, that in turn complicates feedback and rewards. If this goal tension

creates ambiguous and politicised environments the trust and candour needed for it to work well probably endangers effectiveness (Gunn et al., 2021).

Red tape can also undermine PM effectiveness, through tangled rules and regulations, capricious and lethargic bureaucratic behaviour (Bozeman & Feeney, 2014). It can inhibit managers ability to appropriately support employees, reward good performers (Blom et al., 2020; Bozeman and Feeny, 2014), create the belief that performance appraisals take time and effort, and do little other than increase conflict and stress (Christensen and Laegreid, 2010).

Public service motivation (PSM) concerns an "individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (Perry & Wise, 1990, p. 368). While concerned with impacts on society, it overlaps with altruism and concern for others (Homberg & Vogel, 2016). It is associated with higher commitment, job satisfaction, motivation, performance and whistle blowing. High PSM public servants are less motivated by pay-for-performance, often preferring recognition and the chance to serve the community instead (Homberg & Vogel, 2016). They respond well to other forms of recognition such as diversified work tasks, independency at work, flexible working hours, the possibility to influence important decisions (Schott and Pronk, 2014). While trait like, PSM is also shaped by HRM practices such as participation, individual appraisal, professional development positively influence PSM (Giauque et al., 2013a, 2015) which in turn lead to positive outcomes (Armstrong, 2021; Madhani, 2021; Georgellis et al., 2011; Camilleri and Van Der Heijden, 2007) such as affective commitment, quit intentions and job satisfaction (Gould-Williams et al. 2014). PSM overlaps with altruism and pro-social motivation (Schott et al., 2019) and concerns motivation rather than actual behaviour (Vandenabeele, & Schott, 2020, December 17).

PSM enhances the valence and power of goals, but only when they are congruent with PSM, and match the fit between the individual and workplace (Jensen and Andersen, 2019). The civic duty dimension of PSM mediates the relationship between high performance work practices (Mostafa et al., 2015) and affective commitment, quit intentions and job satisfaction. For managers, it is useful to

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empower these employees and provide development opportunities (Qurat-ul-ain et al., 2017). For performance management subsystems such as appraisal and reward, it can be difficult to make fair decisions, because in resource constrained environments, there is often pressure on managers to evenly distribute performance ratings (Qurat-ul-ain et al., 2017).

METHODOLOGY

In this interpretivist research participants were 22 New Zealand public sector managers, sought through professional networks and snowball sampling. Data was collected in three phases, with reflection and reflexivity on method and provisional findings taken at each stage, allowing for participant experiences to inform later research stages (Morgan & Nica, 2020). The following table, Figure 1, shows the participant details.

Table 2: Participant Information

						Does participant have prior [to current role] management experience in:		Number of years working in:		Identifier
Participant number	Gender	Organisation type*	Manager type	Team type	Number of direct reports	Public sector	Private sector	Current organisation	People management role	
1	Female	State Service – Crown Agent	Line Manager	Corporate (corporate services)	14	Yes	No	2	1.5	Olivia, LM
2	Male	State Service – Department	Line Manager	Corporate (finance)	8	Yes	Yes	4.5	5	Thomas, LM, Pr
3	Female	State Service – Departmental Agency	Line Manager	Corporate (human resources)	8	Yes	Yes	6	10-15	Emma, LM, Pr
4	Male	State Service – Crown Agent	Line Manager	Corporate (corporate services)	10	No	Yes	<1	20	Liam, LM, Pr
5	Female	State Service - Department	Line Manager	Corporate (corporate services)	7	No	Yes	9.5	Not disclosed	Charlotte, LM, Pr
6	Male	State Service - Department	Line Manager	Customer Support	12	Yes	Yes	2.5	20	William, LM, Pr
7	Female	State Service – Crown Agent	Senior Leader	Corporate (corporate services)	5	No	Yes	1.5	Not disclosed	Isabella, (SL, Pr
8	Female	State Service – Crown Agent	Line Manager	Corporate (governance)	11	Yes	No	2	15	Sophia, LM
9	Male	State Service – Crown Agent	Line Manager	Corporate (strategy)	5	Yes	No	3	16	James, LM
10	Male	State Service – Crown Agent	Line Manager	Customer Support	5	Yes	Yes	5	Not disclosed	Ben, LM

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11	Female	State Service – Department	Senior Leader	Corporate (policy)	3	N0	No	12	1.5	Philippa, LM, Pr
12	Female	State Service – Department	Senior Leader	Corporate (customer)	3	No	Yes	8	25	Phoebe, SL, Pr
13	Female	State Service - Department	Senior Leader	Corporate (communications)	5	Yes	No	3		Ruth, SL
14	Female	State Sector – Crown Entity Subsidiaries of NZIST	Senior Leader	Corporate (human resources)	6	Yes	Yes	3.5	10	Naomi, SL, Pr
15	Female	State Service – Department	Senior Leader	Corporate (corporate services)	3	Yes	Yes	15	8	Simone, SL, Pr
16	Female	State Service – Department	Line Manager	Corporate (corporate services)	9	Yes	No	15	Not disclosed	Lauren, LM
17	Female	Public Sector – Local Government	Line Manager	Corporate (human resources)	3	No	Yes	6	>4	Ella, LM, Pr
18	Female	State Service – Department	Line Manager	Corporate (corporate services)	2	No	No	Not disclosed	3-4	Mia, LM
19	Female	State Service – Department	Line Manager	Corporate (communications)	8	Yes	Yes	<1	8	Chloe, LM, Pr
20	Male	State Service – Department	Senior Leader	Corporate (corporate services)	3	Yes		Not disclosed	25	Jacob, SL, N/a
21	Female	State Sector – Crown Entity Subsidiaries of NZIST	Senior Leader	Corporate (support services)	5	Not disclosed	Yes	2	>11	Hazel, SL, Pr
22	Female	State Service – Department	Line Manager	Corporate (communications)	Not disclosed	Yes	Not disclosed	2	Not disclosed	Lily, SL, N/a

*Organisation type as per Public Service Commission (2018, 2020).

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Analysis

Data was collected in three phases, with reflection and reflexivity on method and provisional findings taken at each stage, allowing for participant experiences to inform later research stages (Morgan & Nica, 2020). These diverse collection and analytical strategies allowed for deep and rich understandings of manager strategies and how they worked, and to build a nuanced understanding of context and strategies.

The interview protocol and information sheet outlined the interview aims and procedures to prepare participants. Data gathering and analysis took place over four months. Peer review tested biases and assumptions when interpreting the data and arriving at conclusions.

Multiple strategies were used to address the risk of social and self-desirability and self-serving blind spots (Bergen & Labonté 2020). Strategies included conducting interviews in private settings, building rapport including self-disclosure and humor, providing study aims and details, and clearly stating to participants that their honest and objective reflection was most important. Cues for detecting social desirability were also sought, including vague or partial answers, the use of jargon, and facial expression and body language. Other techniques included the use of indirect questions, proving assurances, requesting examples, and prefacing questions with sympathetic understanding of the context. Participants appeared candid, even in the face of probing and challenging questions that sought disconfirming information.

Statements were coded into pre-determined categories, and higher-order categories then coded. This process enabled interpreting data firstly by specific practice, e.g., goal setting, then contextual theme, e.g., competing goals. Data and analytic procedures were maintained meticulously, such as verbatim transcription and recording coding rules and protocols (Guba and Lincoln, 2005).

Care was taken to avoid analytical bias (Blackman, 2016; Malterud 2001). Assumptions and interpretation were regularly reviewed by researchers and peer reviewers (Guba and Lincoln, 2005). The biases, perspectives and self-interest of participants was scrutinised, diverse experiences and

perspectives were sought. Thick, descriptive data was obtained, which allowed comparison of the context to other possible contexts in which transfer might be contemplated (Guba and Lincoln, 2005). Organisational documentation such as performance management templates and guides were used for triangulation. Template analysis was used as it balances structure with flexibility in analysis. First, prior to interviews, codes were defined in light of the stated aims of the research project, and examination of other relevant research.

FINDINGS

The impact of private sector experience

Two worldviews emerged in our analysis. Worldview (1) came from *public sector lifers*, a phrase used by participants without private sector experience. Worldview (2), came from those with a private sector background. These latter participants shared similar views to "public sector lifers" but stated them more strongly, such as in comments that red tape and rigid processes impeded addressing poor performance. They demonstrated public sector motivation, but were more calculating, with money or the "crown's purse" (Isabella, SL, Pr) being an important factor in running a good team, or to compete for good staff in the market. They commented on slow public sector processes: "when you're impatient like me drives me bananas, but it gives you a chance to get things done and have the conversations and think about things" (Ella, LM, Pr). Other findings are summarised below (see table 2).

Table 2: The table below outlines how public sector themes impact performance management practice.

Goal setting	
Informal • Updated informally but not recorded in PSM system **Formal** • Set annually Job and task based	**Competing goals** - Multiple stakeholders, hierarchical public sector system, compounded variability, and time pressure emphasise unstable task orientation - Focus on competing and changing task goals hard to appraise and reward - Goal achievement disrupted by operational work, limits feedback - Changing task goals crowd out prosocial behaviours - Low focus on interpersonal leadership goals, which requires *trained and developed*managers

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	- Unconvincing rhetoric around being people centric creates cynicism/low engagement??? - Demands to work outside role title, sometimes seen as *development opportunity* **Red tape** - Slow unadaptive processes, - Compliance oriented - Online systems make performance management more formulaic rather than reflective **PSM** - People passionate about what they do, belief in organisational mission **System impacts** - Competing demands mean more burden on day-to-day management and coaching skills – managers untrained/unsupported in this area. - Competing job and task based goals hard to fairly appraise and reward - Competing job and task based goal orientation limits management training and development - Private PSM goals can act as rewards and also motivate employees for development opportunities e.g. secondments - Changing tasks and goals was often done informally and lead to tensions around how to objectively show performance within shifting parameters, rather than achieving specific deliverables agreed upon at the *annual appraisal.*
Feedback	
Formal • **Informal** • Day to day conversational • Time constrained • Regularly gets missed	**Competing goals** - For goal setting to work, it requires skilled managers who can provide more regular feedback. Although, managers often had competing role pressures, coming from above, which meant they were time poor. **Red tape** - Managers found it difficult to give negative feedback to poor performers, and there were strong incentives to overlook poor performance. These included walls of complexity, a lack of need to be competitive in government, different expectations of government employees, and a legally demanding process that was sometimes managed badly. **System impacts** - Feedback happens in practice, some organisations encourage regular feedback although often it is not documented.
Development	
Informal • Constrained • Coaching • Unskilled managers	**Competing goals** - There was a common rhetoric throughout the interviews about the ability of team members to work outside their role title and do various tasks due to the fluidity of priorities: "…there is a tendency to treat everyone like

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Formal • High training budgets not utilised Managers not developed	Swiss army knives, where everyone can turn their hand to various tasks (James, LM)". - Participants spoke of this as both a challenge, but also as an opportunity for team members to develop and "work to your ability, not your role title (Lauren, LM)". - Informal performance management, such as adjusting goals and feedback, were not seen by either themselves **Red tape** - Often managers and employees are accountable for having appraisals completed, and so complied. - Requirements to compress appraisal results to the middle, where good performance was recognised but not rewarded, and bad performance was tolerated. - Difficulties in managing poor performers took up a great deal of participant focus during interviews. **PSM** - Many participants mentioned that "people work at [organisation] because they are passionate about what they do, they don't work here for the money or the development (Isabella, SL, Pr)". **System impacts** - There are budgets for development, often these go underutilised. - Development could be used as a reward. - Requires skilled managers and time commitment (employee/manager/etc.) to ensure coaching and mentoring, feedback, goal setting is assisting in 70/20/10 model. - Managers require more development.
Appraisal	
Informal • Opaque moderation • "standard templates (Thomas, LM)" **Formal** • Annual ratings • Avoidance of poor performers • High performers are difficult but more enjoyable • Task and job related not behaviour	**Competing goals** - For goal setting to work, it requires skilled managers who can provide more regular feedback. Although, managers often had competing role pressures, coming from above, which meant they were time poor. **System impacts** - Appraisal is often a prescribed system that links back to goals set. Although, the dynamic nature of work means the goals set often changed. So, managers are either appraising on overall performance to give a fair rating, which in turn means the goals set may be redundant and not the main point of focus. - Compression to the middle. - Managers often not appraised on all aspects of their role – formal, informal.
Rewards	
Informal	**Competing goals**

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• Managerial discretion **Formal** • Less competitive than private • Secondments • High and low treated the same	- For goal setting to work, it requires skilled managers who can provide more regular feedback. Although, managers often had competing role pressures, coming from above, which meant they were time poor. **Red tape** - There was limited tangible rewards available and tight budgets. - Intangible rewards were often at the discretion of the manager and required skilled managers to implement. **PSM** - Public servants often displayed elements of PSM, this could be better utilised to reward people. - Pay rules, coupled with the desire to serve the public, meant managers often used intangible rewards, such as recognition. **System impacts** - Managers are reluctant to deal with poor performers, provide feedback etc. Therefore, often poor and good performers are rewarded in similar ways. - Managers often felt they weren't appraised or rewarded for what they did in their role i.e. looking after their team – their manager didn't practice feedback etc. - Poor performers took up a disproportionate amount of time and left managers with little time for high performers.

DISCUSSION AND IMPLICATIONS

This research found that formal systems were poorly fitted to the competing (and changing) goals of public administration; were high in red tape and hard to follow, and at times undermining of PSM. PSM, however, at times cushioned against the harmful effects of the PM system, but arguably (along with public sector values and procedures) made tangible rewards difficult. Informal practices provided work arounds, leveraged PSM, but were often unrecognised by organisations.

Competing goals have long placed a burden on rational systems of public administration (Berman et al., 2021), found to crowd out relational goals, and place public servants in the dilemma of serving dated or poorly construed organizational goals, versus the needs of communities and other stakeholders. The task focus of current PM regimes (intently tied to new public management) seems poorly adapted to post NPM arrangements, which commonly focus more on outcomes rather than outputs (Osborne et al., 2022). The employee performance management systems studied here do not

seem to have adapted and potentially represent cases of path dependency, or system traps, where past practices, habits and lessons make genuine institutional reform difficult. Effective performance comprises both task completion, as well as contextual performance, which concerns management of the psycho-social environment (Motwildo, 1993), and rebalancing away from task completion may be an area for improvement. Performance also includes not engaging in harmful behaviors (Motwidlo, 1993) and so may help address the poor performance that so pre-occupied participants. Current processes neglect the crucial psychosocial processes that provide the effective foundation of performance management: it is not recognised, developed, or rewarded. But it seems essential to achieve the procedural, distributive and interactional justice for effective PM (Latham et al., 2005).

Red tape commonly describes unnecessary procedures (Bozeman & Feeney, 2014). We construe it here through performance management being seen as a compliance activity of little value, enforced through computerized mediums. Current systems strongly favour formal, often online services that are unrealistic. Rhetoric around resilience, adaptiveness and wellbeing conflicts with the highly templated and computerized task-oriented performance management systems. While NPM was supposed to reduce red tape, it has led to bloated procedures around accountability and large entourages for executives including those in HR (Lofgren, 2022). Practical implications include stronger support, training and accountability for psychosocial aspects at both manager and subordinate levels, frameworks to better recognise contextual behaviours, and lessened emphasis on task goals.

Limitations include the omission of subordinate views, but management perspectives seem understudied. Managers may have overstated their concern with psychosocial bnehaviours, but this does not affect our conclusions. Our New Zealand sample and interview-based approach may have limited transferability (and generalisability) but allowed for deeper examination of this rich, complex phenomenon. Findings are compatible with studies done elsewhere (e.g. Blackman & West, 2015). In conclusion, failings in PM may illuminate wider failings, such as such as emphasizing task completion and compliance over outcomes, relationships and communication. The latter is an unmet wish by both public servants and stakeholders (Bryson, et al., 2014; Mastracci et al., 2010).

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Stream 9. Health
Management and Organisation

What are the current legislations relating to lifestyle, recreation, or activities programs for people living within long-term residential aged care facilities in OECD countries?

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What are the current legislations relating to lifestyle, recreation, or activities programs for people living within long-term residential aged care facilities in OECD countries?

ABSTRACT: This scoping review aims to understand the extent and type of evidence available in relation to the legal requirements directing lifestyle, recreation, or activities programs within long-term residential aged care (LTC) facilities across the world. No academic published research relating to the topic was found. Most countries had separate systems and legislations offering limited direction or structure for care. None of the documents retrieved contained requirements relating to the type, frequency, length, or quality of such programs. Some regulations stated that residents must have access to suitable and individualized person-centered activities, however, no minimum standards or requirements were identified. This level of omission from governing bodies hinders countries to improve person-centered care and quality of life for their aging population.

Keywords: Aged care; dementia; legislation; psychosocial support; scoping review.

INTRODUCTION

This scoping review is the first of its kind. A preliminary search of Google, Google Scholar, Scopus, Science Direct and Medline was conducted and no current or underway systematic or scoping reviews on the topic were identified. Further searches were conducted to confirm definitions and search terms as these differ between countries. Using this information and the document produced by the Parliamentary Librarian Kate Roberts (Parliament of Australia, 2017), the search terminology was chosen to ensure an inclusive data set.

The Organisation for Economic Co-operation and Development group (OECD) countries were chosen for inclusion for several reasons. Firstly, because generally they are comparable to Australia with similar governing and health systems of the Western world (OECD, 2022). Secondly, gathering data from every country is impractical within the timeframe for this review. Finally, many OECD countries have a National Dementia Plan. This is designed to assist countries to provide a holistic and fully developed plan to support people living with dementia within a well-designed and structured aged care system (ADI,

2017). This is important due to the rising prevalence of dementia within the Long-term care (LTC) system (GBD, 2022).

Leisure, lifestyle, or recreation programs (LRAP) contain activities designed to encourage meaningful engagement, social contact, improve health and well-being, and maintain independence and continued high quality of life (Panthi, 2020). To get the highest quality of engagement and enjoyment from activities, programs should be individualized (Morley, Kusmaul, & Berg-Weger, 2021). For people living with dementia or other cognitive disorders, these activities can double as interventions to assist with symptoms of their conditions. For example, if a person gets anxious or aggressive in the afternoon regularly (sundowners), the use of individual activities like gardening or music may have a beneficial outcome for the resident (Canevelli et al., 2016). Significant positive research has been conducted in this field showing reduced distressing symptoms and improved quality of life (Meyer & O'Keefe, 2020).

Without legislation supporting and directing LRAP's provided in LTC facilities, the spiritual, social, emotional, physical, and cognitive needs of residents cannot be appropriately met. This is evident in ongoing research working to find better non-clinical models of care (Low, Yap, & Brodaty, 2011). Ensuring people living within LTC receive an appropriate level of dignity, care, medical, social, and individualized support is both a requirement of care and a basic human right (Lewis, Purser, & Mackie, 2020). Without a person's care needs being met, research has shown a decreased quality of life and reduced life expectancy (Pereira Osorio, 2020; Royal Commission into Aged care Quality and Safety. 2021). Studies have also expressed that a diagnosis of dementia does not differentiate between the increased need for suitable engagement with LRAP's within LTC (Regier et al., 2022). Updating legislation relating to LRAP's will ensure that policy makers expand the lifestyle departments within LTC with a significant focus on increased person-centered and quality of life. Similar policy updates by clinical departments have previously reported improved care and support for people living within LTC (Cleary & Prescott, 2015).

ELIGIBILITY CRITERIA

All academic research specific to legislation relating to LRAP's and non-clinical care were eligible for

inclusion. Grey literature including government policies, regulations, and standards relating to LTC were also included for review. Google Translate was utilized to provide an English translation if required. Countries within the OECD group were chosen due to time constraints, operational and government similarities to ensure equivalent comparisons would be accurate. No date range was appropriate. This scoping review will consider all methodologies, approaches, designs, reviews, and research relating to the topic for inclusion.

METHODS

The proposed scoping review will be conducted in accordance with the JBI methodology for scoping reviews (Peters et al., 2020). The search strategy aims to locate published and unpublished studies and available grey literature. An initial limited search of Google Scholar and Medline was undertaken to identify articles on the topic. The relevant topics were researched, terms defined creating the research question, and full search strategy for the databases Google, Google Scholar, Scopus, Science Direct, and Medline. The search strategy will be adapted for each included database and/or information source. The following keywords were searched: “law” OR “legislation” OR “regulation” AND “aged care” OR “long-term care” OR “nursing home” OR “care home” AND “lifestyle program/me” OR “activities program/me” OR “recreation program/me”. The reference lists will be screened for additional studies. Grey literature in the form of governmental documents, legislations, standards, and frameworks relating to the topic will also be sourced and deemed reliable due to their legal nature. Potentially relevant research and documents from all sources were retrieved in full. The results of the search and inclusion process could not be presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping review (PRISMA-ScR) flow diagram because no published research was identified. Legislations from governmental websites did not appear under the searches because of their keyword search limitations and privacy settings and were sourced individually.

Data will be extracted from documents included in the scoping review and will include specific details about the country, lead agency, current legislation, and key findings relevant to the review question. The quotes identified within the documents will be compiled, compared, and critically evaluated to determine

the extent of current legislation relating to the review question.

RESULTS

The legislations and documents that were examined within the scope of this review offered limited inclusion of LRAP's (Table 1). 19 countries (Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Denmark, Finland, Iceland, Ireland, Japan, Latvia, Mexico, New Zealand, Portugal, Sweden, United Kingdom, and the United States of America) offered some access to or having any program provided for residents within LTC. However, the legislations were vague, lacking regulation and direction. Many countries within Europe had several competing ministries, departments, and legislations which each covered different areas within the industry without having a dedicated aged or elder care law structure. These countries often had multiple levels of government with different legislations and responsibilities for different areas of LTC causing further confusion.

Table 1. List of OECD countries under geographical regions and relevant information from documents identified for comparison.

Insert Table 1 here

All countries researched have some legislation for funding LTC, either through major government insurance schemes or local municipalities. The availability of funds was also often split between departments depending upon medical, social, or disability requirements of the resident causing distress for people trying to access funding. Across Europe it, is common for informal care to be provided by families with Hungary legislating the requirement for adult children to provide care and services for their parents (Government of Hungary, 2011). A charter of rights was identified for each country ensuring the residents a right to choose services, care, support, and treatment specific to their individual needs. It also covers the right to information, confidentiality, dignity, informed consent, and human rights.

There are several international documents that were identified during this review that have at some stage either been consulted or included within these countries' legislation (Doron & Mewhinney, 2007). These include the European framework for action on integrated health services delivery (WHO, 2016), Strategy and action plan for healthy aging in Europe, 2012-2020 (WHO, 2012), and the European quality framework for long-term care services (2012), the WHO framework for countries to achieve an integrated continuum of long-term care (WHO, 2021), European partnership for the wellbeing and dignity of older people (2012), Charter of the fundamental rights of the European Union (2000), the Inter-American Convention on the protection of the human rights of older persons (2016), the European pillar of social rights action plan (European Commission 2022a), and the Madrid International Plan of Action on Ageing (MIPAA) (UN, 2002). These international directives all offer a good level of structure for LTC systems, however, limited direction relating to LRAP's.

The Madrid International Plan of Action on Aging (MIPAA) was signed by 159 governments but is voluntary and not legally binding. This contains high-quality research and direction for governments to assist with streamlining LTC services under a single Act or legislation to remove confusion (Alexandre & Asghar, 2018). While containing useful information and instruction for international policy makers, it has been deemed a "lost opportunity to trigger policy change in the field of aging" and experts call for a new binding instrument, such as an international convention (AGE Platform Europe, 2017). Research by different groups (European Commission, 2018; Dyer et al., 2019) expresses the same concern with updates to many LTC systems and commissioned independent reports outlining recommendations to keep abreast of the global aging demographic (Colombo et al., 2011, Voluntary National Review, 2018).

Alzheimer Europe offers a yearbook (Miller & Georges, 2021) outlining the recent changes in legislation and care services across Europe, relating to both LTC and support for people living with dementia. This is relevant due to the high percentage of people within LTC living with a cognitive disorder (GBD, 2019). This paper also discusses the need for greater changes and streamlining of the LTC system and legislation across the world.

LIMITATIONS

A limitation of the review was that the search offered no initial results, and grey literature was required to complete the review. This offers an insight into the lack of current legislation available and the reason for the scoping review. Another limitation was the transparency of some countries to provide their legislations online and with English translations making access difficult.

CONCLUSIONS

This scoping review identified no direct legislation supporting LRAP structure, funding, inclusions, or implementation. Many OECD countries had complicated and vague LTC systems under several departments causing confusion. There are numerous international frameworks available for countries to view and base cohesive LTC updates upon. However, due to the significant funding requirements and political agreement that would be required to achieve such continuity of legislation, this may not be feasible. This leaves the global LTC system in despair and those living within it at significant risk of continued poor-quality service. Without legislative changes to include and specify lifestyle, recreation, and activities programs, people living within LTC facilities will not have access to meaningful engagement or person-centered activities to support their needs, sustain any quality of life, or have their basic human rights to quality LTC services upheld.

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Table 1. List of OECD countries under geographical regions and relevant information from documents identified for comparison.

Region	Country	Lead agency/ Ministry	Primary legislation	Standards/supporting framework	National Dementia Plan	Additional information	Topic related quote
Asia Pacific	Australia	Department of Health	Aged Care Act 1997	Aged Care Act 1997 states standards should be followed for compliance (Australian Government, 2022). Aged Care and Quality Standards (2019) expand on general requirements relating to supports for daily living promoting well-being.	Under development	Updated 2021	Standards state: Requirement (3) (b) "Services and supports for daily living promote each consumer's emotional, spiritual, and psychological well-being." This section discusses residents having ***access*** to programs that provide individual support but does not name lifestyle, recreation, or activities programs directly. "This could be through specific pastoral care, cultural, or religious activities that are meaningful to the individual consumer, or through everyday encounters that promote a sense of connection and community." (Australian Government, 2021).
	Japan	Health, Labour, and Welfare	Long Term Care Insurance Act 2016	The long-term care plan and Dementia plan are both specific and not combined with the general health care legislations. Act of Social Welfare Services for the Elderly 1963 (now updated).	Yes	Created in 2000, updated in 2016.	No mention of LRAP's in the Act. However, the dementia plan offers goals to provide improved quality of life through integration and engagement with others and the local community. (Ministry of Health, Labour, and Welfare, 2016)

	Korea	Health and Welfare	Elderly Long-Term Care Act 2008 Long-Term Care Insurance scheme 2007	Welfare of Senior Citizens Act 2020 Dementia Management Act 2020 (KLTC, 2022a-c)	Yes	Updates ongoing	The current Acts do not cover any specifics relating to LRAP's or individual support within LTC. The health system overall is medical-based and is being updated to include dementia and aged care at present (Won, 2013).
	New Zealand	Health	Residential Care and Disability Support Services Act 2018	Act of 2018 does not mention LRAP's directly. Nga paerewa Health and disability services standards provide more information and were updated in 2021.	Under development	Previously the Social Security Act 1964, repealed 2018 and updated 2021	Service standard NZS 8134:2021. 3.3.1. Individual activities. "Meaningful activities shall be planned and facilitated to develop and enhance people's strengths, skills, resources, and interests, and shall be responsive to their identity." (NZG, 2021).
Europe	Austria*^	Woman and Health Social Security and Generations	Federal long-term care allowance Act 1993 Carinthian Minimum Social Protection Act: Provincial Law Gazette no. 15/2007 (Riedel & Kraus, 2010).	The "needs and development plans for social care facilities" is an agreement between the different provinces to standardise legislations and long-term social services across the country. (Grilz-Wolf et al., 2003).	Yes	Ongoing updates	National agreement states "guiding principles may be identified: independence, needs-based, integration and normalization, leaving people in their own social environment, right to receive care according to needs with assured supply, quality assurance and professionalism, economic efficiency, choice and support of informal care." However, "regional differences are considerable" (Hofmarcher & Rack, 2001)

	Belgium*^	Health and Social Affairs	Cooperation Initiatives in Home Care, 2010.	"Integrated care for a better health" reform was begun in 2015. (Verhaeghe, 2021) Individual provinces have different legislations. For example, Flanders, the "Residential Care Decree 2009". (Willeme, 2010)	Yes	Ongoing updates	ENNHRI states "a 'life file' was also mentioned. This is a way of documenting the hobbies, interests, and previous activities of the residents. It forms a source of information for individually customising and stimulating the participation of residents." (ICEO, 2016).
	Czech Republic*^	Labour and Social Affairs Health	Social Services Act 2006	The National Plan for Social Services Development 2016-2025. National quality care standards.	Yes	Ongoing updates to LTC systems.	Social services Act does not mention LRAP's. National quality care standards offer a limited guidance on service for residents – medical based only.
	Denmark^	Health	Consolidation Act on Social Services 2013	Act on Legal Protection and Administration in Social Matters 1998 Local municipalities responsible for daily running and services of LTC system resulting in differences between facilities/areas. (Schulz, 2010, DMSAI, 2013).	Yes	Act on legal protection created 1998, updated 2013.	Act 722. Part 19: Sheltered employment and social and other activities. 104. "The municipal council ***shall provide*** social and other activities for persons with substantial impairment of physical or mental function or special social problems for the purpose of preserving or improving their personal skills or living conditions." (DMSAI, 2015).

	Estonia^	Social Affairs	Social Welfare Act 2015	Health Services Organisation Act 2007 Social Benefits for Disabled Persons Act 1999 Local governments are responsible for quality and services. Limited connection between legislations.		Original Act 1995, updated 2015.	The Act is general and offers limited structure for LTC. The only direction relating to social programs and provider support is the requirement to "prepare an activity plan for the person referred to receive the special care service" (section 83.6) and to "supervise the person" during these activities (section 87.2) (Riigi Teataja, 2015).
	Finland*^	Social Affairs	Social Welfare Act, 2014 (Finlex, 2014) Act on supporting the functional capacity of the ageing population and on social and health care services for older people, 980/2012	Quality recommendations to guarantee a good quality of life and improved services for older persons (2013)	Yes	Social welfare Act created in 1982, updated last in 2014.	The Social Welfare Act 2014 does not mention LRAP's. 980/2012 Section 14 – Principles for the provision of long-term care and attention. States "Social and health care services securing long-term care and attention ***must be provided*** so that the older person can feel that he or she is living a safe, meaningful and dignified life and can maintain social contacts and participate in meaningful activities promoting and maintaining his or her wellbeing, health and functional capacity." (Finlex, 2012). However, does not specify what services or activities these must be.

	France*^	National Solidarity Fund for Autonomy	Act on adapting society to an ageing population, 2015	National quality standards available containing general LTC.	Yes	Created 2015	Law 2015-1776 relating to the adaptation of society to aging does not discuss LRAP 's directly. It focusses on assisting people to remain in their own homes longer and provide more funding for services (Republique Françoise, 2015).
	Germany*^	Health	Long-Term Care Act 1995 (Government of Germany, 2012)	Patients' Right Act 2013 (Government of Germany, 2013). Long-term care insurance system.	Yes	Created 1995, updated 2016 & 2017.	The Patients' Right Act 2013 ensures rights for all residents within long-term care, access to services, but does not mention specific lifestyle, recreation, or activity programs. The long-term care act does not offer specifics relating to LRAP's. Residents are required to have access to things that support their psychosocial needs (WHO, 2020).
	Greece*^	Health and Social Solidarity	Law 3454. Social assistance and services: Financial assistance of families and other provisions 2006 (ILO, 2022a).	MIPAA integrated within the Law (Alexandre, & Asghar, 2018).	Yes	National health system undergoing constant updates due to political changes.	No LTC specifically mentioned, limited direction with the MIPAA.

	Hungary^	Health Social Services	The Fundamental Law (Constitution) 2011	Local governments provide most of the direction for services. Churches provide significant support services. Dual health and social services systems competing against each other.			Lack of a cohesive single system has led to a decline in quality of life for the aged within LTC (Euro Carers, 2020) Article 16.4 states that "Children of adult age shall provide care for their parents if they are in need" placing the care of elderly back on the families (Government of Hungary, 2011; Széman, 2015).
	Iceland^	Welfare	Affairs of the Elderly Act 1999	Municipal Social Services Act 1991. Local governments define and operate the LTC services including shifting from a medical to social emphasis. Government recommended to develop quality standards for the service to the elderly (Sigurdardottir, Kristmundsson, & Hrafnsdottir, 2016)	Yes	Original laws from 1982, updated often (2018).	Article 40 of the Municipal services says that "the elderly shall be provided with appropriate social and leisure activities" but offers no more (Ministry of Welfare Iceland, 2016). Article 14.1 of the Elderly Act states "these institutions shall feature … ***a choice*** of varied services, such as catering, laundry, cleaning, and social and recreational activities" however, no further direction (Ministry of Welfare Iceland, 2018). Updating policy and legislation aims to offer "better health care and social participation of the elderly" and "better health care and social participation of the elderly … of service to the elderly" (Olafsson, 2018)

	Ireland*^	Department of Health	Health Act 2007	National standards for Residential Care settings for Older People in Ireland 2016 (Health Information and Quality Authority, 2016) National guidelines and procedures for the standardised implementation of the Home Care Packages Scheme 2010 (Law Reform Commission Ireland, 2011).	Yes	New model of care delivery under review	Standard 1.3.9 states "Each resident has ***opportunities*** for recreation, travel and leisure outside of the designated centre, in line with the resident's will and preferences." Standard 2.8.11 states "Each resident has a lifestyle in the residential service that is consistent with their previous routines, expectations, and preferences, and satisfies their social, cultural, language, religious, and recreational interests, and needs … are solely dictated by the needs of residents." Standard 4.2 states "Each resident is ***offered a choice*** of appropriate recreational and stimulating activities to meet their needs and preferences".
	Italy*^	Health Social Services	The Reform of Italian Welfare Law 2000	National Health Plan 2006-2008 strengthen home care not residential. Central and regional governments split responsibility for LTC services.	Yes	Ongoing updates and reviews. Dementia plans included within policy documents.	The reform of Welfare (2000) offers the beginning of a framework for social services nationally, however, municipalities are still directed to provide LTC services which are vastly different from each other.

	Latvia^	Welfare Health	Law on Social Services and Social Assistance 2010	Medical, social, and health systems run concurrently causing confusion. National legislation determines overall structure of LTC services, however, does make note of social inclusion at its heart.		Ongoing updates	The aim of the national legislation explains "It is essential to provide the possibility for elderly people to spend the day in a social environment, for example, at the community day care centre, but in the evening to be together with their families" (Gulbe, 2010) Section 18 Law states "The purpose of the provision of social care services is to ensure that the quality of life does not deteriorate for a person who, due to old age or functional disorders, cannot ensure such through his or her own effort" (Government of Latvia, 2010).
	Lithuania^	Health Social Security and Labour	Law on Health Care Institutions 1996 Law on Health System 1994 Law on Social Services 2006	National Strategy for Ageing 2004. (Splash Database, 2015) Local municipalities operate local services.		Ongoing reforms	No specific legislation governing LTC. Significant confusion regarding multiple departments and legislations.
	Luxembourg^	Social Security Health Family	Social Security Code (Book 5) 2022	Long-term care insurance system.	Yes	Recent updates	The Social Security Code does not cover LTC that is not related to non-medical, social activities, or meaningful activity programs (Government of Luxemburg, 2022)

	Netherlands*^	Health, Welfare and Sport	Long-term Care Act 2015	National dementia strategy 2021-2030. Living longer at home programme. Health Insurance Act.	Yes	Created 2015	No access to the original document was available. The Long-term Care Act reduces the number of people living LTC by reducing eligibility to only those with severe requirements. All others are required to remain at home with support. Specifics for LRAP 's are not discussed (Maarse & Jeurissen, 2016). The living longer at home programme also does not discuss lifestyle programs for improved support. (Government of Netherlands, 2021).
	Norway^	Health and Care Services	Health Care Services Act 2011	Decentralized NHS model with individual municipalities providing local services. Support contact volunteers for meaningful leisure activities (Holm et al., 2017).	Yes	Ongoing updates underway. Dementia plans included within policy documents.	Health care services Act 2011 Chapter 7. Section 7-1 states "The municipality must prepare an individual plan for patients and health care users who require long-term and coordinated services pursuant to this Act." (Government of Norway, 2011)
	Poland^	Health	Law on Public Health 2015 Law on Therapeutic Activity 2011	Act on Accreditation in Health Care 2008 Law on Public Health created in 1991. Individual Laws relating to municipalities created 1998 without specifics.		Therapeutic activity created 1996, replaced 2011.	Therapeutic Act was designed to upgrade the business and economic systems for all medical providers/organisations within the country. It does not discuss LRAP's, or LTC specific supports or care (Sagan & Sobczak, 2014).

	Portugal^	Health Social Solidarity	National Network for Integrated Continuous Care (RNCCI) 2006 (Government of Portugal, 2007).	National health plan updates ongoing. RNCCI programs including Intergenerational, Live better project, Calm days, and Portugal in the Heart. MIPAA, (Alexandre, & Asghar, 2018)	Yes	Updated regularly	RIS Goal 2 "Among the initiatives promoting the integration and participation of the elderly in society are those that reduce the isolation and loneliness of older people and ensure living environments that seek to create new social habits, stimulate skills and rebuild social and affective networks through participation in sports and cultural activities" (UNECE, 2017).
	Slovak Republic^	Labour, Social Affairs, and Family Health	Social Services Act 2008 (ILO, 2022b). Health Care Act 2004 (Wolters Kluwer, 2022).	Division of social and health care under municipalities causes fragmentation with services. Financial Benefits to Compensate for Severe Disabilities 2008 Health Policy 2000		Updated regularly	No mention of LRAP's within any legislations found.
	Slovenia*^	Health Labour, Social Policy, and Equal Opportunities	The Social Security Act Long-Term Care Act 2021	Municipality's govern local long-term care individually. The Social Inspection Service regulates accreditation while the Human Rights Ombudsman oversees aspects relating to dementia.	Yes	Ongoing updates adopted from 2021.	The current Acts do not discuss LRAP's (Official Gazette of the Republic of Slovenia, 2021). The Act has been described as vague, challenging to implement, and lacking direction on significant issues by not centralising these under the new legislation (European Commission, 2022b).

	Spain^	Health Labour and Social Affairs	Promotion of Personal Autonomy and Assistance for Persons in a Situation of Dependency 2006	Decentralised health system with municipalities directing local long-term care.	Yes		Generalised legislation providing limited direction of structure and system. LRAP's programs are not mentioned (IMPact, 2022)
	Sweden*^	Health and Social Affairs	Social Services Act 2001	Patient Safety Act 2010 offers general information relating to equity of access to aged care services (Sveriges Riksdag, 2010). Act (1993:387) on support and services for certain disabled people. Individual municipalities are responsible for daily running of LTC services.	Yes		The Social Services Act does not discuss LRAP's other than to say that any required must be conducted by the municipality. (Sveriges Riksdag, 2001). Act 387. Objectives and general focus of business. Section 5: "Activities under this Act shall promote equality in living conditions and full participation in society … The goal must be that the individual is given the opportunity to live like others". Section 6: "The activity must be based on respect for the individual's right to self-determination and integrity. For the activities according to this law, there must be the staff needed to provide good support and good service and care". (Sveriges Riksdag, 1993).

	Switzerland^	Federal Office of Public Health	Health Insurance Law 1994	Individual municipalities are responsible for daily running of LTC services. Swiss Federal Council's National Health 2020 Strategy underway to improve and streamline LTC and health services.	Yes	Ongoing updates	Health Insurance Law provides limited details on LTC support. Municipalities offer limited regulation on LRAP's (Trein, 2018).
	Turkey^	Family, Labour, and Social Services	Organization and Duties of the Ministry of Family and Social Policies 2014 (Act 6518)	National Quality Standards introduced in 2020 due to low quality of care. (Republic of Turkey, 2021) Law on Disabled People 2005. 2020-2030 Aging Vision Document updating aged care presently.	Under development	Municipalities responsible for services.	Quality standards offer limited direction relating to psychosocial support for residents. Significant updates and changes to the aged care and LTC system despite current deficits (Oglak et al., 2017; Republic of Turkey, 2021). Several projects ongoing including "Intergenerational solidarity", "Fresh companion", and "Aging young with the youth". (ILO, 2022c)

	United Kingdom*^	Department of Health NHS	Care Act 2014 (Individual countries also providing Acts of similar inclusions).	Guide to social care. Individual countries also. For example: community care and health (Scotland) Act, 2002 (United Kingdom Legislation, 2002).	Yes		1 Promoting individual well-being. (2) ""Well-being", in relation to an individual, means that individual's well-being so far as relating to any of the following—(b)physical and mental health and emotional well-being; (d)control by the individual over day-to-day life; (e)participation in work, education, training or recreation; (f)social and economic well-being; (g)domestic, family and personal relationships; (i)the individual's contribution to society." (United Kingdom Legislation, 2014).
Middle East	Israel	Health Social Services	General Social Security Law 2002. National Insurance law 2011. Patients Bill of Rights 1996.	Multiple health and social services legislations and responsibilities cause confusion within the system. Basic law of Human Dignity and Liberty 1992. Equal Rights for the Disabled Law 1998 (Jewish Virtual Library, 2022).	Yes	Originally created in the 1930's, updates ongoing.	Legislations unable to be accessed directly, however, previous research discusses little information on LRAP's, and reviews showed concern for confused legislations from many different sources (Cohen, 2020).

North America	Canada	Health Canada	Canada Health Act, 1985 (Government of Canada, 2022) No national legislation on aged care or LTC in Canada.	Provincial and territorial legislation not National. For example, British Colombia. However, these vary significantly from place to place.	Yes	Canada Health Act 1985, updated 2017.	55 (a) "Provide persons in care, without charge, with an ongoing planned program of physical, social, and recreational activities … (b) encourage persons in care to (i) participate in the program of activities provided by the community care facility." (British Colombia, Canada, laws, 2009).
	Costa Rica	National Council of the Older Adult	Comprehensive Law for the Older Adult, 1999	National Policy on Aging and Old Age (2011-2021) Inter-American Convention on the Protection of the Human Rights of Older Persons (9394), 2016. MIPAA (Alexandre, & Asghar, 2018)	Yes	Ongoing updates	Law 9394 states under Article 22: Right to recreation, leisure, and sport that "Parties shall promote the development of recreation services and programs, including tourism, as well as leisure and sports activities that take into account the interests and needs of older persons, particularly those who receive long-term care services" (Calvo et al., 2019). "In order to improve their health and quality of life in all its dimensions and promote their self-realization, independence, autonomy and inclusion in the community." (Sistema Costarricense de Informacion Juridica, 2016)

	Mexico	Ministry of Social Development	Law on the Rights of Older Persons, 2002	National System for Comprehensive Family Development National Institute for Older Persons (INAPAM) MIPAA, (Alexandre, & Asghar, 2018)	Yes		The law "acknowledges the right to a good quality of life". (Calvo et al., 2019). Development of the rights of older persons in international law – A. United Nations Human rights instrument's part 3. United nations resolutions states "With respect to self-fulfilment, the principles state that older persons should have ***access*** to the educational, cultural, spiritual and recreational resources of society." (Huenchan & Rodriguez-Pinero, 2011).
	United States	Department of Health and Human Services	Older Americans Act of 1965 (ACL, 2020)	An old Act with updated inclusions. Limited information, however, contains some general requirements. Offers standards for accreditation, all expressing "access requirements" to activities programs, designed by a professional, without minimum inclusions stated.	Yes	Legislation updated in 2020. Center for Medicare and Medicaid for accreditation.	Declaration of Objectives for older Americans. "(7) Participating in and contributing to meaningful activity within the widest range of civic, cultural, educational, and training and recreational opportunities." (ACL, 2020). F249 – "483.15(f)(2) The activities program must be directed by a qualified professional" F675, F679, F680 relate generally to LRAP's. (United States Government, 2022).

South America	Chile	Health Social Development	Law on Social Security Reform, 2008	National Service for Older Persons (SENAMA), 2002 Comprehensive Policy for Positive Ageing (2012-2025) (Calvo et al., 2019) MIPAA, (Alexandre, & Asghar, 2018)	Yes	SENAMA created 1995, updated 2002	SENAMA framework aims "to promote active aging and the development of social services for older people, of any social status, by strengthening their participation and appreciation in society, promoting their self-care and autonomy, encouraging the recognition and exercise of their rights, employing inter-sector coordination, and by designing, deploying, and assessing policies, plans, and programs." (Dintrans, 2018).

	Colombia	Health and Social Protection	Colombian Political Charter (1251), 2008	National Development Plan (2014-2018) Policy on Human Aging and Old Age (2015-2024) Inter-American Convention on the Protection of the Human Rights of Older Persons, 2020	No	Ongoing updates	Policy on Human Aging and Old Age (2015-2024) section 3.3.3 aims to "Promote active and healthy aging oriented towards autonomy, integration, security and effective participation of Colombians, throughout their trajectory of life, facilitating the construction of a dignified and meaningful life." (WHO, 2015) Charter 1251, Article 17: 1. Protection of health and social welfare states that "older adults have the right to comprehensive health protection and the duty to participate in the promotion and defence of their own health, as well as that of their family and community. The Ministry of Social Protection will address the health and social welfare needs of this population group by formulating policies and guidelines on health and social welfare, so that quality integrated services are provided." The Law also provides provision for recreation, spiritual, and social support, however, no specifics are offered (Congress of Colombia, 2008).

*** European Quality Framework for Long-Term Care Services, 2012 (European Partnership for the Wellbeing and Dignity of Older People, 2012) has been adopted or consulted for inclusion within the legislation. ^ European Framework for Action on Integrated Health Services Delivery by the WHO (WHO, 2016) had been adopted or consulted for inclusion within the legislation.**

Stream 9. Health Management and Organisation

What interventions mobilise professional identity? A systematic scoping review

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What interventions mobilise professional identity? A systematic scoping review

ABSTRACT: *Interprofessional care obliges different professions to share decision-making and sometimes, practices. Given established hierarchies, it can be difficult to promote interprofessional care, partly because of the need to reshape professional identities. Despite interest in effective interprofessional care, there is limited research on how professional identity can be mobilised to promote it. A systematic scoping review of academic publications was conducted to address this void. Fifteen publications met the inclusion criteria, offering some evidence that professional identities can be mobilised. Of these, only six explicitly targeted professional identity. As such, concentrated scholarship is needed on the relationship between professional identity and interprofessional care, lest interprofessional care programs have limited, sustained effect.*

Keywords: professional identity, healthcare, interprofessional care, collaboration

Worldwide, interprofessional care represents best practice (ICSC, 2007; IECEP, 2011; IoM, 2015). It involves 'multiple health workers from different professional backgrounds [who] provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings' (HPNNMO, 2011, p. 13). Interprofessional care is important for at least three key reasons. First, given the rise of chronic and complex illnesses (Islam et al., 2014; Kahn et al., 2015), patients and their carers often require different forms of healthcare from different professions at different times – as such, interprofessional care can offer patients and carers timely access to appropriate health and social care. Second, interprofessional care can aid effective and efficient communication between different professions (Hirschmann, Rosler, & Fortin Vi, 2020), thereby averting duplicative effort or, worse still, the possibility that patient and carer needs remain overlooked. Third (and relatedly), interprofessional care can offer economic benefits (Schmid et al., 2022), which is particularly important for resource-poor health services (Emanuel, Schmidt, & Steinmetz, 2018; Mills, 2014; Thomson, Osborn, Squires, & Jun, 2013).

Despite the importance of interprofessional care, it does not always occur. In addition to educational, organisational, and policy-related challenges (Gilbert, 2005; Rawlinson et al., 2021; Wei et al., 2022), this is partly due to professional identity – that is, 'an organized group's norms, values, and behavioral knowledge that situate an individual into group membership' (Byrnes et al., 2021, p. 319).

Professional identity can be robust and near-impermeable (Abbott, 1988). This resistance in turn can hinder how those who represent different professions work together to deliver quality patient care and promote patient wellbeing (Didier et al., 2020; McNeill, Mitchell, & Parker, 2013). This might account for research on and calls for research on identity mobilisation (Best & Williams, 2019; Harvey, Annandale, Loan-Clarke, Suhomlinova, & Teasdale, 2014; Kreindler, Dowd, Dana Star, & Gottschalk, 2012).

Building on extant research, the aim of this study is to clarify whether the professional identity of established professions can be actively mobilised – that is, changed or reshaped. This is achieved via a systematic scoping review (Peters et al., 2015). The review purposely focused on established professions, rather than students, given that students' professional identity is typically developing, and perhaps more amenable to change (Leedham-Green, Knight, & Iedema, 2020; Mylrea, Gupta, & Glass, 2019).

METHODS

A search strategy was developed and tested to source publications from seven academic databases, irrespective of publication date – these included: Business Source Complete; CINAHL Plus with Full Text; Health Business Elite; Health Source: Nursing/Academic Edition; MEDLINE; APA PsycArticles; and APA PsycInfo. These were searched in December 2020 via the following strategy, serving to capture publications pertaining to the mobilisation of professional identity:

1. "Dual identity" or "professional identit*" or "professional self concept" or "professional self-concept" or "professionals' self-concept" or "inter-disc* identity" or "interdisc* identity" or "inter-profess* identity" or "interprofess* identity" or "multi-disc* identity" or "multidisc* identity" or "multi-profess* identity" or "multiprofess* identity" or "trans-disc* identity" or "transdisc* identity" AND
2. Checklist* or course* or educat* or guid* or intervention* or lesson* or model* or module* or prevent* or program* or "professional development" or resource* or strateg* or train* or workshop*

These terms were sought within publication titles or abstracts to identify publications that expressly focused on initiatives that served to mobilise professional identity. Although potentially limiting, alternative approaches largely served to identify irrelevant publications – this might be partly due to the multifaceted nature of professional identity (Gkiousias, 2021). As such, a focused and strategic search strategy was used.

A total of 2,926 scholarly publications in the English language were identified. Of these, 1,041 were duplicates and were thus removed, leaving 1,885 publications, of which the titles and abstracts of which were screened. A publication was excluded if it: was not scholarly or refereed; was not published in English; represented a letter, a commentary, an editorial, or a book review; was devoid of an author; represented a systematic review or meta-analysis, given the limited detail typically presented about individual studies included in these publications; represented a protocol; represented a conceptual, theoretical, or methodological publication; was a descriptive publication, devoid of empirical findings (e.g., merely makes a case for more research); included participants who were undergraduate or postgraduate students; or could not be sourced throughout Australian university libraries.

Following this, 15 publications warranted inclusion. From these, the following information was

extracted and tabulated for narrative interpretation: the study location; the study aim; the setting; the population; the sampling method; the methodological approach; the intervention; its aim; key findings regarding professional identity; the author-identified limitations; and the author-identified future research opportunities.

RESULTS

Of the 15 publications included in this review, five were published before 2010, five were published between 2010 and 2017, and six published more recently in 2018 and 2019 (see Table 1). Most of the studies reported in the publications were conducted in the United States of America (*n*=7), four in the United Kingdom, and four in European nations. Most of publications pertained to healthcare (*n*=9) with others set in school education (*n*=3) and a range of administrative contexts (*n*=3). Only three publications primarily reported on the collection and analysis of quantitative data.

Insert Table 1

Supporting the Mobilisation of Professional Identity

Fifteen unique interventions were identified that can mobilise professional identity. However, not all were explicitly targeted at professional identity, with six publications stating a focus on professional identity in either the study aim or intervention aim (Croft, Currie, & Lockett, 2015; Lopes, 2002; Ludden, Winickoff, & Steinberg, 1979; Luehmann, 2008; Netting & Williams, 1996; Nichol & Williams, 2014). The most common intervention was a training or development programme (*n*=8), followed by a change in workplace design (*n*=5) – these included, for instance, the impact of curriculum development (Lopes, 2002). Other interventions included a blog (Luehmann, 2008) and peer coaching (Wolf et al., 2018). Most of the training and development programmes focused on the professionals' development (Branch, 2019; Byrnes et al., 2019; Croft et al., 2015; Ludden et al., 1979; Netting & Williams, 1996; Nichol & Williams, 2014) – for instance, Branch and colleagues developed a faculty development programme to promote humanistic professional behaviours among faculty members – namely, physicians. However, two publications were more directly focused on patients via, for example, a patient safety programme (Heldal, Kongsvik, & Håland, 2019; Malin & Morrow, 2007). Wolf and colleagues (2018) noted that transforming professional identity is not a one-off event – but rather, ongoing efforts are required to support professionals during the transformational process.

While all the publications discussed approaches to transform professional identity, several identified specific considerations. For example, Croft and colleagues (2015) explored how nurses who moved into management positions managed their identity conflict. They reported three choices – namely: reaffirming their nurse professional identity while distancing themselves from the leader identity; framing their leader identity

with the language associated with their nurse identity; or overcoming their attachment to the nurse identity and engaging with the management identity. Luke and colleagues (2011) examined supervision by email and offered practical suggestions on transforming identity – these included the careful selection of words and phrases (e.g., professional jargon) and using plural nouns to create shared alignments as part of the same professional community.

Several authors recognised the need to clarify roles and identify boundaries to facilitate a shift in professional identity (Lifshitz-Assaf, 2018; Malin & Morrow, 2007; Netting & Williams, 1996). This was of particular importance when professionals were required to blur their boundaries. Consider, for instance, the Sure Start programme – a multi-professional early childhood initiative in the United Kingdom – where professionals who assumed transdisciplinary roles were supported with supervision.

Drivers to Mobilise Professional Identity

Several authors reported the impetus or drive to mobilise professional identity. They raised the challenge of identity conflict (Byrnes et al., 2019), which can be triggered by: a role change – for instance, from clinician to manager (Croft et al., 2015); extending the scope of practice, as demonstrated by incorporating mental healthcare in primary care (Ludden et al., 1979); or an intervention, like peer coaching (Wolf et al., 2018) or workplace changes (Lopes, 2002). Most of the interventions provided an external driver – that is, the demands or expectations of others – to shift professional identity (Branch, 2019; Byrnes et al., 2019; Currie, Spyridonidis, & Oborn, 2019; Heldal et al., 2019; Lopes, 2002; Ludden et al., 1979; Luke & Gordon, 2011; Malin & Morrow, 2007; Molleman, Broekhuis, Stoffels, & Jaspers, 2010; Netting & Williams, 1996; Wolf et al., 2018). Two publications suggested this approach can facilitate flexing professional identity by raising awareness of a role, though it was unclear who to (Heldal et al., 2019; Netting & Williams, 1996). Malin and Morrow stressed the significance of the supervisors' role, while Ludden and colleagues as well as Nichol and Williams (2014) were clear that co-workers were the most influential audience.

Other authors, however, indicated that the professional required internal motivation to initiate and drive a change in professional identity (Croft et al., 2015; Lifshitz-Assaf, 2018; Luehmann, 2008). For example, Luehmann described the novel approach of blogging to interrogate the professional identity of an American school teacher.

DISCUSSION

For personal, social, and economic reasons, interprofessional care makes sense, offering patients and carers timely access to appropriate care. This is particularly important given the prevalence of chronic and complex illnesses (Islam et al., 2014; Kahn et al., 2015), and the associated implications for resource-poor

health services (Emanuel et al., 2018; Mills, 2014; Thomson et al., 2013).

However, interprofessional care can be difficult to enact and demonstrate, particularly that which is effective. This is not to suggest an absence of research. For instance, a series of publications highlighted the importance of: collaboration, resource pooling, learning, role blurring, communication, influence, behavioural norms, a shared purpose, critical reflection, innovation, and leadership (Hewitt, Sims, & Harris, 2014, 2015; Sims, Hewitt, & Harris, 2015a, 2015b). These and other studies are informative (Mental Health Commission, 2006), helping to affirm that interprofessional care, 'goes beyond good camaraderie' (Harrod et al., 2016). However, they do little to clarify the role of professional identity in interprofessional care, and how it might be primed for such care. Although one can source ideas and suggestions, there appears to be limited, if any empirical support for these (Davoli & Fine, 2004; Holden et al., 2015).

A systematic scoping review of seven academic databases served to identify 15 publications that clarified, empirically, that the professional identity of established professions can be mobilised, whether or not this was intended. This was primarily achieved via a training or development programme for professionals and/or patients, and, to a lesser extent, a change in workplace design, a blog, and peer coaching. Given these types of interventions, mobilising professional identity is unlikely to involve a single initiative; but rather, it is likely to require ongoing efforts. Many of the publications included in this review also noted the role of a driver – a stimulus to impel mobilisation. While these were predominately external – like a role change or an intervention – the role of internal motivation was also recognised.

Despite the value of the aforesaid findings, the search strategy might have failed to identify all relevant publications. In addition to the use of a focused search strategy, this is because of the myriad euphemisms for professional identity and ways to ignite mobilisation. For instance, although potentially relevant, a study on 'the reconstruction of professional role identity' was not identified (Chreim, Williams, & Hinings, 2007, p. 1518). Furthermore, this publication also highlights the diffuse ways in which an 'intervention' is defined. For instance, as a naturalistic study on the restructure of a health clinic, it might have been excluded from this review. However, the authors also spoke of the organic nature of the 'intervention', whereby – 'The changes we studied were initiated by the clinic physicians themselves'. This suggests that reviews that are more encompassing would require clear criteria to determine which of the publications that report on naturalistic studies warrant inclusion.

Conclusions

Notwithstanding the aforesaid limitation, this article has considerable implications for scholars and practitioners. For scholars, there is the customary call for more research – however, what is specifically

required is clarity in three key areas. The first pertains to the facets of professional identity, and how these might be gauged. The second regards the types of interventions that are more likely to prime professional identity for interprofessional care, with reference (but not limited) to: the target audience(s) or profession(s); content; mode and frequency of delivery (or exposure); duration; as well as setting or context. The third, and perhaps most important area for research, is the impact associated with interventions that prime professional identity for interprofessional care. This encompasses the outcomes at: a personal level – like those experienced by professionals, patients, and carers; a social level – like those demonstrated within a team, an organisation, and a community or network (Kreindler et al., 2012); and an economic level.

For practitioners, particularly managers and those affiliated with professional bodies, the implications associated with this article are twofold. First, despite the demonstrated benefits of interprofessional care, there is very limited evidence to guide how professional identities might be primed and shaped to enable, promote, and sustain such care. As such, caution is warranted when implementing interprofessional care programs. Second (and relatedly), this limited evidence opens opportunities for collaborative and impactful inquiry between practitioners and scholars. Managers and those affiliated with professional bodies for practitioners have a responsibility to prepare and support their staff and members, respectively, for interprofessional practice. As such, engaging with health service management scholars might serve to clarify how to purposely shape professional identities towards this aim.

TABLES

Table 1: Publication Characteristics

Publication	Location	Setting	Aim	Population	Methodological Approach	Intervention	Intervention Aim
Branch (2019)	United States of America	Healthcare	Develop humanistic professional behaviours among faculty members (physicians)	Medical school faculty members and local facilitators	Quantitative – 'We measured feasibility and learner engagement by documenting a low dropout rate (in the range of 5% to 10%) over the year of the program and high attendance at the twice-monthly sessions (approximately 80%)' (p. 166)	Longitudinal faculty development programme	Improve humanistic teaching and role modelling
Byrnes and colleagues (2019)	United States of America	Healthcare	Examine ways to change the perceived negative academic and cultural image of doctors, usually seen to be egotistical, paternalistic, and inflexible	Bariatric surgeons	Qualitative – interviews	Michigan bariatric surgery collaborative (MBSC) surgical coaching programme	Develop a coaching quality improvement programme based on the Wisconsin surgical coaching programme
Croft and colleagues (2015)	United Kingdom	Healthcare	Explore how attachment to professional identity could result to identity conflict	Nurse managers undergoing a leadership development programme	Qualitative – interviews and observations	Two leadership development programmes for nurses moving into roles requiring the construction of both nurse and	To ease transition into roles requiring the construction of both nurse and leader identities

Publication	Location	Setting	Aim	Population	Methodological Approach	Intervention	Intervention Aim
						leader identities	
Currie and colleagues (2019)	United Kingdom	Healthcare	Explore human resource practices that influence doctors' knowledge-brokering to improve service delivery	Metro leadership team and doctors enacting a knowledge brokering role	Qualitative – interviews and observations	Human resource practices, such as performance management, training and development, and job design	Influence of human resource practices on enactment of doctors' knowledge-brokering role to drive service improvement in healthcare
Heldal and colleagues (2019)	Norway	Healthcare	Examine how human resource practices can resolve issues about professional legitimacy and identity and ensure improvement in professional practices	Nurses and hospital managers	Qualitative – interviews and observations	Patient safety programme	Reduce patient harm, build sustainable structures for patient safety, and improve the patient safety culture
Lifshitz-Assaf (2018)	United States of America	Administration	Examine the role of open/peer-production, innovation among research and development professionals and their services	Research and development professionals	Qualitative – interviews, observations, and document analysis	Open innovation model	To elevate innovation performance
Lopes (2002)	Portugal	Education	Evaluate changes in professional identity resulting from curriculum development	Teachers	Qualitative – fieldnotes, tape recordings, and questionnaires	Curriculum development	Ascertain how curriculum development can promote professional identity

Publication	Location	Setting	Aim	Population	Methodological Approach	Intervention	Intervention Aim
Ludden and colleagues (1979)	United States of America	Healthcare	Examine issues of concern, such as professional identity, relationships with work colleagues, and problems associated with handling patients to members	Physicians and nurses	Qualitative – observation	Loosely structured seminar series, including lunch – five groups meeting weekly for ten months	Prepare primary care staff for psychological aspects of primary care
Luehmann (2008)	United States of America	Education	Explore the role of a blog in improving professional identity	Teachers	Qualitative – single case study	Blog	Support development of professional identity and reflect on professional practice and engagement with a professional community
Luke and Gordon (2011)	United States of America	Education	Improve medical professionals' professional identity	School counselling interns	Qualitative – document analysis	Supervision by email	Enhance computer-mediated supervision and provide more access to supervision for school counsellors using computer-mediated supervision
Malin and Morrow (2007)	United Kingdom	Healthcare	Provide a platform for family bonding with children	Children centre team members	Qualitative – interviews	Development programme	Examine the use of interprofessional work in a child centre through a development programme

Publication	Location	Setting	Aim	Population	Methodological Approach	Intervention	Intervention Aim
Molleman and colleagues (2010)	Netherlands	Healthcare	Investigate the consequences of multidisciplinary medical team meetings for surgical and medical specialists	Medical Specialists	Quantitative – survey	Participation in a multidisciplinary medical team meeting	Allow physicians from different medical specialties to regularly meet to discuss patients and engage in collaborative decisions
Netting and Williams (1996)	United States of America	Healthcare	Examine the implications of changing roles and relationship between case managers and doctors on professional identity	Doctors and case managers	Qualitative – interviews	Generalist physician initiative	Improve collaboration between case managers and doctors to improve primary care of elderly people
Nichol and Williams (2014)	United Kingdom	Administration	Examine the interrelationship between practitioners' own understanding of professional identity and that which is embedded within the professional body	Human resources staff	Qualitative – interviews	Work-based learning programme	Close the gap between professions' own narrative of professional identity and the that of the professional body of his/her profession
Wolf and colleagues (2018)	Croatia	Administration	Clarify how practitioners in public employment services cope with continuous growth demand	Public service employees	Quantitative – self-assessment questionnaire	Peer coaching	'strengthen [practitioners'] skills in facilitating solution-finding at the workplace with their colleagues and to enrich their support of clients

Publication	Location	Setting	Aim	Population	Methodological Approach	Intervention	Intervention Aim
							by approaches like powerful questioning, active listening and mind growth' (p. 105)

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Stream 10:
Public Sector, NGOs and Not-for-Profit

Understanding the maturing of place-based approaches to boost 'flourishing over time'

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Understanding the maturing of place-based approaches to boost 'flourishing over time'

ABSTRACT:

Scholars and practitioners are increasingly recognising that 'flourishing in our new normal' will require new ways of designing and managing responses to the complex challenges facing individuals, organisations, and communities. Place-based approaches managed via methodologies such as Mission-Oriented Innovation and Collective Impact are gaining momentum however, maturing these approaches over time is challenged by the dynamic nature of participating communities, organisations, and their broader contexts. This paper scans diverse literatures to develop a working definition of 'maturing' as it relates to place-based approaches and outlines how this definition is being refined via cross-national empirical research. It explores implications of this definitional work for theory and practice which improves understandings of maturing and supports place-based approaches to mature and enable 'flourishing over time'.

Keywords: maturing, place-based, management, Collective Impact, Mission Oriented Innovation

INTRODUCTION

This paper highlights the potential of place-based approaches to support 'flouring in our new normal' (ANZAM, 2022). Place-based approaches mobilise the resources and efforts of government, non-government, not-for-profit and community stakeholders to address complex societal challenges (Dart, 2018). They, therefore, have significant potential to respond to key challenges inherent in the aspiration of 'flourishing in our new normal'. Firstly, the focus on 'flourishing' signals a shift towards more holistic and integrated understandings of wellbeing whilst 'new normal' recognises the seismic shifts resulting from the COVID 19 pandemic (United Nations, 2021) which, combined with the increasing urgency of efforts to abate climate change, geopolitical tensions and economic instability are necessitating fundamental reconsiderations of ways of working and living. As evidenced by the proliferation of 'road maps', briefs and similar seeking to 'build back better' (eg. Burbidge, 2020; Group of Eight Australia, 2020) diverse communities and organisations around the world are actively seeking to shape their preferred 'new normal' and to chart courses in those directions. Additionally, the use of the word 'our' to describe 'new normal' recognises that all communities are impacted by these complex challenges so, managing the design and implementation of responses must be a shared responsibility. Whilst place-based approaches have significant potential to support diverse stakeholders to work together to address shared challenges and enable flourishing, to support 'flourishing over time', they

must be able to mature. Very little is known however about the processes of maturing within place-based approaches, or, about the policy and management practices which are likely to support it. This paper responds to this gap by synthesising diverse literatures describing multi-stakeholder change processes to improve understandings of processes of maturing and to propose a working definition of maturing relevant to place-based approaches. The paper concludes with reflections on the contribution that this research and the establishment of a clear definition of maturing makes to theory and practice.

PLACE-BASED APPROACHES TO CHANGE

The COVID-19 pandemic has highlighted the interconnected nature and impact of global threats impacting societies and our shared experiences of them. Contrasted with this realisation of shared global challenges is the growing importance observed of local, place-based responses to the challenges facing businesses and communities (Dusselorp Forum, 2020). A place-based approach is defined as 'a collaborative, long-term approach to build thriving communities delivered in a defined geographic location. This approach is ideally characterised by partnering and shared design, shared stewardship and shared accountability for outcomes and impacts.' (Dart, 2018, p7). Figure 1 summarises commonly described features of place-based approaches based on the author's learnings from research and practice.

Insert Figure1 about here

Two methodologies which are increasingly being adopted to structure and manage place-based approaches are Mission Oriented Innovation (Mazzucato, 2021) and Collective Impact (Kania & Kramer, 2011; Kania et al., 2022). Inspired by scholars at UCL's Institute for Innovation and Public Purpose, Mission-Oriented Innovation approaches are expanding rapidly in local communities (eg. Camden, Camden Renewal Commission, 2021), cities (eg. Valencia, Missions Valencia, n.d.), States (eg. British Columbia, Mazzucato & Macfarlane, 2022) and Regions (eg. Nordic Council of Ministers, Halloran et al., 2020). Collective Impact approaches are similarly expanding, particularly in North America (Kania et al., 2022) and Australia where Graham, Weaver & Yettica Paulson (2021) report there are almost 100 Collective Impact initiatives operating. Whilst primarily established to address complex social challenges (Graham et al., 2021; Ennis & Tofa, 2020) Collective Impact has also been

linked to complex health (Gwynne et al., 2022) and environmental (Bryant et al., 2021) challenges.

The similarities and differences between the Mission Oriented Innovation and Collective Impact methodologies are explored more fully in Boorman, Jackson and Burkett (forthcoming) but are briefly summarised here. Both methodologies seek to activate the policy, investment, delivery, and engagement 'levers' of diverse stakeholders to respond to significant, complex, and shared challenges (Mazzucato, 2021; Kania & Kramer, 2011; Kania et al., 2022). Both generally involve one or more tier of government working with non-government organisations, not-for-profit organisations, and community members (Mazzucato, 2021; Kania & Kramer, 2011; Kania et al., 2022). They require long-term and concerted effort to create lasting improvements in outcomes (Ennis & Tofa, 2019; McLaren & Kattel, 2022) and management models which reflect collective and distributed decision-making (Mazzucato, 2019; Kania & Kramer, 2011) informed by central policy priorities alongside technical and cultural expertise and the knowledge of citizens (Mazzucato, 2019; Graham et al., 2021). Both methodologies also require flexible implementation arrangements, bottom-up solution design and the active alignment of organisational strategy and resources with shared priorities to achieve long-term improvement on those priorities (Mazzucato, 2019; Kania & Kramer, 2011; Kania et al., 2022).

Managing place-based approaches over the longer-term

Place-based approaches often cite implementation-to-outcome timeframes of 5-10 years (Schmitz, 2021) or longer (Halloran et al., 2020). During such lengthy implementation phases, many significant changes will occur within the local place/community (eg. natural disasters, closure of major employers), within participating organisations (eg. changes of government and Board directions) and within their broader context (eg. pandemics, recessions, and wars). These changes exert inter-connected and at times compounding effects which challenge some, or all cross-sectoral contributors to a place-based approach (Weaver, 2020). The ability of a place-based approach to remain relevant and continue to attract participation from local community members, organisations, funders, and policy makers is therefore likely to depend upon their ability to adapt to changing circumstances in alignment with changing stakeholder priorities and contexts. This adaptation is considered to entail a process of maturation.

Whilst various authors have described the establishment and operationalisation of place-based approaches (eg. Dart, 2018; Kania et al, 2022), little is known about the management practices that best enable the maturing necessary to implement long-term, place-based approaches which effectively address complex societal challenges over time and changing contexts. This paper addresses that gap.

CROSS-DISCIPLINARY UNDERSTANDINGS OF MATURING

Various terms are used across disciplines to describe how organisations, systems, innovations, and movements develop over time such as evolution (Ostrom, 2013), change (Stephan, Patterson, Kelly, & Mair, 2016), readiness-building (Impetus, 2019; Burkett, 2012), sustainability (Moore, Mascahenhas, Bain & Straus, 2017) and scaling (Here to There Consulting, 2019). Whilst the term 'maturation' is used within social, economic, and ecological literatures, a concrete definition has proven difficult to find. Kwon and Adler (2014) suggest that the social capital field can be considered to have matured into a field of research because it has been accepted as legitimate by diverse disciplines and is used in everyday conversation and policy circles. Serra and Thiel (2019) suggest that the characteristics of a mature organisation include delegation of authority, role specialisation and the formalisation of organisational processes. The term maturation is also used to describe the development of adaptive strategies and specific capabilities (Tran, Zahra & Hughes, 2019). The following section explores learnings from a scan of literature describing multi-actor change processes to develop a working definition of 'maturing' that relates to place-based approaches. Given the paucity of research regarding maturation and place-based approaches, this scan was not intended as a systematic literature review, rather it adopted a broader exploratory stance examining both academic and practice literatures spanning multiple disciplines to firstly identify where process related to maturing were described and then, to identify common themes to inform concept development and empirical research. Whilst a large number of documents were reviewed, only 19 (12 academic and 7 practitioner sources) revealed information relevant to maturing. Findings within research fields are described below and the common themes which emerge across those fields are summarised in Table 1.

Insert Table 1 about here

Early observations about the maturation of place-based initiatives

In Australia few place-based initiatives have had the opportunity to mature due to frequently changing political and budgetary priorities within, and across electoral cycles (CEDA, 2019). Early Australian work by Dart (2018) suggests that the priorities for place-based initiatives evolve through four developmental stages. Addressing foundational issues such as initiative infrastructure and engagement with policy makers, service providers and funders is considered a likely priority in the first stage ('year zero') while growing enablers for change such as governance, collaboration and learning is considered a likely priority during 'the initial years 1-3' (Dart, 2018). Fostering systemic changes within communities (eg. resourcing and problem solving) is seen as a likely priority in 'the middle years' (years 3-5) while contributing to population impacts is an expected focus during the middle and 'later years' (years 5-9 and beyond) (Dart, 2018).

A study of twenty-five Collective Impact initiatives is the USA and Canada found that eighteen initiatives were able to provide reliable and valid data demonstrating contributions to improvements on one population-level outcome whilst two initiatives could evidence contributions to two population-level outcomes (ORS Impact and Spark Policy Institute, 2018). When compared with the other initiatives in the study, the three most impactful initiatives had: stronger and more consistent data, shared measurement and data-related system strategies in place; had a stronger focus on implementing funding-related strategies and valued the potential of the Collective Impact initiative to leverage additional resources to the cause; and had prioritized more systems changes and more multi-sector outcomes (ORS Impact and Spark Policy Institute, 2018, p 28). Five of the initiatives studied were not able to demonstrate any population level impacts. When compared with the other initiatives, these five initiatives had been: operational for a significantly shorter period (5-8 years Vs 14 years); had less robust implementation processes in place; had created fewer early partnership changes, fewer policy changes and fewer practice improvements; did not have robust measurement systems in place; and had faced a broader range of internal and external challenges (ORS Impact & Spark Policy Institute, 2018). Observations about the maturing of Mission-Oriented Innovation initiatives are even more scant given the emergent nature of the approach, though authors have highlighted the need for: the development of

dynamic capabilities for fostering change and recognising and responding to spill-overs and additionality; experimentation and learning; co-creation; comparative research and evaluation (Mazzucato, 2021; Whittmann, Hufnagl, Lindner, Roth & Elder, 2021).

Maturation of social movements

Social movements are defined as '..collective interests that align in pursuit of social change' (Rao et al., 2000, cited in Lavine, 2009 p. 603). Application of social movement theory can help to anticipate factors which might help or hinder the growth and maturation of a movement and to focus attention on developing the quality and strength of the movement in order to advance movement objectives (Lavine, 2009). Scholarship within this field considers the methods of mobilisation used to create social change and the role of social movement organisations which can become the public face of the action agenda (Lavine, 2009; Mitlin et al., 2020). These organisations leverage existing community structures and organisations to mobilise action though can also stimulate 'cultural innovation' (Lavine, 2009, p. 606) which gives rise to new organisations and organisational forms (Mitlin et al., 2020). Lavine (2009, p 608) argues that effective social movements must establish 'collective action frames' and a clear vision to generate engagement and spur action towards achievement of the vision (and against barriers to its achievement). Compelling messages are typically crafted to meet the information needs of various target audiences whilst remaining faithful to the overarching vision. Decisions about what to message, to whom and in what way reflect 'choice points' (Lavine, 2009, p. 609) for the movement and have the potential to shape the direction of its development.

Social issues maturation

Social issue maturation is defined by McGrail, Halamish, Teh-White and Clark (2013, p. 50) as 'the growth of issue awareness and ownership from a special interest concern to general public management'. McGrail et al (2013) suggest that social transformation in response to complex social problems is typically triggered by community outrage and is generally the result of long-term, reinforcing developments in a range of domains combined with societal learning and structural change. Maturation, it is argued, can be prevented, or slowed by the co-existence of competing agendas (eg. Development

versus biodiversity protection) which mitigate against outrage effects and the debate considered necessary to develop new consensus positions on social issues that underpin transformative system responses (Hill, Halamish, Gordon & Clark, 2012). A social issues maturation framework proposed by McGrail et al. (2013) identifies six sequential (though not linear) phases: observation; emergence; popularisation; challenge; governance; and normative. Barendse, Basson, Petersen and Sink (2018) caution that change movements may never totally mature and may be at risk of reverting back to earlier phases of the issue-maturation curve unless local, national, and global agendas join up to support more transformative change. Stronger alliances between academics and other actors are also advocated for their potential to enable more informed public debate, value-aligned messaging and transformative path generation involving social change towards a shared vision (Hill et al., 2012; Mitlin et al., 2020).

Institutional maturation

A key objective of place-based approaches is to create lasting societal change (Dart, 2018). This relies on changing governance arrangements, policies, services, financial flows, and institutions to change economic, environmental, and societal trajectories (Mazzucato, 2021). Ostrom (2013) notes that institutions established to govern common-use resources (eg. forests) evolve over time and that changes in rules (either in use, or in form) drive changes in strategy. Evolutionary processes within institutions are considered to involve the generation of new alternatives, selection of old and new structural attributions and the combining of attributions that are successful within a particular environment (Ostrom, 2013). Rules for governing common-use resources have been found to be most effective when developed with significant input from resource users rather than when imposed from afar (Ostrom, 2013) and when they reflect the polycentric nature of collective-action problems (Ostrom, 2009).

Carey, Kay and Neville (2019) note that institutional change can be incremental or transformative. They cite research by Mahoney and Thelen (Carey et al., 2019, p. 492) highlighting that institutional change can be created via policy displacement, layering, drift, conversion, and exhaustion. Carey et al (2019) observe that transformational change is likely to be impacted by both the displacement of old policies and the layering of new policy objectives within existing policy frames. This layering is considered particularly likely in longer-term reform agendas and when reforms are being designed and implemented

whilst old, interim, and desired new arrangements are all in effect. This layering potentially compromises the integrity and achievement of transformational change by carrying old values and behaviours into new agendas (Carey et al., 2019). Policy layering is also likely when multiple jurisdictions and levels of government are involved (Carey et al., 2019).

Maturing and sustainability in implementation science

In responding to a perceived knowledge gap in implementation science regarding how to sustain program/clinical intervention delivery, implementation strategies and outcomes over time, Moore et al. (2017) reviewed 209 articles and found that whilst a focus on intervention sustainability was a key contributor to effective implementation, outcome attainment and translation, only 24 of the studies reviewed included a definition of sustainability. Seventeen of those papers noted the importance of continued program funding and achievement of outcomes in those definitions and six noted the importance of program evolution or adaption over time (Moore et al., 2017). Chambers, Glasgow and Stange (2013) argue however, that rather than strive for sustainability, implementation science could more helpfully focus on the pursuit of ongoing intervention and outcome improvements in the face of constantly changing contexts, enabled by data-informed learning, problem-solving and adaption. The Dynamic Sustainability Framework proposed by these authors notes the importance of using data and learnings, supported by ongoing stakeholder involvement, to make dynamic improvements which maximise the 'fit' between interventions, practice settings and ecological contexts over time to achieve the best possible outcomes for multiple stakeholder and actor groups (Chambers et al., 2013).

Innovation consolidation

Policy, business, and social innovations often fail to progress from being supported by a small number of enthusiastic early adopters to obtaining mass support (Earle, Merenda and Davis, 2019; Here to There Consulting, 2019). Earle et al., (2019) observed that leaders of companies moving to commercialisation mature through a series of transition points by pivoting (revisiting an earlier stage of development to refine key features), pausing (taking time to deliberately reassess the challenge and next steps) and partnering (working with others to resolve challenges). One of the more significant transition points

faced by innovative enterprises is a change from being a founder-led start-up to a professionally managed entity. Serra & Thiel (2019) argue that successfully managing this transition involves organisation members taking on new roles and adopting new norms aligned with new operational arrangements. Strategies found to support this transition include activating change readiness, creating shared pathways and fairly recognising the legacy left by the founder (Serra & Thiel, 2019). A paper by Here to There Consulting (2019) notes that whilst many social innovations had demonstrated positive impacts they had failed to scale from an experimental phase to achieve broader impact and highlights the importance of collecting, analysing, and communicating data and evidence to improve opportunities for scaling successful innovations. As with Burkett (2012), Here to There (2019) recognises the potential for social innovations to scale out, up and deep and also notes the potential for scaling scree (new innovations that tackle the same outcomes in different ways) and scaling infrastructure (such as capital, data, talent, knowledge, and networks).

Maturing in social financing, social entrepreneurship and social impact

A key focus for the social financing and social enterprise sectors is to increase the number of organisations with the capability and capacity to effectively and reliably use capital injections to deliver social and economic impacts whilst growing sustainably (eg. Impetus, 2014; Koh, Karamchandani & Katz, 2019; Miller & Stacey, 2014; Burkett, 2012). Authors in this field have identified a range of stages through which social enterprises and other organisations seeking to attract social finance to create impacts evolve. For example, Impetus (2014) differentiates between start-up, early, growth and later stage organisations and Burkett (2012) identifies start-up, development, growth, and maturity phases. The management priorities and developmental supports required by social enterprises and impact organisations change as they move from phase to phase (Impetus, 2014; Burkett, 2012; Koh et al; 2012). Impetus (2014) and Miller and Stacey (2014) note that the majority of capacity-building supports to improve impact-readiness focus on start-up and early phase initiatives, rather than supporting long-term impact and growth, though Impetus (2014, p. 15) cautions 'We would argue that assuming an organisation is able to either reliably produce outcomes, or sustain its existence in the long-term, before it exhibits 'late stage' behaviours is not backed up by experience and is unwise.'. Impetus (2014) argue

that effective production and scaling of outcomes relies on having: clear definitions of short- and long-term target outcomes, target population and interventions; and applying a performance management approach with an evidence-informed theory of change mapping relationships between interventions and outcomes.

SYNTHESISING LEARNINGS REGARDING MATURING ACROSS DIVERSE LITERATURES

While the language used across contexts and disciplines is different, some consistent themes regarding maturing can be observed across the literatures as summarised in Table 1. Firstly, it appears that more mature place-based initiatives, social issues, social movements, institutions, and enterprises have a clearly articulated and shared understanding of the impact they are seeking to create and an evidence-informed and targeted plan of action (Impetus, 2014; ORS Impact & Spark Policy Institute, 2018). They also have robust governance arrangements in place which are vertically and horizontally connected to decision-makers and enablers/partners (ORS Impact and Spark Policy, 2018; Impetus, 2014; Burkett, 2017) and formalised organisational processes (Serra & Thiel, 2019; ORS Impact and Spark Policy, 2018; Impetus, 2014). More mature examples identified via the literature scan appear more likely to have an enacted commitment to building the skills of community members and initiative staff and leaders (Impetus, 2014; ORS Impact & Spark Policy Institute, 2018), are able to effectively manage transition points (Earle et al., 2019; McGrail et al., 2013) and attract mass or at least increasing public support (Earle et al., 2019; Lavine, 2009; McGrail et al., 2013; Koh et al., 2019). More mature multi-actor change approaches also make effective use of data to monitor progress towards outcomes, to inform adjustments to delivery and strategy and to monitor and report on investment performance and returns on investment (Impetus, 2014; ORS Impact & Spark Policy, 2018). They are also able to demonstrate and substantiate impact (Impetus, 2014; ORS Impact & Spark Policy Institute, 2018) and scale their endeavours to create more or deeper impacts and to seed related actions and enabling infrastructure (Here to There Consulting, 2019; Burkett, 2010; Impetus, 2014).

A WORKING DEFINITION OF MATURING RELEVANT TO PLACE-BASED APPROACHES

Synthesis of the learnings gained via the literature scan described above informed development the following working definition of maturing as it relates to long-term, place-based approaches:

> *Maturing refers to the ongoing processes of adapting, improving, and aligning operational infrastructure, strategy, partnerships, and goals; whilst deepening engagement, growing capabilities, influencing funding, and transforming systems; in response to changing circumstances, feedback, and evidence; in order to articulate a mobilising vision of the future, deliver on commitments and achieve multi-stakeholder outcomes.*

DISCUSSION

Implications for theory and practice

This paper has recognised the potential of place-based approaches to support "flourishing in our new normal" (ANZAM, 2022) and highlighted the importance of supporting them to mature over time so that they may better contribute to improved community wellbeing and 'flourishing over time'. It noted however, that despite a rapid increase in the implementation of place-based approaches, particularly using Collective Impact and Mission-Oriented Innovation methodologies, research exploring how they mature over time and the policy and operational contexts that are most likely to enable them to mature in ways which improve wellbeing is sparce. Clearly defining maturing with reference to adjacent literatures therefore makes a number of valuable contributions. Firstly, it fills an identified gap in our understanding of how to understand maturing within the context of these dynamic and multi-stakeholder approaches (Dart, 2018; Kania et al, 2022). Secondly, as summarised in Table 1, it establishes connections with established theories (eg. Social Movement Theory [Lavine, 2009] and Social Issues Maturation [McHail et al, 2013]) and disciplines (eg. Implementation Science [Moore et al, 2017] and Institutional evolution [Ostrom, 2013]) which can be leveraged to inform future theory development regarding the maturation of place-based approaches. Thirdly, development of a definition provides a useful foundation for empirical research to test and refine the concept via engagement with place-based approaches. Finally, defining maturing establishes core elements which, if supported in practice (eg. via policy, funding, and management activities) will enable place-based approaches mature in contextually-relevant ways and contribute to improved wellbeing.

Limitations and future research

Given the breadth of literatures explored and the dynamic and emergent nature of place-based practice and theory, a systematic literature review was not undertaken. The fact that the paper traverses such broad disciplines and bodies of work in the absence of consistent definitions of maturing makes analysis and synthesis a complex task. It is acknowledged that relevant academic and practice-based disciplines and papers may have been inadvertently omitted, and that learnings about maturing in some cases have been inferred, rather than explicitly stated by the authors, creating some risk of conflation (eg. elements of research focused on learning and scaling have been identified as relevant to maturing). Given the nascent nature of this field of research, future opportunities to capture and learn from additional sources are likely, as are opportunities to refine understandings via future empirical research and academic engagement with the topic. In light of the proliferation of Mission-oriented Innovation and Collective Impact initiatives around the globe however, the current paper makes a valuable early contribution to improving understanding of the importance and processes of maturing and highlights opportunities to support maturing to achieve best outcomes. As a next step, this working definition is being refined and extended via cross-national research with three place-based approaches (one each in Australia, New Zealand, and Canada) to inform both theory development and practice.

CONCLUSION

This paper argued that 'flourishing in our new normal' will be supported by the efforts of long-term, place-based approaches. Current gaps in understanding about how place-based approaches mature and create impacts over time were highlighted and a working definition of 'maturing' developed based on a scan of diverse literatures. The paper noted that this early definitional work is being refined and extended via empirical, cross-national research. The implications of defining maturing in place-based approaches for theory and research were noted. Ultimately though, the priority for this early definitional work and future refinements is to support place-based approaches to mature over time so they can contribute to both 'flourishing in our new normal' and 'flourishing over time'.

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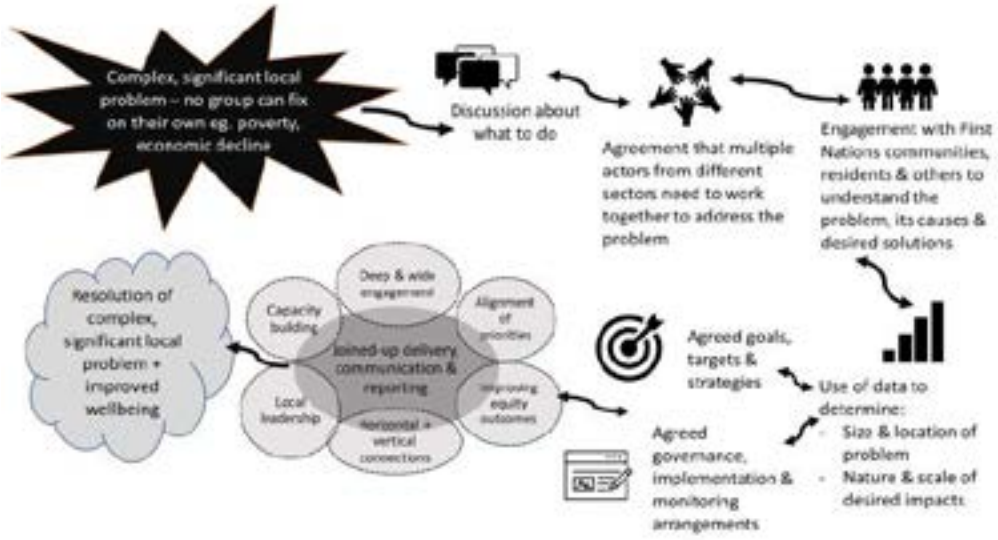
Figure 1: Commonly described features of place-based approaches



(Author's original work, 2022)

Table 1: Snapshot of processes of maturing identified in literatures describing multi-actor change processes which are relevant to place-based approaches

Element of maturing ***Field of literature*** (+ Authors)	**Evolving a compelling shared vision/goal & plan of action**	**Engaging partners & evolving partnering practices**	**Adapting communication to attract stakeholders & sustain/grow participation**	**Building participant capability**	**Developing & using shared data & measurement to monitor & adapt**	**Evolving infrastructure & navigating developmental phases**	**Influencing funding &/or systems**	**Creating & scaling desired impacts**	**Navigating challenges, combining with, or displacing old ways**
Place-based initiatives (Dart, 2018; Mazzucato, 2021; ORS Impact & Spark Policy Institute, 2018)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Social movements (Lavine, 2009; Mitlin et al, 2020)	✓	✓	✓			✓	✓	✓	
Social issues maturation (McHail et al, 2013; Hill et al, 2012; Barendse et al, 2018)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Institutional evolution (Mazzucato, 2021; Ostrom, 2013 & 2009; Carey et al, 2019)	✓	✓	✓			✓			✓
Implementation science (Moore et al, 2017; Chambers et al, 2013)	✓	✓		✓	✓	✓	✓	✓	✓
Innovation consolidation (Earle et al, 2019; Here to There Consulting, 2019; Serra & Thiel, 2019; Burkett, 2012)		✓			✓	✓	✓	✓	
Social finance, enterprise & impact scaling (Impetus, 2014; Koh et al, 2019; Miller & Stacey, 2014; Burkett, 2012)	✓		✓	✓	✓	✓	✓	✓	

Stream #7: Teaching and Learning Refereed Delivered Session

Developing Your Own Innovating Classroom Practice: The Teaching With Heart Model

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Stream #7: Teaching and Learning

Refereed Delivered Session

Developing Your Own Innovating Classroom Practice: The Teaching With Heart Model

ABSTRACT

Challenges faced by Management Educators suggest the need for classroom innovation. But while we know much about instances of *what* is innovated, Management Education literature has said little about *how* to innovate. Turning to literatures in design thinking and the liberal arts which have been successfully applied in helping students learn how to think differently, I reflect on my own innovating experience in a strategic management course to contribute the Teaching With Heart Model (THM) of innovating classroom practice. Insights from the THM are leveraged to devise a series of questions and prompts designed to encourage Management Educators to develop and maintain their own innovating practice.

Keywords: innovative approaches to teaching and learning

The pressure on Management Educators to do things differently in the classroom has become more pressing in recent years. Classroom innovation is an ambition to which Management Educators are regularly encouraged to aspire (Baker & Baker, 2012). Yet while Management Education journals provides numerous instances of *what* is innovated in specific teaching contexts, work to date has largely overlooked *how* management educators can engage in a practice of classroom innovating.

Meanwhile, literatures in design thinking (Garbuio, Lovallo, Dong, Lin, & Tschang, 2018) and a broader umbrella of traditions associated with the liberal arts (Simpson, Berti, Pina e Cunha, & Clegg, 2021) have been successful in shining light on how we can develop student skills in thinking differently. Given these approaches are considered credible methods for practical adaptive reasoning in real-world settings (Glen, Suciu, & Baughn, 2014), what might they mean for Management Educators? In this essay, my contention is not only that an ongoing practice of classroom innovating

is something to which Management Educators can aspire, but that there are distinct steps we can pursue to realize it.

The paper proceeds as follows. First, I combine insights from literature on design thinking and liberal arts with my own experience (2018-2021) devising and implementing teaching innovations for a capstone undergraduate course in strategic management. Recognized as an innovative teacher by awards at the national, University, Faculty, and School levels, I identify key aspects of classroom innovating by drawing on lessons from development and implementation of innovations including: (1) a performance analytics dashboard; (2) an escape box; and (3) an assignment on strategy implementation. Leveraging these insights, I contribute a practice model of innovating in management education, the Teaching with Heart Model (THM). I then devise a series of questions and prompts designed for assisting Management Educators establish their own practice of classroom innovating.

THE INNOVATING CHALLENGE

Management education literature is replete with examples of individual teaching innovations. These feature as major sections in the leading *Journal of Management Education, Academy of Management Learning and Education,* and *Management Learning*. Yet while focus on what we innovate is common, conversation in these same journals on how management educators engage in a practice of innovating are rare. A search finds only 38 articles in the three journals contain the word 'innovation' in the title, and thirteen of these relate to book reviews. Several others relate only to organizational and social innovation and do not apply to the classroom. Remaining efforts often relate innovation to specific instances of course design (e.g. Gibbons, Fernando, & Spedding, 2021; Viswanathan, 2012), or to educating students in the practice of innovation (e.g. Thursby, Fuller, & Thursby, 2009).

To generate insights on innovative teaching, I therefore turn to approaches which Management Educators have successfully applied in assisting students think differently – these being design thinking (Glen, Suciu, & Baughn, 2014), and the liberal arts (Baker & Baker, 2012).

Design thinking is "essentially a human-centred innovation process that emphasizes observation, collaboration, fast learning, visualization of ideas, rapid concept prototyping, and concurrent business analysis" (Lockwood, 2010: xi). Design thinking principles have been applied in management education contexts where task complexity presents wicked problems, such as learning in entrepreneurship (Boni, Weingart, & Evenson, 2009) and sustainability (Earle & Levya-de la Hiz, 2020). The teaching of design thinking is anchored in empathy on behalf of those for whom the design is being undertaken (Hamington, 2019), with the first step in the famous Stanford d.school design process being to empathize (Stanford, 2013). Innovation in design thinking is considered to be evolutionary, and ongoing client feedback informs a process of constant iteration on the initial offering (Schumacher & Meyer, 2018).

In contrast to design thinking, liberal arts perspectives represent a more eclectic collection of approaches, but all are based on domain specific knowledge of pedagogical techniques for stimulating creativity including approaches that create an expectation of creativity, encourage exploration, exposure to a variety of perspectives, and a focus on the work itself (Baker & Baker, 2012). Proponents of this perspective view techniques of the liberal arts as essential for broadening intellectual perspectives of business school students and enabling them to successfully navigate an increasingly complex context (Colby, Ehrlich, Sullivan, Dolle, & Shulman, 2011).

Together, the design thinking and liberal arts literatures suggest several aspects of classroom innovating. Consistent is the emergence of innovations from emotional connections, either through an empathetic understanding of the customer (Hamington, 2019), or in ties between the artwork, the artist, and the audience (Colby et al., 2011). Both literatures also identify domain specific knowledge as essential to innovating. From the design thinking perspective, such knowledge is important because it enables new problems to emerge and potential solutions for addressing them (Sternberg, 2006). In arts-based approaches, domain specific knowledge is necessary for solving business problems because it enables the transfer of creativity.

Informed by these insights from the literatures on design thinking and the liberal arts, I now leverage the lens of my own Management Education experience to consider implications for a practice of classroom innovating.

THE CLASSROOM CONTEXT

My innovating practice was honed between 2018 and 2021 in a final year undergraduate strategy capstone course. Offered twice per year, it attracts approximately 400 students per offering. In 2018-2019 the course was taught in a face-to-face format, but since COVID-19 it has switched to a mix of online and face-to-face instruction. The course is informed by an experiential pedagogy of team-based learning (Michaelsen, Knight & Dee Fink, 2004) and is taught in a flipped classroom format.

Based on expertise developed during my PhD, I consider myself to be a storytelling teacher (Boje, 1991), and so my innovating efforts converge under two main themes: (1) storying innovative learning activities; and (2) creating collaborative storytelling spaces. I also leaned heavily on insights on the practice of strategic management, honed through previous employment with organizations in the not-for-profit and tourism industries.

Here, I briefly outline three of the teaching innovations I have implemented with potential to inform understanding on a practice of innovating; (1) a performance dashboard for identifying students at risk of poor performance; (2) an escape box; and (3) an assignment on strategy implementation.

Example 1 – Performance Dashboard

Student exam results in my first semester as Course Coordinator were poor. Emails arrived from many students, with mixed messages of despair, disbelief, and indignation. I felt concern both for their wellbeing and their future prospects in navigating the workplace. To give these students the best chance at success, I wanted to notice when they were at risk of failure. In my previous strategy work with the community services arm of a not-for-profit organization, I had managed a multi-

disciplinary team responsible for reporting outcomes of millions of dollars of Government-provided funding.

I had also become personally interested in successful football (soccer) managers such as Pep Guardiola, and a game philosophy known as tactical periodization. Distinct from traditional approaches which focus on physical performance, tactical periodization considers tactical, physical, psychological, and technical aspects of training (Afonso, Nikolaidis, Teoldo, & Clemente, 2020). Tactical periodization is therefore data-driven.

Combining my professional and personal experience, I used data to gain insights on students. Analytics were applied to student performance in viewing course videos, textbook engagement, and weekly assessment items. The approach was intended to identify students who displayed high engagement with course materials but had received poor marks. Students fitting this category were emailed with an offer of additional assistance from course staff.

However, students took such communication as a negative indicator and routinely ignored the offer of support. The innovation was discontinued after two semesters.

Example 2 – Escape Box

I had shared with several colleagues the depth of student despair over poor exam results and sought advice. How could I better prepare students for their exam? Student attendance in the latter part of the semester was often poor and it was difficult to motivate them to revisit earlier teaching on strategy frameworks. A Learning Designer (LD) with interests in gamified learning approaches suggested we could implement an escape box. Based on an escape room, an escape box requires collaboration to solve problems in time and unlocking a padlocked box. It has been shown to increase students' motivation and foster learning (Veldkamp et al., 2020).

In considering the possibilities for the escape box, I reflected on my strategy work for the not-for-profit organization. Government policy changes had enacted Consumer-Directed Care funding models to enable consumers and carers to choose their services. The disruptive nature of this change to the organization's business units prompted an Executive strategy retreat. Given the consultant

applied tools such as Porter's Five Forces, the experience suggested the importance of developing student skills in strategic planning.

Returning to the Escape Box idea, I saw the opportunity to create a new collaborative storytelling space. This would leverage the LD's expertise in puzzles framed within my own awareness of the stories which are so central to escape experiences (Plump & Meisel, 2020), to create a puzzle which would enable the students to apply strategy frameworks.

Combining our expertise, the LD and I designed an escape box based on PESTEL, Porter's Five Forces, and VRIN analysis. Competing in teams of 4-5, the students assumed roles as members of an organization where they needed to save their firm from collapse. They had 45 minutes to solve a range of cryptic clues related to strategy frameworks. For example, they were provided several newspaper headlines and required to answer the riddle "which one of these is not like the other?" Without additional instruction the students were required to determine that the newspaper headlines linked to factors in a PESTEL analysis, and to further identify that only one of the PESTEL factors represented an environmental threat to the organization. There are now much fewer emails of student dismay following release of results and the escape box has won School teaching awards.

Example 3 – Assignment on Strategy Implementation

Consistent with experience of other teachers in strategy (Lindsay, Jack, & Ambrosini, 2018), the teaching of strategy implementation proved tricky. I had had trialled several approaches with limited success, including the change management simulation (Lovelace & Dyck, 2018). Student feedback outlined a sense of confusion about these approaches, and my own observation suggested skills in negotiating and facilitating strategy were undeveloped.

In several professional roles, I have been engaged in organizational restructure. In consulting to a multinational manufacturing firm, I vividly recall meeting with an accountant who seemed scared I was going to restructure them out of a job. Such meetings are emotive and often stressful. I worried about how my students might cope in similar contexts.

Aware of the potential of stories for facilitating and hindering organizational change (Pedersen, 2009), I had also started listening to Podcasts on topics such as philosophy, politics, and sports, as well as fictional dramas in mystery and crime. I was keen to explore podcasts for engaging students and improving their ability to master concepts in management education (Teckchandani & Obstfeld, 2017).

I instigated an assignment designed to develop student capabilities in restructuring organizations. I self-wrote scripts to create characters in a fictional airline, and voice actors subsequently recorded these as podcast-style interviews. Students were required to listen to the interviews and straddle the competing political interests in the organization to recommend a new structure for the organization which accounted for the political forces at play in the organization. I was pleased when one student reflected they had used the insights from their assignment to advise their partner on intricacies of organizational structure work they were undertaking.

Reflecting on insights from literature on design thinking and the liberal arts as well as my experience in designing and implementing these three innovations, I now introduce a practice of classroom innovating, the Teaching with Heart Model (THM)

THE TEACHING WITH HEART MODEL (THM) OF INNOVATING IN MANAGEMENT EDUCATION

The THM is depicted in Figure 1.

Insert Figure 1 About Here.

Extending understanding of design thinking and liberal arts approaches to innovating in management education, the THM is drawn as a heart. This metaphor is consistent with the view that human-centred innovation comes from the capacity to understand what another being is going through (Hamington, 2019).

Student empathy then frames the act of noticing, which is depicted as an artery feeding into the heart. Based on your empathy for your students, where are they finding challenges and difficulties

in their learning? How can you assist in overcoming these? This practice of noticing represents an act of attention founded on consciousness and reflection (Jones, Bailey, & Thompson, 2012). When students regularly misunderstood reporting relationships within the course between myself and my assistant lecturer, it served as an indicator of lagging skills in complexities of strategy implementation and prompted the organizational restructuring assignment.

Representative of domain specific knowledge inherent to design thinking and liberal arts approaches to innovating (Benson & Dresdow, 2014; Sternberg, 2006), the right-hand chamber of the heart reflects domain specific knowledge in two areas: (1) the pedagogy of management education; and (2) the practice of management. Key for the management educator is to base their innovating around answers to questions on how students should be taught, and what students should know. Here, the escape box and strategy implementation assignment are illustrative. A pedagogy based on storytelling underpinned approaches based on gamification and podcasts, while knowledge on what students should know was framed around my experience in strategic planning and organizational change.

Importantly, these areas of domain specific knowledge also offer insights on the failure of the performance dashboard. While the idea originated in my management practice of performance reporting at the not-for-profit organization, it was inconsistent with my pedagogical storytelling approach. In using surveillance power and associated data to impose an overarching student narrative of underperformance, the approach conflicted with my scholarly efforts to enable marginalized voices (Boje, 2001).I abandoned the innovation based on my own philosophical conflict.

The left-hand chamber of the heart in the THM depicts the creative component of innovating practice as the educator identifies a solution to their classroom challenges. Two of my innovations speak to the liberal arts tradition of personal creativity by leveraging personal interests in podcasts and football to address classroom challenges. Meanwhile, in combining with the LD around gamification and my own pedagogy in storytelling, the escape box fits with team-based design thinking creativity.

This creativity produces innovations, and as in a beating heart, the process continues. Importantly, the teacher has an opportunity for noticing effects of the innovation on student capabilities. Is there improvement in skills? Or do students appear challenged by the innovation? This drives eventual revision and adjustments of the innovations, as illustrated in the THM. First, it may be necessary to revise expectations on what the student should know. Students are cognitive apprentices (Hannah & Venkatachary, 2010), and it may be that our own experience of what the student should know is beyond their current capabilities. Here, it is important to engage in reflection on issues of scaffolding around the innovation, to determine whether learner support has been sufficient (Wood, Bruner, & Ross, 1976). If reflection suggests expectations on the student are not unreasonable, then the teaching innovation should be revised to ensure the educator is using an effective model of how to teach.

Reflecting on the THM, what might this mean for Management Educators seeking to establish their own practice of classroom innovating?

USING THE THM TO GUIDE YOUR OWN INNOVATING PRACTICE

The THM indicates the importance of cultivating empathetic student insights as the basis for a practice of innovating. The following suggestions are for those teaching undergraduate students predominately representing Gen Z, but they can also be applied to older generations. As a first suggestion, relatives such as children and grandchildren offer opportunity for understanding Gen Zs. How do they spend their leisure time? How do they relate to those around them? Try to see the world through their eyes, understand their worries, and discover their hopes. You might also follow social media accounts of celebrities such as Billie Eilish, Shawn Mendes, and Greta Thunberg.

While displaying curiosity around the cohort you teach, also re-evaluate your own professional and pedagogical domain specific knowledge. Professional domain specific knowledge may initially seem like a challenge for those following an academic career path without industry experience. Yet career-academics are likely to have accumulated skills and insights relevant to careers in outside industries. Program reviews, workload allocation processes, and funding decisions in

Universities can be as politically charged as in other organizations, and therefore offer insights into challenges students will face in their careers. Educators might also leverage School-industry linkages to explore a short-term placement.

Pedagogical knowledge is also key for Management Educators developing an innovating practice. For those whose doctoral research explored an area other than pedagogy, consider whether the theory and concepts you leveraged might extend to the management education classroom as did storytelling from my PhD thesis. The constructivist basis of experiential learning (Kolb, 1984) potentially provides a pedagogical link for those coming from interpretivist backgrounds, while computer simulations and analytics are likely compatible for those from a more positivistic ontology.

A helpful first step in understanding your pedagogy is by developing a teaching philosophy statement. Teaching philosophies are important because they instigate a process of reflection which promotes self-awareness about what we do as management educators and encourage us to make our beliefs and identity come present in the classroom (Beatty, Leigh, & Lund Dean, 2009a). For those challenged by developing a teaching philosophy, the 84-card sort exercise recommended by Beatty, Leigh, and Lund-Dean (2009b) offers a useful approach to clarifying values and beliefs around teaching.

When it comes to creativity, experience suggests Business School colleagues maintain a variety of interests and hobbies which could support their innovating. I have worked with classic car enthusiasts, choristers, musicians, and history buffs. Fitness types might leverage their interests to engage in practices of embodied learning (Tomkins & Ulus, 2016), and choristers might inspire new thoughts on the ways in which students find their own voice in the classroom (Sutherland, 2012). Reflect on your own personal creative pursuits and find ways to leverage these into your innovating practice. Finally, identify a broad theme to your innovating. Experience suggests classroom innovations are nested. By grouping innovations together, you can explore fresh ideas, and discount suggestions which may not fit.

Abilities in observational interaction are essential to your innovating. Use a diary of the most important events which happen on any one day (McEvoy, 1996) to take notes of where you see students being challenged in their learning. Adopt a mindfulness practice to take in new observations on your classroom experience (Kuechler & Stedham, 2018). Helpful questions and prompts for developing and maintaining an innovating classroom practice are presented in Table 1.

Insert Table 1 About Here.

CONCLUSION

Contrary to much of the Management Education literature which focuses on the *what* of innovation, the THM addresses the *how* of classroom innovating. It is intended to provide Management Educators with the confidence and insights to initiate and maintain their own practice of innovating.

Finally, continuing to focus on the *how* of classroom innovating should be a priority for Management Education. The THM would suggest journals have a role to play in placing greater emphasis on the Educator's background and personal interests in publications of specific teaching innovations. It does not seem unreasonable to suggest these have a role to play in many of the innovations which are published, and that there is little reason they could not be incorporated as key information. In shedding further light on the process of innovating, this would potentially encourage Faculty seeking guidance on how to do things differently in their own classroom.

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FIGURE 1

THE TEACHING WITH HEART MODEL (THM)

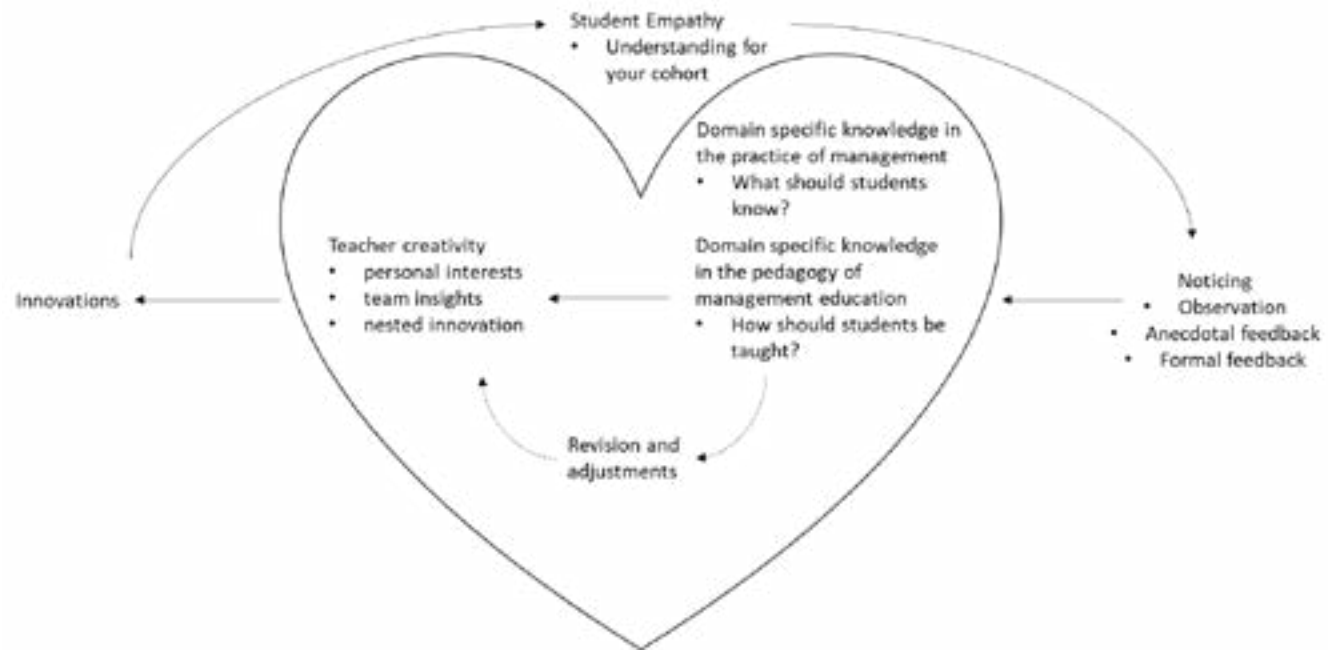

TABLE 1

PROMPTS FOR DEVELOPING AN INNOVATING TEACHING PRACTICE

Innovating Practice	Questions To Reflect	Avenues to Pursue
Cultivate empathetic student insights	• What characterizes the cohort you are teaching? • What is popular with many in this generation, and why? • What are concerns for the future of many in this generation? • What are the hopes and aspirations of many in this generation?	• Seek out relatives and friends in the demographic and relate to them • Consult publications by demographers • Consume the media consumed by the relevant generation • Follow social media of celebrities from this generation • Observe a high school classroom (for Gen Z students) • Observe a workplace (for older students)
Cultivate skills in noticing	• What is happening around me? • How do people act and interact? • What do displays of different emotions look like?	• Take a painting or photography course • Keep a diary, and write the most important thing that happened in your day, every day

	• What is happening in my classroom?	• Sit in a public place and observe people, pretend to be a spy • Take notes on how your students react to innovations. What is their body language?
Cultivate domain specific knowledge in the practice of your teaching area	• What are key trends in organizations? • What will my students need to know on entering the workforce?	• Reflect on organisational change initiatives in which you've been involved • Reflect on supervisor relationships in which you've been involved • Reflect on industry experience you might have • Seek out short-term industry placements
Cultivate domain specific knowledge in the pedagogy of management education	• What are my research interests? How might these be leveraged into pedagogy?	• Develop your teaching philosophy • Undertake the card sort exercise (Beatty, Leigh & Lund-Dean, 2009b)
Spark your creativity	• What are my personal interests? • What do these teach me about life and learning?	• Write a list of your hobbies and interests • Order them in terms of how transferrable you believe they can be to your teaching context

	• How can I leverage insights from these interests into my teaching? • Which of my colleagues has different skills with whom I might collaborate? • What insights can I leverage from my previous teaching innovations?	• Identify skills which might complement your own • Identify colleagues who might possess these skills, and arrange to meet up with them • Reflect on previous teaching innovations and consider how they might be nuanced to meet any emerging classroom challenges
Revise and adjust	• Have I provided sufficient scaffolding to the innovation? • Am I being realistic on what the student should know? • Is my pedagogy consistent with my innovation?	• Reflect on your teaching innovation and consider how it might be amended

08. Business Processes,
Innovation and Supply Chain

Cognitive Enterprise: Defining the Pillars and Assessing the Cognitive Maturity

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08. Business Processes,
Innovation and Supply Chain

Cognitive Enterprise: Defining the Pillars and Assessing the Cognitive Maturity

ABSTRACT: *Organisations are increasingly becoming cognitive enterprises by combining latest disruptive technologies such as Artificial Intelligence (AI) and Internet of Things (IoT) with data to implement efficient processes. The key pillars of a cognitive enterprise are technologies, data, process and people capabilities, and culture. The degree of development of these pillars inside the organisation can determine different levels of 'cognitive maturity' of the organisation. In this paper, we propose to operationalise and validate an already developed theoretical cognitive maturity framework to measure the cognitive maturity of medium to large scale organisations. Through this framework, organisations can realise where they stand in terms of their cognitive maturity and what is needed to become a cognitively mature organisation.*

Keywords: cognitive enterprise, cognitive maturity framework, latest technologies

INTRODUCTION

Organisations are re-inventing themselves in the wake of the convergence of technological and social forces. In the past decade, organisations went through digital transformation. But now, the digitally transformed organisations, by building upon what has already been achieved through digital transformation, are on the journey of transforming themselves into *cognitive organisations*. This is being done by exploiting the data and using the latest disruptive digital technologies such as Artificial Intelligence (AI), Blockchain, Internet of Things (IoT), 5G, and Edge Computing. This combination of digitalisation with latest disruptive technologies will significantly change the ways organisations conduct their business and offer their services. The adoption of these technologies, as a matter of fact, changes the organisations to their core. This next generation business model is called Cognitive Enterprise. The term Cognitive Enterprise is trademarked by IBM (Foster, 2020).

In this paper, we propose to operationalise and validate an already developed cognitive maturity framework (Elia and Margherita, 2021). The details of the cognitive maturity framework and how to operationalise and validate it are included in the later section(s) of this paper. Organisations can benefit from an operationalised 'cognitive maturity framework' that can help them assess their level of cognitive maturity. Understanding the cognitive maturity of an organisation is crucial because, in the future, organisations will have to transform into cognitive enterprises in order to succeed. Thus, through the cognitive maturity framework, we will be able to measure an organisation's cognitive maturity and will be able to advise them on how to increase their cognitive maturity if needed. In the following section, we first define the Cognitive Enterprise and its key pillars and sub-systems.

DEFINING THE COGNITIVE ENTERPRISE: PILLARS AND SUB-SYSTEMS

The concept of Cognitive Enterprise is quite new in the management science and information systems literature. Although similar or related ideas were previously defined such as digital enterprise, intelligent enterprise, and agile enterprise, the idea of Cognitive Enterprise addresses a multitude of distinguishing capabilities, which characterise a new breed of organisational archetype. In a previous conceptual building and definition effort (Elia and Margherita, 2021), the definition of a Cognitive Enterprise was based on the identification of four pillars, i.e., *Cognitive Technologies*, *Cognitive Data*, *Cognitive Processes*, and *Cognitive Capabilities*. Figure 1 shows a snapshot of the four pillars and related subsystems of the Cognitive Enterprise.

Insert Figure 1 about here

Cognitive Technologies and information systems are the first pillar of the Cognitive Enterprise. They include enterprise application systems, transaction processing systems (TPS), management information systems (MIS), decision support systems (DSS), and executive information systems (EIS). Other applications include Artificial Intelligence (AI) tools such as Natural Language Processing (NLP) and Machine Learning (ML) algorithms, data analytics, IoT, smart devices and sensors, dynamic workflow management, multi-agent and expert systems, remote controlling, social network analysis, smart conversational engines, robotic process automation, augmented reality and audio/video recognition. Finally, cognitive technologies include Intelligent Manufacturing Systems (IMS) and Cyber-Physical Systems (CPS) applied in company operations (Lewis et al, 2015; Hull et al, 2016; Porreca et al, 2017; Zadorojniy et al, 2017; Mattyasovszky-Philipp, 2018; Bhale, 2019; Pilipczuk et al, 2019; Tang and Veelenturf, 2019; and Udell et al, 2019).

The second pillar of the Cognitive Enterprise is represented by *Cognitive Data*, i.e., the structured and unstructured sources of information, internal and external data sources, big data, and knowledge accessible within the organisation and through its extended ecosystem. Such sources are structured

using taxonomies, ontologies, or vocabularies, and extended by leveraging linked open data (LOD), licensed data sources, and proprietary data collections. Management of data includes acquisition, extraction, ingestion, cleaning, annotation, aggregation, modelling, and analytics (analysis, interpretation, and visualisation) based on the use of data infrastructures (e.g., No Structured Query Language-NoSQL- databases, storage architectures, cluster services), techniques (e.g., data visualisation suites, statistical tools, analytics services), and tools (e.g., optimisation tools, sentiment analysis engines). A relevant issue is to ensure interoperability of different data sources by using specific ontologies and standards (e.g., Extensible Markup Language-XML) (Lewis et al, 2015; Hull et al, 2016; Mattyasovszky-Philipp, 2018; and IBM, 2019).

The third pillar of Cognitive Enterprise is represented by a system of *Cognitive Processes* defined by interactions among humans and machines, and between the organisation and its environment. Such interaction may happen through structured routines, coordinated activities, transformation projects and unstructured emergent events. Interactions operate at both design-time and run-time and generate workflows that can be automatic or human-based. When processes are performed by technology systems, humans may focus on value added processes requiring complex problem-solving, creativity, collaboration, and judgment. Cognitive-enhanced processes can be identified at different levels. First, Strategic Positioning, i.e., by early capturing industry and market transformation drivers and related business opportunities. Second, Operational Excellence, i.e., by increasing efficiency and responsiveness in the management of routine activities. Third, Resilience Building, i.e., by enhancing the organisational preparedness to disruptions, developing business continuity and emergency management capacity. Fourth, Value Creation and Innovation, i.e., by leveraging intangible assets and open innovation capacity to generate new forms of value for stakeholders (Nezhad et al, 2015; Martins et al, 2015; Nikulina et al, 2015; Hull et al, 2016; Davenport, 2017; Marrella et al, 2017; Wang et al, 2017; Zebec, 2018; Hadjitchoneva, 2019; Kudyba et al, 2020; and Kwilinski et al, 2020).
Finally, *Cognitive Capabilities* refer to individual and organisational skills, mindset, values and expertise supporting organisation learning, self-renewal and exploratory processes aimed at redesigning the cognitive work, optimising the current settings and identifying new value sources and

business scenarios. Capabilities operate at different levels, from the strategic scope (Strategic Capabilities) to operational focus (Operational Capabilities), from the analytical view (Analytical Capabilities) to value creation (Value Creation Capabilities) (Niu et al, 2013; Abdikeev, 2017; Davenport, 2017; and Kudyba et al, 2020).

On the whole, the Cognitive Enterprise uses advanced cognitive technologies and distributed data sources to build coordinated human-machine, human-human and machine-machine process systems and are able to develop disruptive individual and organisational capabilities shaping the markets and industries of the future and gaining a competitive edge coming from unprecedented expertise. The impact of Cognitive Enterprise can be crucial, and business leaders need purposeful conceptual models and operational guidelines to develop integrated capabilities at analytical, strategical, operational and value creation level. The degree of development of the above-mentioned pillars of a Cognitive Enterprise inside the organisation can determine different levels of "cognitive maturity". The understanding of cognitive maturity framework can have three implications for managers and business leaders.

First, it provides a comprehensive view of the technological-infrastructural elements (technologies and data) and organisational-architectural dimensions (processes and capabilities) that enable an organisation's transformation to Cognitive Enterprise. Second, managers can benefit from the cognitive maturity framework to undertake a self-assessment exercise to understand where their organisation stands with regards to the three levels of cognitive maturity, i.e., sensing and perceiving, adapting and reacting, and envisioning and proacting (as outlined in Figure 1 and discussed in next section); these three levels are described in terms of strategic and operational goals, key activities, data analytics and technological capabilities, and expected results and business value. Third, a relevant implication for managers is in terms of envisioning new forms of value creation enabled by cognitive technologies and capabilities. Cases such as Bayer AG, IBM, Axa, and Tesla show the potential of cognitively enhanced products and processes (e.g., in terms of collaboration among people and machines, accelerated learning and judgement, enhanced engagement with the customers).

OPERATIONALISING AND VALIDATING COGNITIVE MATURITY FRAMEWORK

A maturity framework or model represents a tool for measuring and assessing the ability of a system to operate efficiently and achieve a predefined goal. There are many examples of different maturity frameworks or models in the managerial literature (e.g., People Capability Maturity Model, Performance Management Maturity Model, Open Innovation Maturity Model, Business Process Maturity Model, and Digital Maturity Model). However, an operational framework to measure and assess the *cognitive maturity* of an organisation is still missing. As discussed previously, the degree of the cognitive maturity of an organisation depends on the level of development of the pillars that form a Cognitive Enterprise. The development of those pillars can be categorised into three levels and are discussed below.

Level 1 of cognitive maturity framework – Reacting and Adapting

In an initial phase of piloting and adopting emerging technologies where organisations leverage isolated data sources to create localised advantages, the organisations adopt a cognitive posture that can be defined as "*Reacting and Adapting*" (Chan-Olmsted 2019; Kwilinski and Kuzior 2020; Oleksyk et al., 2020; and Tadeusiewicz, Ogiela, and Ogiela 2009). At this level, organisations use technologies to monitor internal processes and resources to enhance the workflow efficiency and resources' productivity, and to increase customer experience. At this level of cognitive maturity, descriptive and diagnostic analytics support organisations to identify existing challenges and understand the causes of existing problems to be addressed by leveraging process routings, operational constraints, automatic communications, and exceptions handlers. To guarantee the business continuity, an alternative configuration of processes (to react to internal and external changes) is adopted in real time.

Level 2 of cognitive maturity framework – Sensing and Perceiving

Organisations at this level have more intense and pervasive adoption of emerging technologies and have a more integrated and open process of data collection targeted at process orchestration and

strategic innovation (Davenport 2017; Slominski and Muthusamy 2018; and Wang et al. 2017). Organisations that adopt such posture use technologies mainly for predictive purposes, both at strategic and operational level. They scan the industries and analyse the phenomena at macro level to early recognise critical issues, sense new hidden opportunities and perceive possible events that might happen and may transform the current competitive scenario. Thus, organisations collect and elaborate huge amount of data and information coming from heterogeneous data sources and agents to reduce the business risks, to enhance the current offerings, and to be more agile in the decision-making processes.

Level 3 of cognitive maturity framework – Envisioning and Anticipating

At this level, a capillary presence of disruptive digital technologies in both the front-end and back-office of the organisation realise a network-based organisation that ensures real-time data collection, advanced data processing and interactive data analytics. Such kind of organisations operate in multiple business ecosystems, collect both structured and unstructured data, and leverage the prescriptive analytics features of digital technologies to evaluate different alternatives and scenarios for implementation (Hull and Motahari Nezhad 2016; Lewis and Lee 2015; Marrella and Mecella 2017; Martins, Rindova, and Greenbaum 2015; and Stachowicz and Nowicka-Skowron, 2019).

Organisations at this level of cognitive maturity behave as "smart living systems" capable of sensing and interpreting early warning signs and defining a future strategy to maintain their competitiveness. As smart living systems, they develop organisational attitudes and capabilities that make them more agile, flexible and resilient. By processing historical data and analysing on going phenomena, such organisations leverage prescriptive analytics to evaluate new business model configurations, nurture new expertise, improve knowledge discovery skills, and develop complex decision-making capability.

Steps towards operationalising and validating cognitive maturity framework

In order to operationalise and subsequently validate the cognitive maturity framework, as a first step, we plan to conduct in-depth semi-structured interviews with relevant stakeholders in about 10 medium

to large size organisations who are adopters of latest disruptive technologies. The interviews will allow us to gather information on the presence and the level of development of the four pillars of Cognitive Enterprise (i.e., technology, data, processes, and capabilities). A list of guiding interview questions has been included in the Appendix 1. The analysis of data collected through interviews will allow to define a positioning of the participating organisations in the cognitive maturity space. After this case-based and qualitative investigation phase, we will fine-tune the questionnaire and the maturity assessment checklist to conduct a quantitative investigation over a large sample of organisations; we will aim to collect data from 300 organisations in this phase. The large quantitative dataset will allow us to conduct correlational studies and more in-depth analysis of specific variables aimed to define and interpret relations among cognitive-related parameters.

DISCUSSION

In this era of technological revolution, becoming digital should not be a destination in itself for the organisations. Instead, it should be a step towards becoming a Cognitive Enterprise. Organisations' journey towards becoming a Cognitive Enterprise begins by generating data and adopting latest disruptive digital technologies. Then they combine the technologies with data to have innovative workflows to create value for their customers. However, the success of this journey relies on human factors such as openness for adopting new technologies and being able to innovate continuously. Therefore, by measuring the cognitive maturity of an organisation, we can develop an understanding of the level of preparation of an organisation, both in terms of human and technological capital, to transform into a Cognitive Enterprise.

Once we are able to operationalise and validate the cognitive maturity framework at organisational level, this can be further extended in business to consumer environment as well. That is, before launching an innovative product or service, a business can measure the cognitive maturity (technological cognitive maturity) of its potential customers to understand how that innovation will be perceived and subsequently received by its customers?

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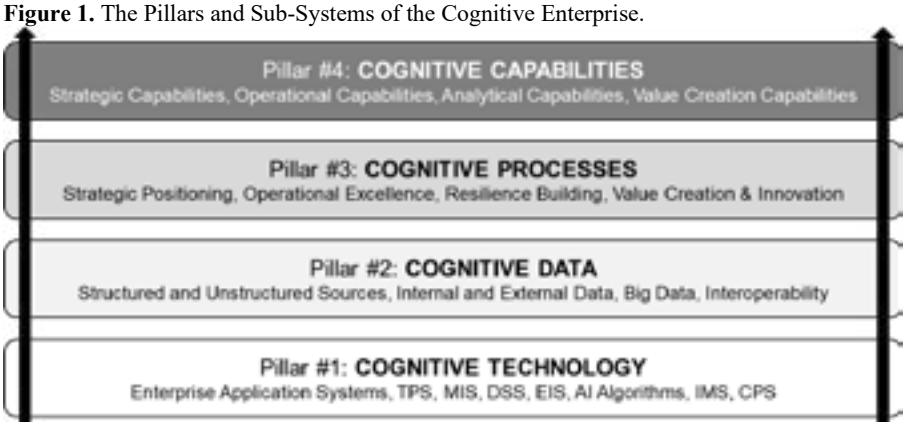
Figure 1. The Pillars and Sub-Systems of the Cognitive Enterprise.



Adapted from Elia, G. and Margherita, A. (2021). A conceptual framework for the cognitive enterprise: pillars, maturity, value drivers. *Technology Analysis & Strategic Management*, *34*(4), 377-389.

APPENDIX 1 – GUIDING INTERVIEW QUESTIONS

Guiding Interview Questions to assess the cognitive maturity of an organisations

1. How do you perceive the transformation drivers that are affecting your industry? In particular, what is your perception about the nature of such forces and the urgency to address them?

2. What is the degree of your engagement in large-scope innovation or transformation projects in the past? How is this evolving in your current corporate experience?

3. Is your organisation open to the experimentation of the "new", here including technologies, methods, processes, competencies, or organisational configurations?

4. How does your organisation promote individual and collaborative learning and new forms of capability building aimed to address the technological and market transformations?

5. What is the level of risk tolerance and acceptance of failure in your organisation? In general, how do you evaluate the entrepreneurial spirit of single individuals and the entire company?

6. Would you evaluate your organisation as flexible (open to changes in the short-medium terms), agile (able to undertake rapid and smooth transitions), resilient (capable to revitalize after a crisis or difficulties)?

7. Is your organisation characterized by a culture of "diffusion of data" and knowledge sharing aimed to enhance transparency, open communication, mutual trust, and organisational learning?

8. Does your organisation promote the development, within employees and managers, of a mindset oriented to "open data adoption" and external knowledge gathering and processing for business purposes?

9. Is your organisation aware of the market and industry innovation trends, as well as of new digital technologies for data exploitation and diffusion (e.g., big data, visual analytics) as drivers for enhancing operational and strategic processes?

10. Has your organisation skills and expertise in relation to the design, development and application of artificial intelligence solutions, and especially of machine learning and reasoning algorithms?

11. What type of business intelligence capabilities (competencies, models, methodologies, tools, algorithms, software) are currently available in your organisation, and how these impact company strategies and operations?

12. How smoothly and quickly is technology accepted and adopted by managers in your organisation? What happens at the operational level and what at the middle management and executive level?

13. How and how effectively does your organisation adopt digital technologies in key operations, i.e., inbound and outbound logistics, manufacturing, marketing and sales, and post-selling services?

14. Does your organisation adopt digital applications (e.g., sensors, dashboards) for real time monitoring of technological systems and infrastructures? Which are the deriving advantages?

15. How your organisation attempts to innovate customer service and customer lifecycle experience by leveraging digital technologies?

16. Does your organisation leverage advanced data processing tools and interactive data analytics dashboard to monitor and assess the operational and strategic business performances?

17. What is the frequency and scope of recommendations and suggestions that advanced digital technologies provide to enhance the operational performances? And what about for the strategic performances?

18. How your organisation reflects and debates on possible evolutions of current business scenarios? And what about possible rises of future business opportunities?

19. Does your organisation involve business partners and knowledge experts to discuss about future technological trends and their impact on business opportunities?

20. At what extent does your organisation collect data and information about the industry of reference (and neighbor industries) to fuel an internal debate about the future of competition? Do digital technologies play a role in such data collection, processing and visualization processes?

Is there a connection between psychological ownership and entrepreneurial resilience?

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Is there a connection between psychological ownership and entrepreneurial resilience?

ABSTRACT:

The vulnerability of SMEs was a primary concern for policymakers across the globe following the disruptions posed by COVID-19 as SMEs form an essential part of the economy; hence, their resilience has become an important topic for research and discussion. Within SMEs, entrepreneurial firms are an indispensable group and management literature has highlighted that ownership acts as a source of competitive advantage for organisations. Through this research, we wanted to explore the relationship between psychological ownership and entrepreneurial resilience. A systematic literature review revealed that psychological ownership and entrepreneurial resilience are linked through the individual's cognitive, effective and emotional attributes.

Keywords: SMEs, entrepreneurship, resilience, psychological, ownership, attributes

INTRODUCTION

The COVID-19 pandemic posed an unprecedented economic shock both in its complexity and severity with small and medium enterprises (SMEs) being the most vulnerable due to lower cash buffers, higher dependence on bank financing, limited access to new credit lines during crises along with plummeting revenues due to nationwide lockdowns (Cepel, Gavurova, Dvorský, & Belas, 2020; Gourinchas, Kalemli-Özcan, Penciakova, & Sander, 2020). SMEs account for 99 percent of all enterprises in the OECD countries and yield up to 50-60 percent of the added value in their economies (Cepel et al., 2020). The vulnerability of SMEs was a primary concern for policymakers across the globe to prevent job losses, bank losses and a financial crisis (Cepel et al., 2020; Gourinchas et al., 2020). Therefore, government policy responses were essential to smooth economic recovery. However, the recent IPCC 2021 report (Masson-Delmotte et al., 2021)has highlighted that the globe will continue to see changes to the natural ecosystem, including more floods, intense droughts, heat levels and sea level rises. This implies that organisations are constantly going to live through turbulent economic, social and environmental challenges which pose disruptions and discontinuities (Burnard & Bhamra, 2011). Therefore, resilience continues to dominate the focus of research in the wake of a tumultuous start to the 2020s.

Management literature has previously argued that ownership is a source of competitive advantage for organisations (Brown, 1989). Studies have highlighted that family businesses perform better in

difficult times (Bloch, Kachaner, & Stalk, 2012). However, previous research has been limited to larger organisations with focus on ownership from a legal perspective. But ownership as a concept comprises of two different elements – legal and psychological, wherein psychological ownership which can often be described as an expression of relationship with objects by using pronouns such as my, mine, ours, yours and theirs (Pierce, Kostova, & Dirks, 2001). There is lack of research examining the relationship between psychological ownership of entrepreneurial SMEs and resilience and our examination of current literature has confirmed this is a gap. Therefore, our research aims to explore the relationship between ownership and entrepreneurial resilience in SMEs. It will allow us to contribute towards understanding the factors that influence this relationship. This is relevant as it has been found that entrepreneurship is vital to the resilience of industries, cities, regions, and economies (Korber & McNaughton, 2018). Similarly, Martinelli, Tagliazucchi, and Marchi (2018) uncovered that individual resilience displayed in smaller firms is likely to have ripple effects on communities and, therefore, an economy at large. Hence, we argue that by focusing on identifying the link between individual resilience through psychological ownership and entrepreneurial resilience does subsequently economic resilience of economies.

Our research aims to address this by focusing on two questions:

- Is there a link between psychological ownership and entrepreneurial resilience firm to survive through adverse events?
- What are the critical aspects of psychological ownership for entrepreneurial organisations and their resilience?

In the following sections, we reveal the outcome of our systematic literature review focusing on psychological ownership and entrepreneurial resilience of SMEs. Subsequently, we offer a conceptual model for examining the link between psychological ownership and entrepreneurial resilience.

LITERATURE REVIEW

Resilience has been a popular focus in management and its research has gained momentum due to various crises the world has faced in the 21st century. Natural disasters, terrorist attacks, financial

crises, economic downturns, industrial accidents, devastating product recalls, technology breaches and secure data violations may have all impacted the ability of organisations to function (de Vries& Hamilton, 2021; (Linnenluecke, 2017; Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017). Businesses which have responded to these challenges and survived are considered resilient (Vogus & Sutcliffe, 2007). There have been a number of studies focusing on organisational resilience as Williams et al. (2017) state to not only explain and capture the nature and impact of crises but also to understand how organisations can prepare and respond to overcome failure. Hence, the concept of organisational resilience has continued to gain momentum (Bhamra, Dani, & Burnard, 2011). This concept is best described as the ability of an organisation to carry out its functions and return to a stable state after major disruptions or disturbances Burnard and Bhamra (2011) by adapting to changed circumstances (Kantur & Say, 2015). H. P. de Vries and Hamilton (2021), and previously Sullivan-Taylor and Branicki (2011), have highlighted that while small and medium enterprises (SMEs) form an important part of a country's economy there is lack of studies devoted to research about organisational resilience with regards to SMEs.

As a next step, we began our literature review with a systematic literature search by identifying the keywords as - *Entrepreneu* resilien*; Organis(z)ational resilience; psychological ownership~~resilience~~; SMEs (small and medium enterprises).* Following best practice approach to systematic literature reviews (Rojon, Okupe, & McDowall, 2021) we conducted Boolean searches with the AND operator only with the keywords across four selected databases - Proquest, Scopus, Web of Science and Business Source Complete to identify peer-reviewed articles. Based on our research scope we searched for articles which contained all the keywords across the four databases. The exclusion criteria for our search results were the time period and peer-reviewed published journal articles from 2000 and first half of 2021. Following a review of abstracts for relevant papers, we found only 23 articles published between the stipulate time period which met our search criteria. In the subsequent sections, we provide a snapshot of what the literature revealed to us.

Exploring psychological ownership

Over the past few decades, management scholars and practitioners have studied and explained the concept of ownership. Ownership as a concept comprises of two different elements – legal and psychological (Pierce et al., 2001). Legal ownership has been suggested as formal ownership commonly defined in law – a legal right to a possession (Pierce & Jussila, 2011). Therefore, legal ownership offers rights in relation to control, financial interests and information. However, on the other end of the spectrum lies psychological ownership (PO) which can often be described as an expression of relationship with objects by using pronouns such as my, mine, ours, yours and theirs. As Etzioni (1991) has argued, legal and psychological ownership can exist independent of each other. Although firms are typically classified in terms of legal ownership (e.g. partnerships, listed companies etc.), it can be inferred that the concept of legal ownership is limited in capturing the dynamics of the relationship between an organisation and its owner/manager. PO is often conceptualised as a self-derived perception primarily driven by the individual without formal recognition from others (Dawkins, Tian, Newman, & Martin, 2017). Scholars have argued that PO is instinctive and innately human as it satisfies human motives (Dawkins et al., 2017; Pierce et al., 2001). Therefore, in this paper we focus on psychological ownership – a feeling of possession over a given object, independent of any legal or formal rights of ownership (Mayhew, Ashkanasy, Bramble, & Gardner, 2007).

It is hard to arrive at a universal definition of psychological ownership as it extends beyond the scope of rigid context as ownership is a "dual creation, part attitude, part object, part in the mind, part 'real'" (Etzioni, 1991). It can be argued that the relationship between self and possessions is a fundamental component within the domain of psychological ownership. Psychological ownership has also been referenced as an extension of self, and changes in the state of possessions could have devastating effects to owners as Belk (1988, p.160) stated that "we learn, define and remind ourselves of who we are by our possessions (Guarana & Avolio, 2022). Additionally, the degree of control exercised over an object will also result in a feeling of ownership (Furby, 1978; Lewis & Brooks, 1974; Pierce & Jussila, 2011; Prelinger, 1959; Sartre, 2001). Further assertion by Csikszentmihalyi and Rochberg-Halton (1981) suggests that investment of the self into the creation, enhancement, or acquisition of an

object (an organisation in this case) is an important contributor to the development of psychological ownership (Pierce & Jussila, 2011). This highlights that feelings of psychological ownership are stronger when an individual undergoes these experiences; therefore, in the case of failure of an organisation an individual may experience a sense of loss of some part of the personality (James, 1890). Pierce, Kostova, and Dirks (2003) argue that responsibility does not just come as a result of psychological ownership but that the two are distinct states. Instead, they suggest that feelings of responsibility can result from psychological ownership and that a sense of psychological ownership can result from the sense of responsibility that an individual has towards something.

Pierce and Jussila (2011); Pierce et al. (2001, 2003) suggest psychological ownership can comprise of both affective and cognitive elements, i.e. there exists an emotional attachment to the target that may exceed the cognitive evaluation of the target (Dawkins et al., 2017). This attachment can be linked to tangible objects or abstract concepts (Pierce et al. 2001). Additionally, Pierce et al. (2001, 2003) suggest psychological ownership has been linked to multiple possession targets based on motives and needs activated in the individual and not just the target of possession. Brown et al. (2013) state that this relationship is dependent on how individuals construe their relationship to the target.

In their work, Mayhew et al. (2007) suggest that psychological ownership affects work attitudes, and therefore performance in business or workplace. In addition, Mayhew et al. (2007) suggest that in entrepreneurship, psychological ownership affects several aspects of business, including performance and resilience of the venture against challenges. More recently, de Vries& Hamilton (2021) have stated in their study that loss of a possession, or failing of a business may be seen as the lessening of self. Hence, in some cases, psychological ownership may lead to commitment to organisations. de Vries& Hamilton (2021) also suggest that continuous commitment is related to psychological ownership and may influence the extent to which an individual is willing to stay within an organisation.

Exploring entrepreneurial resilience

According to Luthans (2002, p. 702), resilience is a/the psychological ability an individual has to ‘bounce back’ from adversity, uncertainty, failure, conflict, or even positive change. Similarly,

d'Andria, Gabarret, and Vedel (2018) define resilience as the ability to respond, adapt and start over after adversity. Thus, resilience can be considered as a psychological trait that allows individuals to flexibly adapt to change (Genet & Siemer, 2011, p. 381). It can be inferred from the above definitions that resilience centres around two main concepts: adversity and the ability to adapt positively (Fatoki, 2018) which involves behaviours through which an individual or organisation understands new problems and adapts to them. Thus, it is argued that resilience in this sense can be a learned behaviour (d'Andria et al., 2018; H. De Vries & Shields, 2006). For instance, de Vries and Shields ("Towards a Theory of Entrepreneurial Resilience: A Case Study Analysis of New Zealand SME Owner Operators,") maintain that resilience involves four individual behaviours: flexibility, motivation, perseverance, and optimism.

Specifically, d'Andria et al. (2018, p. 1202) maintain that resilience involves two psychological mechanisms: "the regulation of emotion (emotional resilience) and the flexibility of thought (cognitive resilience)", which are related to an individual's emotional and cognitive adaptations to overcome adversity. Furthermore, extant research suggests that these two mechanisms are linked, as cognitive flexibility or flexibility of thought, may promote effective emotion regulation, thus contributing to the ability to adapt well to challenging situations, or resilience (Genet & Siemer, 2011; Grol & De Raedt, 2021). The specific cognitive mechanism that supports emotion regulation is called 'cognitive flexibility in processing of affective material', or affective flexibility (Grol & De Raedt, 2021, p. 1). It appears that this process may support highly resilient individuals to attend to and disengage from 'emotional material' (Genet & Siemer, 2011, p.381), so that they can adapt to challenging situations.

Even though entrepreneurial resilience is sometimes equalled to individual resilience (Branicki, Sullivan-Taylor, & Livschitz, 2018; Bullough & Renko, 2013), Branicki, et al. (2018) posit that individual resilience only partly explains entrepreneurial resilience, as the latter crosses over individual resilience and organisational resilience. In fact, they conclude that individual resilience and entrepreneurial resilience are "adjacent and potentially complementary concepts rather than synonyms" (p. 1248).

The view that considers resilience to involve two mechanisms, namely cognitive flexibility and emotional flexibility, is replicated in Bernard and Barbosa's (2016, p. 89) definition of entrepreneurial resilience, which sees it as a "form of emotional and cognitive ability that is useful for the entrepreneur, particularly when bouncing back after failures connected to their entrepreneurial initiative."

These views where resilience is seen as a personality trait and behaviour have been taken by entrepreneurial researchers. This is reflected in the six research streams that Korber & McNaughton (2018) identified through their systematic literature review of entrepreneurial resilience research. At the individual level, entrepreneurial resilience has been considered as a dimension of human capital; as a quality of entrepreneurs involving three dimensions: hardiness, ability to find resources, and optimism; as associated to confidence and an ability to recover and create new companies after failure; and as entrepreneurial characteristic linked to emotional intelligence and innovation abilities (Bernard & Barbosa, 2016). Similarly, (Korber & McNaughton, 2018) found that research in this area associates entrepreneurial resilience to emotional intelligence. They also identified that this literature theorises resilience as a combination of the entrepreneur traits and qualities such as flexibility, motivation, perseverance, optimism, self-efficacy, and hope (Korber & McNaughton, 2018).

DISCUSSION

Our review of the existing literature has revealed that individual traits have an effect on entrepreneurial resilience. Entrepreneurial resilience as a process, allows business owners to continue going forward despite harsh conditions that affect their businesses continually (Benard and Barbosa, 2016). Fatoki (2018) and Martinelli et al. (2018) attribute resilience as an important factor for successful entrepreneurial outcomes. In more literature, resilience is presented as a personality trait of the entrepreneur, or outcome of life experiences. Korber and McNaughton (2018), also point out that individual resilience to a great extent leads to increased organisational resilience. Arguing that the trait of resilience may not necessarily be born out of entrepreneurship but is one that people have even before and in fact it is what makes others start businesses while others do not (Bullough & Renko, 2013).

Korber and McNaughton (2018) stressed that resilience is a continuous process as opposed to just a one-time event. Interestingly, N. Krueger Jr and Dickson (1994) connected psychological ownership to the feelings of efficacy and mention that resilience is often treated as a synonym for self-efficacy i.e. an individual's belief in their ability to organise and implement actions necessary to achieve certain performances (N. F. Krueger Jr & Dickson, 1993; Nguyen, 2020).

Given this we would see that psychological ownership is indeed related to resilience and the literature on psychological ownership makes us aware that individuals will go to great extent to take care of their possessions based on how central the target of possession is to the individuals' extended identity of self (Bloch, 1982). Therefore, we argue that owners with higher level of psychological ownership go to greater extent to protect their possessions it implies that they will be more resilient; thus, they will make a bigger effort to overcome a crisis and thus lead to higher organisational resilience. However, what constitutes the connection between psychological ownership and entrepreneurial resilience?

Examining the connection

We believe the answer to this question lies in understanding the link between psychological ownership and entrepreneurial resilience identified throughout the literature which had overlap across – emotional, cognitive and effective attributes of an individual.

As Morewedge (2022) highlights when we perceive things we own to be part of us, we like things we own and value them more. Moreover, Avey, Avolio, Crossley, and Luthans (2009) posit that people take better care of, maintain and nurture possessions that they own. Pierce and Jussila (2011); Pierce et al. (2001, 2003) suggested that PO can comprise of both affective and cognitive elements i.e. there exists an emotional attachment, which can be linked to tangible objects or abstract concepts (Pierce et al. 2001), to the target that may exceed the cognitive evaluation of the target (Dawkins et al., 2017). Additionally, Pierce et al. (2001, 2003) suggest psychological ownership has been linked to multiple possession targets based on motives and needs activated in the individual and not just the target of possession. Brown et al. (2013) state that this relationship is dependent on how individuals construe their relationship to the target. The sense of responsibility that is attached to possessions brings to

light the advantages of psychological ownership. However, Pierce et al. (2003) also highlighted the difficulty that arises, due to attachment resulting from psychological ownership. In business, the view of psychological ownership as an extension of self may cause individuals to take failure of business as though they have failed. This may also fuel how much individuals fight or are resilient in business as they do not want to see their business fail Pierce et al (2003). In addition, H. P. de Vries and Hamilton (2021) have stated in their study that loss of a possession, or failing of a business may be seen as the lessening of self.

Therefore, we note d'Andria et al. (2018, p. 1202) point that resilience involves emotional resilience and cognitive resilience, which are linked as the latter promotes the former, thus supporting an individual's resilience (Genet & Siemer, 2011; Grol & De Raedt, 2021). Additionally, according to Branicki et al. (2018), the strength of SMEs may lie in the entrepreneurial mindset of their owners, which enable the whole SME to be resilient and face adversity.

Through the literature cited above, we have identified that psychological ownership and entrepreneurial resilience are indeed linked however, the links can be established by examining the cognitive, effective and emotional attributes across aspects of self-efficacy and individual resilience.

We present a conceptual approach to examining the links and attributes related to psychological ownership and entrepreneurial resilience in Figure 1.

Insert Figure 1 here

CONCLUSION

The vulnerability of SMEs was a primary concern for policy makers across the globe caused by the COVID-19 pandemic and their resilience to support the economy and communities. Research we examined has suggested that the strength of an SME may lie in the entrepreneurial mindset of its owners. In this paper, we brought focus to the concept of psychological ownership and established links with entrepreneurial resilience. Our proposed conceptual model suggests the links between psychological ownership and entrepreneurial resilience can be identified through examining specific cognitive, effective and emotional attributes linked to both self-efficacy and individual resilience.

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FIGURES

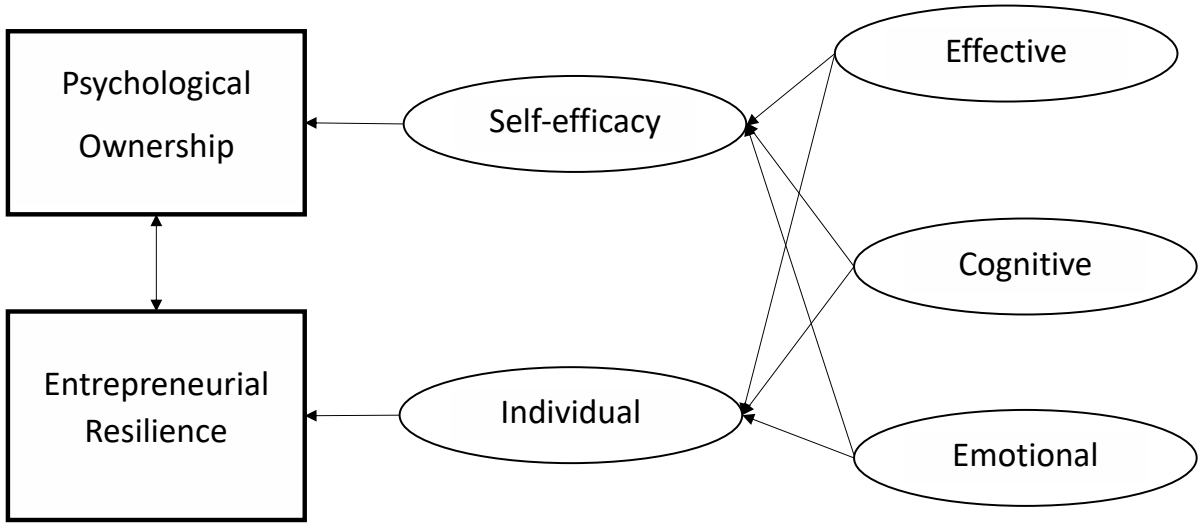

Figure 1 – The link between psychological ownership and entrepreneurial resilience for entrepreneurial SMEs.

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Title: Changes to career prospects international students require due to global pandemic and adjusts the behaviours to align with the new world.

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Keywords: career prospects, behavioural adjustments, international students, global pandemic, Australia.

Abstract

This research project provides insightful information and explores the fundamental changes caused by the global pandemic on the career prospects and the related behavioural adjustments of international students who study business and IT in Australia. The research method for the analysis was based on a semi-structured, interview based qualitative approach. This research provides an analysis on the pre-pandemic career prospects, impacts on career prospects during pandemic and behavioural adjustments. Here, sixty-one semi-structured qualitative questions were asked to collect the primary data from twenty-nine interviewees with international students from three different countries, namely India, South Korea, and Nepal. Based on the findings from the data analysis shows the how the career prospects had been impacted and how the international students need to adjust their behaviour to adapt to the new post pandemic world.

The findings of the research identified the pre-pandemic professional career prospects of international students studying business and IT in Australia to acquire a professional occupation which is related to the study course. The interference of the education and the labour market impacted the career aspirations of the international students requiring adjustments to student expectations to successfully align with the new world. Precisely, a set of new skills are required to consider by the international students to make them unique from the crowd. Specially, after their graduation in winning a professional career. These skills include superior English language proficiency, computer literacy, real-world organisational skills, and online work skills. The international students may acquire these skills through the short-courses or online courses. They may also consider contingency plan for the adverse situation. The current research report is limited by the participants characteristics, geographical factors and number of international students interviewed. For the future research directions, it is suggested to interview more international students residing and studying across Australia over a longer period of time and expand the analysis on more than three ethnic groups.

Aim

the aim of the research is to focus on the three main areas, *'What changes to career prospects do international students studying business and IT in Australia think will happen as a result of the global pandemic and why & how the students adjusted their behaviors to align with the expectations of the post pandemic world'?* Bearing this in mind, the general aim is to explore and identify the answer to this primary research question. To be more specific, a further research aim is to explore the fundamental changes to career prospects for international students who study business and IT in Australia due to the global pandemic. Moreover, the research aims to examine the behavioural adjustments of international students in Australia to adapt to the new world.

All in all, the three aims help to examine and answer the primary research question as well as provide a guideline and detailed overview for international students, their professional careers prospects, the Australian government and other relevant departments that are affected by the global pandemic.

Research Question

SRQ1: 'What are the pre-pandemic business and IT career prospects of international students in Australia?'

SRQ2: 'How has the global pandemic impacted the career prospects of international students and why?'

SRQ3: 'How will the international students adjust their expectations and intentions to succeed their careers in work post pandemic?'

Justification of the research

This research paper will focus on international students, their career prospects changes as well as behavioural adjustments caused by the global pandemic and will benefit four main areas, namely academia, international students, industry as well as policy makers.

A significant amount of knowledge will be provided using qualitative research approach to answer the research questions. Since only a limited amount of research has been conducted on the above research questions to the best of our knowledge, this research finding will significantly benefit the domains of academia, international students, industry, and the policy makers by presenting valuable information, knowledge and guidance to adapt and prepare for the new post pandemic world. The international students can prepare for the changes in the career prospects and behavioural adjustments. The industry managers can use this as a guideline for better decision making in the recruitment process and the study programs. The policy makers can update and generate new policies and regulations focusing on student visa, permanent residency and taxation and react effectively to the outcome of the pandemic.

Since there is a limited amount of research conducted to the best of our knowledge, the findings of this research will assist in closing the knowledge gaps. While the limited number of research focus on mental -health (Cullen, Gulati, and Kelly, 2020), pre-printing (Fraser et al., 2021) or lessons and future directions (Khanna, 2020), there is no research so far on international students' career prospects and behavioural adjustments. The research will benefit the following key stakeholders: 1. Guides the international students to adapt and prepare themselves for the post pandemic requirements with respect to the changes in the career prospects and behavioural adjustments. 2. By outlining the changes to the labour market it provides a guideline for the managers for efficient decision making in the recruitment

process. 3. Assists policy makers to update and generate new policies and regulations with respect to the processing of student visa, taxation and permanent residency and react effectively to the outcome of the pandemic.

Literature Review

The pre-pandemic career prospects

The evolution of immigration in Australia started with the aim to build a nation and to increase the societal culture post World War II. However, the immigration policy of Australia reacts more sensitively to the outcomes of the economy and adapts accordingly over the past fifteen years. To be more specific, the focus of human capital shifted to targeted selection in accordance with the labour market and its need for specific skills (Akbari and MacDonald, 2014). As the cross-border movement patterns are shaped by the shift in the demographic factors, the technology developments as well as the globalized economy, skilled migration plays a crucial role. Australia being one of the leading policy developers allows international students to settle down as skilled migrants after graduation since 1999 (Blackmore and Gribble, 2012).

The increase in the number of migrants as students has resulted in the overseas education gaining more importance (Collins et al., 2016). Therefore, international students do not only achieve a degree but also the benefits that can be provided by the degree such as 'terms of employment, status and lifestyle'. Due to this fact, career prospects as well as higher status influence the choice of international students to study abroad (Cervino et al., 2006, p. 104). The growth as well as the boom of the economy and the resources in Australia lead to experienced skills shortages. Based on this, the four industries that face increased recruitment issues are the 'agriculture, construction, hospitality and personal services' (Healy et al., 2015, pp. 2477). Policies of Australian immigration focus more on those domains where the country faces skills shortage. The idea of providing additional points for the permanent residency after graduation motivates the international students to pursue those degrees which gives them an added benefit (Jackling, 2007). This resulted in many international students completed courses in the skill

shortage sectors such as 'accounting, hairdressing, hospitality and information technology (IT)' to establish careers as well as to be able to apply for permanent residency (Azmat et al., 2013, pp. 105).

Students mainly study abroad to improve their career prospects, to achieve a specific career or to experience living in a foreign country (ICEF Monitor, 2019). In more detail, many international students Choose to study in Australia for various reasons such as the economic wealth, educational opportunity and standards, family influence and the demographic issues experienced in their home countries. The lack of adequate educational opportunities offered by Asian countries such as China or India contribute to the increasing number of international students to complete their studies in Australia (Azmat et al., 2013). The main motivation factor for the chosen study programs by international students in Australia was to establish careers and get a job. Moreover, the motivation of international students was linked to the progress, opportunities of their careers and the interest in the subject. In addition, the reasons to undertake a specific course by international students were to study abroad or to migrate to Australia (ACER, 2019).

Even though the employment rate increased, Australia experienced issues which are linked to the integration of the labour market until 2006 (Hawthorne and To, 2014). Various factors such as limited educational experiences such as work integrated learning, lack of networking and support limits them from finding a suitable work in their field of study and hence forcing them to engage in jobs with low levels of skills and being easily replaced with others in the labour market. To minimise the impact, Australia modified and updated the requirements for the student migration pathway in 2009 that stressed more on the advanced English ability, higher degree qualifications, employer sponsorship and experience. The years 2009 to 2011 experienced an increased rate of employment of international students in the domains of medicine, dentistry and pharmacy sector, the numbers reaching almost the same as the domestic graduates in comparison to the overwhelming domains of business, commerce, accounting, IT and Engineering'. Based on this, companies in Australia hired on average more domestic graduates than internationals in these sectors (Hawthorne and To, 2014, pp. 105). Consequently, these sectors represent the major challenges for international students and their career prospects during that time.

The choice to study overseas is determined by the career opportunities, however the main driver is represented by being employable and transition into the working environment successfully after graduation. Consequently, the career opportunities of international students determine the choice to study overseas (Nilsson and Ripmeester, 2016). Hence the practical work experiences in the form of internships, part-time employment, and work-integrated learning play vital roles for the betterment of career-ready graduates.

Nevertheless, the students are motivated to engage in internships to gain work experience and compete against the labour market, limited number of work-related experiences are offered in Australia. Due to this fact, many internships are unregulated, unpaid in nature and lack the engagement of employers (Jackson, 2018).

49.7% of international students who graduated in Australia went back to their home country after the completion of their degree and earned on average higher salaries in comparison to the local graduates. Approximately 43.4% stay in Australia after graduation and transition into the work environment (AUIDF, 2017). The main reasons for international students to stay or leave their host country are represented by the availability of suitable jobs in their chosen career, language barriers after graduation or the belief that employers do not have any interest in candidates who are immigrants. Bearing this in mind, international students prioritize career prospects as well as opportunities before for instance living costs, visa, or work permit restrictions (Nilsson and Ripmeester, 2016). Consequently, international students are more likely to establish international careers, the more they are exposed to international contexts (Wilkes and Wu, 2017).

Considering this, the career prospects of international students depend on, for example, the English language skills, the knowledge insights of the recruitment practices as well as work culture and experiences in Australia. By considering these factors, the employability of international graduates will increase, the career prospects will improve and will be more compatible against the competition (Blackmore and Gribble, 2012). In addition, regional areas that have lower populations in Australia have an increased demand for skilled workers and they encourage international students and graduates that belong to the skilled occupation list to move to rural areas. By doing so, international students have better work opportunities and increased career prospects (Corcoran et al., 2014).

The pre-pandemic predictions of the labour markets for the next four years were as follows. The demand for total employment will rise by approximately 1,075,000 until 2024 and will amount to 8.3% based on forecasts. Considering this, the main industries that will contribute most to the employment growth rate will be health care and social assistance (23.5%). Moreover, professional, scientific, and technical services (16%) as well as education and training (12%) will play an important part in the employment growth rate. Another key industry that will impact the labour market is construction (10.6%) and all added up will contribute 62.1% to the employment growth. In comparison, industries that will decline in the next few years are agriculture, manufacturing, information media and telecommunication sector due to the reasons such as weather conditions or decline in printing and support services (Australian Government, 2019). Collectively, the changes in the labour market are impacted by many different factors such as globalization, technology trends, job insecurity or life satisfaction (Chin and Rafiq, 2019).

The pandemic impact on career prospects

The global pandemic has significantly changed the career prospects for the international students and thereby the pre-pandemic predictions. In general, the global pandemic outbreak has left Australia with serious negative impacts on a domestic and international level, that caused disruptions in the supply chain, the introduction of travel and tourism restrictions and led to a technical recession since the early nineties (IBISWorld, 2020). The 2020 Australian labour market experiences the sharpest deterioration with the global pandemic leading to a decrease in the average working hours due to the forced structural changes in the economy resulting in the available jobs being less suited for specific skills of the workers (Reserve Bank of Australia, 2020).

Between February and March 2020, the total number of employments substantially declined by industries due to the changes of activities and the decrease of face-to-face interactions to control and respond to the spread of the global pandemic. The most affected industries that decreased the employment rate are in the accommodation and food services (-31.2%), arts and recreation services (-35.4%), information, media and telecommunications and administration (-15.9%) as well as support services (-10.4%) (Borland and Charlton, 2020). Moreover, the Australian government lifted the

restrictions for the international students to work in essential sectors such as supermarkets, aged care, and disability care as well as health as more manpower is needed (Australian Government, 2020). Consequently, the global pandemic caused workers to be defined in new categories such as key workers, who work from home and are on leave or lost their jobs (Fletcher and Griffiths, 2020). However, in response to the pandemic many businesses in Australia preferred to employ permanent residents or citizens against international students due to the complex and uncertain visa status which contributed to reduced employment rate (Dang et al., 2020).

The unemployment rate in Australia increased from 5.2 % in October 2019 to 7 % in 2020 (Australian Bureau of Statistics, 2020). Moreover, domestic businesses that depend on the movement of people to Australia such as students and tourism experienced the effects of the global pandemic first (PWC, 2020). In addition, many consumers in Australia changed to online channels to shop, to communicate as well as to work. Based on this, the sector trends for online shopping, postal services or data storage services increased heavily. In comparison to other industries such as retail and hospitality which suffered due to the government restrictions on non-essential services or activities and were forced to close temporarily in response to the global pandemic (IBISWorld, 2020). Since a high number of international students were hired mainly in the hospitality or the retail sectors, they lost their jobs and faced many challenges thereby preventing the international students from pursuing work experiences (Balakrishnan and Nguyen, 2020) and building networks with potential employers (Berg and Farbenblum, 2020).

Due to the global pandemic, it is predicted that the migration will reduce significantly and only 34,000 migrants will come in the upcoming year compared to 2019 which welcomed 533,500 migrants in Australia. Consequently, it will result in a decreased population as well as workforce. Here, the long-term impact on the economy in Australia will be felt in several industries, namely tourism, agriculture, healthcare as well as housing (Sydney Financial Planning, 2020). Moreover, immigrants have unstable employment conditions and a lower length of service that led to vulnerable circumstances focusing on the labour market. In times of the passive labour market, discrimination is more likely to increase, and the network of contacts plays an important role for migrants to find a job (OECD, 2020).

Based on this, the enrolment number of international students in Australia decreased from approximately 4,608,520 in 2019 to 708,671 in May 2020 (Chau et al., 2020). Many international

students used to study abroad for future career development and employment outcomes. However, the focus shifts to health security as well as safety as the most important factor for the mobility of international students which are caused by the global pandemic (Cheung et al., 2020). Moreover, the stricter policies for immigration, the concern of safety, the decreasing employability of international graduates as well as the perception of the declining quality standards of universities play an important role in international students' career prospects (Ross, 2020).

Due to the global pandemic, some adjustments have been made linked to the post-graduation stay and provide a higher degree of flexibility (European Commission, 2020). To be more specific, international students who study in regional areas in Australia are eligible to work between one to two years additionally on top of the original two years post-graduation stay. This will not only strengthen the diversity and wealth in Australia's regional areas but also offers international students more career opportunities compared in the major cities (Tan et al., 2020) Moreover, offshore graduates who could not return to Australia due to border closure can apply for a postgraduate visa (Subclass 485) even if they did not meet their visa conditions (i.e., studying online during the global pandemic). This ensures that international students are not disadvantaged by the travel restrictions (Australian Government, 2020). All in all, the work opportunity after graduation is seen by many international students to strengthen their employability as well as English skills, to earn money back that was spent on studying abroad and represents a potential pathway to migrate in Australia (Bairagi, 2020).

The global pandemic significantly changed the way companies operate and many companies accelerate the digitization of internal business processes, customers, and supply chain operations. Since consumers moved to online channels due to new regulations which were introduced by the government, companies and industries adapted in the form of digital channel interactions (McKinsey, 2020). The change to the digital era is of high importance since Australia's e-commerce industry grew by 80% compared to last year. As the pandemic shifted the Australian behaviours to online channels, the change is likely to last forever (Retail World Magazine, 2020). Here, only 9% of consumers purchased groceries over online channels prior and as the pandemic progressed this number increased to 63% (PWC, 2020). As a result, the e-commerce market is expected to grow significantly and will remain high in the future. Consequently, the pandemic contributed to the rapid growth of the e-commerce industry in a very short

period and as more consumers adjust their shopping habits to enjoy many benefits of e-commerce offers the interest of businesses increased (Retail World Magazine, 2020). In more detail, program developers, software engineers and maintenance planners represent high demand occupations which are related to the e-commerce sector (Australia Government, 2020).

To conclude, the global pandemic has already set immigration career prospects for medical professionals, mechanical and software engineers and construction project managers who are essential to fill up demanding positions in Australia. Here, the Australian government selected key occupational positions that will immediately help the country's economic recovery and will reduce the unemployment rate (Australian Government, 2020). Bearing this in mind, the new immigration plan of the Australian government will change the preferred occupation list for international students who are planning to find employment in Australia and will impact their career prospects. Based on the gathered information, there is a shift from agriculture, hospitality and personal services sector to essential occupations such as medical professionals, engineers and IT related fields that will support the recovery of the Australian economy and change in career prospects of international students in the upcoming future.

The behavioural adjustments

To start with, skill shortages occur when the demographic, technology or business processes change causing the need for new skills and lead to challenges in recruitment or a lack of skills in the labour market (Parliament of Australia, 2020). Bearing this in mind, the adaption to the automation and digitization revolution has been anticipated by the global pandemic and is changing the internal operation processes of businesses, the interactions with customers as well as the supply chain (McKinsey, 2020). Based on this, companies transformed to systems which are linked to information technology (IT) or changed the business model and moved to online approaches to adapt to the changes caused by the global pandemic. Moreover, the social distancing requirements led companies to adjust work practices as well as workspaces (Carroll and Conboy, 2020). Furthermore, it is forecasted that working in a traditional way will be disrupted through the creation of easily run as well as self-adjusting utilities where end-to-end workflows will be managed without a high level of human intervention in the

supply chain (Hopkins, 2020). As a result, the technology uses as well as the related 'behavioural, societal, and organisational aspects' are the key factors that will determine the success during the battle with the global pandemic (Agerfalk et al., 2020, p. 2).

Due to this fact, these changes will have a significant impact on the skills and capabilities of employees in the labour market to master new tools in the rapid increase in home-based and remote work. As the use of automation and digitisation increases, the skill profiles for future jobs will change dramatically. Here, businesses will need people with the relevant skilled mindsets for developing, managing, and maintaining automated equipment or digital processes to perform tasks that technology or machines cannot accomplish. Consequently, individuals need to upskill or reskill to be competitive on the labour market (McKinsey, 2020). To be more specific, a high technical knowledge will be essential for the labour market in the upcoming future. Hence, individuals with a generic skill set will have an advantage against the competition on the job market since many jobs need cross-functional employees at this stage (Buheji and Buheji, 2020). Moreover, collaborative knowledge is of high importance within working groups or organizations to develop new opportunities as well as to adapt to the changes caused by the global pandemic (Al-Omoush et al., 2020). As a result, businesses focus on teamwork by adding value through shared knowledge and information which help to prioritize work and stimulate learning in accordance with the changing environment (National Skill Commissions, 2020).

Since working from home belongs to the new normal as a response to the global pandemic, it has several consequences (Felstead and Reuschke, 2020). Here, communication is of high importance to overcome challenges, keep informed as well as stay productive (Gigauri, 2020). In more detail, reading and writing represent the key competences to communicate and articulate effectively between each other. Oral communication plays another important role in being able to convey the information in a most effective way (National Skill Commissions, 2020). Based on this, international students need to strengthen their English skills to a professional level to compete in the labour market in Australia successfully (Jackson, 2017).

International students compete against local graduates and have a disadvantage due to the lack of knowledge referring to for instance the Australian 'legal rights, terminology and expectations' as well as missing to understand the workplace behaviours (Dang et al., 2020, p. 499). Bearing this in mind,

many international students have expectations which are far from reality focusing on the effort needed in order to find employment and includes the work experience, the way to express their knowledge as well as skills to develop their employability successfully. Consequently, companies most likely hesitate to hire international students and they face challenges in the recruitment process focusing on jobs that match the international students' qualifications (Frawley et al., 2020).

Bearing this in mind, it is of high importance that the international students do a placement in the relevant field in order to establish work-related competencies that employers are looking for and to increase the chances to get hired which will lead to career success in the long-term after graduation (Abelha et al., 2020). Based on this, the work experience that international students have will play a significant role in determining the success on the labour market. Here, Internships for instance develop the practical knowledge and understanding of how business operate, strengthen the analytical as well as problem solving skills. Moreover, it demonstrates that international students being able to manage the study and the workload, are hard working to achieve their goals and are suitable for the work environment (Andrews and Higson, 2008).

In addition, internship experiences reinforce interpersonal and stress handling skills as well as attitudes (Radmehr and Rastegari Henneberry, 2020). Hence, internship experiences help to develop interpersonal skills and are highly regarded by employers as well as lead to developments in the careers (Kottke et al., 2013). As such, internships represent a foundation for students to transfer from the learning to the working environment and through the gained experiences enables them to be competitive on the job market (Bernstein et al., 2020).

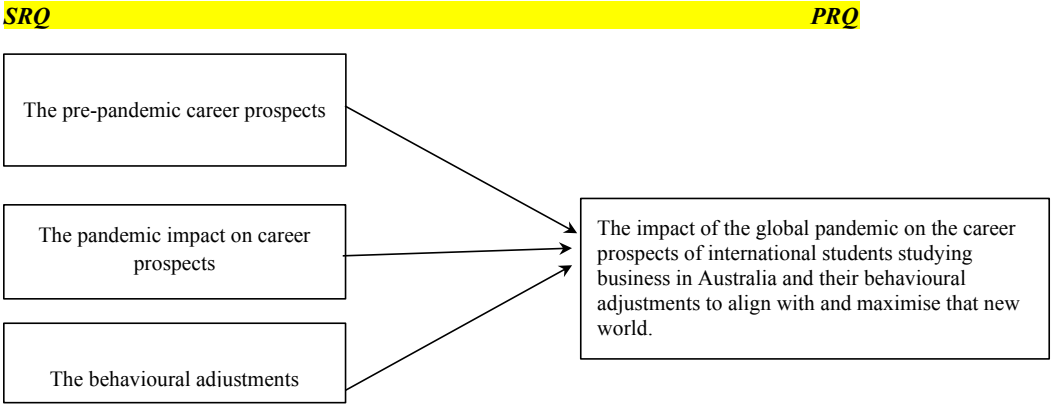
Since the global pandemic caused a new era where uncertainty as well as changes belong to everyday life, flexibility and adaptability represent 'must have' characteristics. By doing so, international students need to become autonomous as well as self-directed learners which include creativity, resourcefulness, and agility (Bowen, 2020). Moreover, self-care will be of high importance to ensure resilience to deal with stress and burnouts caused by the changing environment (Hite and McDonald, 2020). In addition, the level of patience and empathy for virtual collaboration need to be adjusted by international students due to the increased digitisation to compete on the labour market successfully (Bowen, 2020). Collectively, for international students to graduate and shape their career prospects successfully, they

require not only good academic standards but more importantly relevant skills in order to deal and manage challenges and turn these challenges into sources of 'development and differentiation' (Buheji and Buheji, 2020, p. 241). In addition, higher education is shifting from knowledge transfer to a practical as well as employment-focused foundation to prepare students to be job-ready (Gill, 2020). Due to this fact, firsthand work experiences for international students are essential to establish their career and be successful in the new world caused by the global pandemic (Frawley et al., 2020).

Theoretical Framework

The theoretical framework to evaluate the available literature is illustrated in the figure below. Here, the key subject areas and the linked relationship to each other are identified. To be more specific, the primary research question (PRQ) consists of examining the changes caused by the global pandemic on the career prospects and the related behavioural adjustments of international students who study business in Australia to adapt to the new world successfully. Based on this, three subtopics were chosen in the form of secondary research questions (SRQ) which function as an umbrella and are explored through literature reviews as well as semi-structured interviews. Here, the key subtopics are represented by the pre-pandemic career prospects, the related impacts caused by the global pandemic to identify the changes in career prospects. Moreover, the behavioural adjustments of international students to adapt to the new world due to the global pandemic in Australia are examined. All in all, the three SRQ assist to answer in detail the PRQ.

Figure 1. Theoretical framework:



Research Methodology

Participant selection

The participant selection involves two criteria such as:

Ethnic background: Twenty-nine (29) participants were selected from three different ethnic backgrounds. For this research project, the selection of participants was from India, South Korea, and Nepal from March to June 2020.

International student: Participants must be international students studying business and IT in Australia and started their study program before the global pandemic.

Demographics of Participants: Based on the international students' density in Australia regarding their country of origin, state-wise location, and area of study twenty-nine (29) participants were selected as follows. Ten (10) participants from India, ten (10) participants from Nepal, and nine (09) participants are randomly selected from South Korea. Thirteen (13) participants from New South Wales, seven (07) participants from Victoria, five (05) participants from Western Australia and four (04) participants are randomly selected from Northern Territory. Twelve (12) participants from Masters, ten (10) participants from Bachelor and seven (07) participants from Diploma program are selected.

Interview process

A series of open-ended questions were asked to collect the primary data through semi-structured questions-based interviews to conduct a qualitative research study. The interviews were conducted on a one-to-one basis and recorded for data analysis. The participants were allowed to express their opinions, thoughts and ideas. The interview continued with proper guidance for the participants until

the interviewers received the required information from the participants. Bearing this in mind, the general structure of the interview is outlined below.

Topic introduction: The interviewer will explain to each participant the topic that is being researched.

Primary research question: *'What changes to career prospects do international students studying business and IT in Australia think will happen as a result of the global pandemic and why & how the students adjusted their behaviors to align with the expectations of the post pandemic world?*

Type of Interview Questions: To collect the primary data, sixty-one (61) semi-structured questions were asked to all interviewees. These 61 questions are aligned with the three secondary research questions. As outlined earlier, the key factors of the three secondary research questions are summarised below:

1. The pre-pandemic career prospects
2. The impacts on career prospects
3. The behavioural adjustments

Analysis of the findings

The pre-pandemic career prospects

The current research project finds unique charasteristics of the career prospects for the international students studying Business and IT in Australia during the pre-pandemic period. The features of the career prospects for the international students are listed below.

Higher Career Prospects: Based on the interview of international students, it is found that most of the international students' career prospects were promising before the global pandemic in Australia. It was admitted that there were many career and internship opportunities for international students, and they

were able to have professional careers in places related to their area of study during the pre-pandemic period.

Non-study Integrated Job: Though over the three-quarter of the international students used to work during the pre-pandemic period, they had been working in a non-study related occupation. In other words, their jobs were not related with their current area of studies. However, all the participants expressed their desire to work in a study related occupation relevant job to their course pre-pandemic. The current study reveals the reason of desiring to work in a study integrated area - apply the acquired academic skills into practice and having a professional career helps to get permanent residency (PR) in Australia.

Career Goal: The current study reveals that almost all of the participants were influenced by their family, friends, agencies, or other international students to set their career goals. One third of the participants pointed out that settling in Australia to obtain permanent residency was the main reason for their career prospects. In addition, two-thirds reasoned that the career choices chosen depend on the job opportunities offered, based on recommendations or to enhance their present skills.

Better Job Opportunity: It is not surprising that the present research found that before the global pandemic, international graduates from engineering, nursing and medicine had better employment opportunities than the business graduates. It is also found that IT graduates had more employment opportunities than the business graduates. Due to industrial evolutions, there were more opportunities for employment in artificial intelligence-related industries. So, international graduates from engineering and IT programs are preferred to get jobs. Surprisingly it is found that opinion was put forward that engineering, nursing, and IT careers were not preferred among local Australian.

To conclude, exactly two-third of the participants agreed that the most significant career prospects for international graduates are IT, engineering, accounting, nursing, and medicine. Numerous job opportunities and better chances for permanent residency (PR) were the reasons for the choosing these careers. Besides that, cookery and bakery were also mentioned by the respondents to have a good scope.

The pandemic impact on career prospects

Change to Career Prospects: Focusing on what the impact of the global pandemic is, all respondents believe that there are many changes to career prospects of international graduates as well as many challenges to be faced with. Here, companies are not willing to hire international graduates because Australian residents are preferred since the unemployment rate is increasing. It is interesting that significant number of students are transferring from face-to-face on-campus studies to online studies, hospitality businesses are closing, and some international students are stranded overseas because international borders are closed.

Less Opportunity in Direct-contact Jobs: The pandemic impacts hugely on direct-contact job. It is found from the current research that almost all respondents believe that one of the main impacts of the global pandemic outbreak is a decreased demand for offline direct-contact jobs such as accounting, supply chain, hospitality, and tourism industries due to the government restrictions on non-essential services. While the demand for online and health industry jobs has increased due to the pandemic. Bearing this in mind, because of relaxed restrictions on eligible working hours for international students working at essential sectors such as the health industry or supermarkets increased the demand for these occupations.

Poor Opportunity in Hospitality Industry: Over three-quarter of the interviewees experience that it is harder to find a job during the pandemic as an international student in a specific area especially in the hospitality industry because of the implemented government restrictions on limited people gatherings and social distancing. Moreover, the discrimination is increasing on the labour market against the international students to find a job due to the preference of hiring locals. Despite the global pandemic and rules changes, most of the international students did not change their current course and desired professional career choices.

Challenges Caused by Pandemic: All the participants highlighted many different challenges caused by the global pandemic. The challenges are to complete online study successfully, to maintain mental and physical health and to find any job to support their living expenses. Together with online study challenges, some of the international students experienced lack of motivation to put effort into studies

and learning new skills. As a result, career opportunities are missed to those international graduates who failed to acquire new skills. The next challenge for the students is uncertainty about future and financial difficulties as the pre-pandemic jobs were lost or hours reduced or to keep up with continuous government policy changes such as increased points for skilled immigration programs.

Pandemic Disrupted Job Market: Focusing on why the pandemic impacted careers, almost all international students agreed that the global pandemic disrupted the job market. One of the reasons is that the government introduced restriction policies linked to businesses operations and therefore, it affected the unemployment rate which increased drastically. When it comes to the study programs and career prospects during the pandemic, over three-quarter of the interviewees stated that they are not planning to change their course and are still wanting to pursue their desired career.

Career Prospects Impacted by Regulations: Therefore, the pandemic impacted careers of international students, the recent changes in rules such as more focus on regional areas, working hours, changes in skilled occupation list, can affect the career plans of international students in Australia. In fact, approximately all interviewed international students are aware of the changes that might affect their career prospects. Considering this, slightly less than half of international students are considering moving to a regional area in order to permanently stay in Australia and to continue aiming for their career goals particularly in Business and IT related courses. In addition, over half of the international students are considering leaving Australia for career goals and for a better future. While remaining half of the international students have no plans to leave Australia, because of safety reasons while the pandemic is still happening.

Behavioural adjustments

The current research discovers that the international students require to adjust their expectations and intentions to succeed in their careers in the post-pandemic period. Almost all international students believe that it is important to adjust the behaviours, qualifications, or job experiences to meet the current job needs. Moreover, over half of the of the international students adjusted their expectations and intentions related to their career goals due to the global pandemic. Here, changes were outlined through earning money instead of traveling, exploring career opportunities globally, adjusting daily based on

new circumstances, contemplating returning to the home country, concentrating on a professional career or study.

Require new Skills: In order to succeed in careers in the post-pandemic period, slightly over half of the international students need to gain new skills, qualifications, or professional experience during the pandemic. Here, some of them are related to the current study program, for instance strengthening their knowledge of their study areas, stress resistant, patience, empathy, or improved English skills. However, skills are not most essential as many participants stated that increasing qualification through online short courses, earning good grades, and acquiring a degree are more important for a career. While the rest claimed that a clear mindset, job experience and alternative plans are essential for the career goals achievement.

Reason for adjusting Expectations and Intentions: Focusing on why to adjust expectations and intentions, slightly over three-quarter of international students agreed that at least one of the reasons for adjustment were linked to employment. Here, the reasons for the adjusted expectations and intentions are caused by the changes of the labor conditions, labor markets, economic structures, and regulations or to ensure a job. Moreover, slightly less than half of international students have two or more alternatives to prepare for the crisis post-pandemic by starting a business, working in the freelance industry, changing study courses, or moving to a region or another country.

Ways to Adjust Behaviour: Looking at how international students adjust their expectations and intentions, slightly over three-quarter have at least two ideas how to do it and are mainly related to study or the career. To be more specific, each of the participants has a different approach and is represented by obtaining new language or computer skills, new knowledge associated with work requirements, trying to stand out from the crowd or adjusting their study method. Beyond that, other adjustment ideas consist of either adapting to the online environment, gaining work experiences in the relevant field, or focusing on the study program related to the career.

Short Courses: Furthermore, one-third of the international students joined an online short-term course and gained at least one new skill, competency, qualification, or job experience through it. In contrast to the other one-third who obtained a new skill by reading articles, self-studying through books or due to work experiences in order to adjust to the global pandemic.

Online Courses: Moreover, to accomplish the skills that are needed to adjust their expectations and intentions, slightly less than half of the international students took additional action in the form of online courses, understanding the view of professional career perspectives, doing group assignments alone or changing the study approach from hard to soft copy. The remaining 56% thought how to accomplish them such as to hire a tutor, to seek advice from teachers or to join an online course but did not take any action yet.

Contingency Plans: All in all, slightly over half of the international students have contingency plans where at least one of them is to adjust the career path due to the global pandemic. Whereas there is no evidence of such contingency plan among the international graduates during the pre-pandemic period. However, all of the international students have a clear next course of action for their future career prospects by focusing on studying and good grades, opening up a business, to gain work experiences, acquiring skills such as in IT, planning to apply for a graduation visa, getting permanent residency or to overcome everything independently.

Adjustments of international students' expectations and intentions due to the impact of the pandemic are not only factor to successful in the post-pandemic world. A set of new skills are also required to consider by the international students to make them unique from the crowd. Specially, after their graduation in wining a professional career. These skills include superior English language proficiency, computer literacy, real-world organisational skills, and online work skills. The international students may acquire these skills through the short-courses or online courses. They may also consider contingency plan for the adverse situation.

Conclusion

The findings of the research identified the pre-pandemic professional career prospects of international students studying Business and IT in Australia to acquire a professional occupation which is related to the study course. During the pre-pandemic period international students had higher career prospects as well as better employment opportunities. According to the research interviews, obviously the global pandemic impacted career aspirations of international students by interfering with their education and

the labour market. The pandemic disrupted job market. Examples of such disruption are closing of many hospitality businesses, and less opportunity in direct-contact jobs. In addition, Australian government' social distancing rules and lock-down also disrupted career aspirations of international students. Moreover, the research findings conclude that adjustments are required for international students' expectations and intentions to successfully align with the new world. Specifically, a set of new skills are required to consider by the international students to make them unique from the crowd. Specially, after their graduation in winning a professional career. These skills include superior English language proficiency, computer literacy, real-world organisational skills, and online work skills. The international students may acquire these skills through the short-courses or online courses. They may also consider contingency plan for the adverse situation. The current research report is limited by the participants characteristics, geographical factors and number of international students interviewed. For the future research directions, it is suggested to interview more international students residing and studying across Australia over a longer period of time and expand the analysis on more than three ethnic groups.

Implications

The findings of the conducted research benefit academia in the form of developing the knowledge as well as understanding the effects of the global pandemic on international students who study Business and IT in Australia, their changes in career prospects and behavioural adjustments. By doing so, the research findings help to improve not only the wellbeing of the social environment and reduce uncertainty but will contribute to the expertise of researchers too. In addition, the research project is novel and limited literature and prior research are available which represents a knowledge gap (NHMRC, 2018). Due to this fact, the research findings significantly benefit academia by providing information and closing the gap. Moreover, this research provides a foundation for further research in this area. As the global pandemic is novel and limited information is available, the findings of the research help future international students to be aware of major changes linked to career prospects and behaviours caused by the global pandemic. Bearing this in mind, the research findings allow

international students to effectively manage challenges caused by the global pandemic as well as provide them with the expertise to forecast their careers and make appropriate preparations. As a result, the research is beneficial to international students by presenting them with valuable information, knowledge, and guidance to adapt and prepare for the new world linked to career prospects in Australia. The economy of Australia relies significantly on international students and therefore, being aware of the environmental changes is essential to attract them and to comply with their requirements (Australian Financial Review, 2020). The research findings benefit two industries namely education and recruitment. The universities, institutions and academic managers obtain detailed information about changes in demand of study programs and can adapt and expand accordingly.

Research Limitations

There are several limitations in this research since most of the international students' study in New South Wales and Victoria. Moreover, the interviewed participants were limited to international students who study Business and IT in Australia and do not include any domestic students, other courses, or countries. In addition, the participants' origins were limited by three countries, namely South Korea, Nepal and India that do not represent all international students in Australia. Furthermore, the research did not use numerical value or statistical methods since it is qualitative research. Summed up, due to the limitations this research is not applicable to other countries, participants from different origins but can be used as a reference for future research.

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The Australian Economy in 2020–21: The COVID-19 Pandemic and Prospects for Economic Recovery.

Reconceptualizing accountability and governance - the promise of blockchain technology

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Reconceptualizing accountability and governance - the promise of blockchain technology

ABSTRACT

Governance is at its heart a system of decision making where the participants in the collective action have differing decision rights. The last 160 years have seen corporate governance (i.e. the governance of the modern corporation) evolve to the point that the limited liability company is the preferred structure of decision rights for most private collective action. We contend that current configurations of decision rights are based on technological constraints that are dissolving, opening up new ways of organizing economic activity. In this paper, we explore the possibilities for new firm and firm-like structures made possible through blockchain technologies that enable our societal systems to better reflect the preferences of the community while also generating new and untapped sources of economic efficiency.

Keywords: Blockchain, Preference decisions, Accountability, Information aggregation, Corporate governance

INTRODUCTION

The field of corporate governance is primarily concerned with decision making for collective action and there is a growing awareness of the complexity involved in aggregating the necessary information involved when making these decisions. The focus of the field to date has been on the alignment of priorities in the different parties involved in the corporation (e.g. agency theory (Eisenhardt, 1989), stewardship theory (Donaldson and Davis, 1991) and stakeholder theory (Freeman, 1999). These theories primarily focus on differences in motivation between various groups of actors (e.g. differences between stakeholder groups; differences between owners and managers) but are largely silent on how preference differences within the various groupings of actors. Consequently, they are primarily theories involved in decisions about issues that have a correct answer (i.e. a *judgement*) rather than decisions that reflect personal values or tastes (i.e. *preferences*). Differences between groups are largely assumed away (e.g. the assumption under the standard economic theory that all shareholders seek only the value maximization of the firm) and ignore important preferences and ethical differences that are present within these groups.

Over the past 15 years, a new form of organization has arisen in the form of cryptocurrencies and their underlying blockchain based governance structures. While originally a niche, limited technology, blockchain entities have emerged to a new level of significance (positioned as the core infrastructure for Web 3.0) and all up are valued at over $1 trillion despite current significant drops in the markets. A core business innovation made possible by blockchain technology is a new form of decentralized resource control. We contend that the automated, secure, and low-cost nature of blockchain based organizations has the potential to reinvigorate how collective effort is organized in society via fundamental revision of the decision rights in corporate governance.

A key challenge facing society is that we know little about how the new governance enabled by blockchain technology may compare to traditional organizational governance. Specifically, do the new organizational forms represent a "digitization" of traditional governance, that is, merely enhance traditional governance arrangements with greater transparency and speed? Or, do they enable entirely new ways of governing? Can blockchain technologies fundamentally alter governance arrangements themselves? Given this potential, there is an imperative to understand better this revolutionary way of organizing collective effort in corporations.

This study aims to develop a theoretical framework to help understand the emerging and new governance arrangements that underpin blockchain organizations. This study provides unique insights into how new, digitalized processes of corporate governance can affect organizational outcomes independent of the individuals involved in those processes. This study will also provide regulators and practitioners with new insights into the benefits and limitations of the burgeoning blockchain industry.

The study is theoretically innovative as it moves beyond the current focus on individual self-interest to tackle the aggregation of different preference sets. Given the study may lead to different mechanisms of including stakeholder interests in organizational decision making, it has the potential to significantly advance the field. The potential for blockchain-based decision mechanisms to revolve governance disputes may contribute to better defining the limits of agency theory and provide a stimulus for new thinking in organizational governance.

THE NATURE OF BUSINESS DECISIONS

Collective effort lies at the heart of business and civil society. Traditionally the process of the collective effort involves people making preference decisions and organizing around those different preference decisions. One of the great insights of economics is the role that

markets can play in co-ordinating activities based on the preferences of the individuals within society (Smith, 1776). It is counter-intuitive, but in a system where actors seeking to pursue their own preference set, the resulting resource allocation is anything but chaotic. Markets turn out to be a great way to co-ordinate most activities, for example, allowing people to choose what they want to consume and produce. In fact, the perfect competition model is perhaps more appropriately termed an "extreme decentralization" model (Demsetz, 1988).

Markets, however, have their limits and thus society has developed different collective entities to address many of these limits. Coase (1937) famously outlined a concept that underpins most of thinking around corporate governance by suggesting that the boundary of an organizing entity (i.e. the firm) occurs where the transaction costs of sourcing from the market meet the inefficiency of hierarchy and directed co-ordination. Put simply, firms exist where it is cheaper to co-ordinate via fiat than transact in the market.

To date, global business has evolved the corporation as the predominant form of organizing collective effort. The corporation requires the individuals involved to relinquish decision rights through delegation to participate in collective action and/or agreement to follow directions. For instance, members (shareholders) give up most of their decision rights with their funds to the Board of Directors (Fama and Jensen, 1983) and they gain a right to hold the directors to account for their decisions. Similarly, individual employees give up their rights to make certain decisions to managers and agree to follow directions. The emerging sets of decision rights are what we term corporate governance. Thus, corporate governance can be thought of as the interconnected decision rights of individuals that allow for the aggregation of information to deploy resources for collective action.

The methods for aggregating individual inputs into a group decision are not uniform. This is because collective action involves two qualitatively different types of decisions, and so decision aggregation theory distinguishes between *preferences* and *judgements* (List and Pettit,

2002). *Judgments* are decisions that involve a right or wrong answer, even where that answer may not be known prior to the decision. This is focused on examining a diversity of views on decision rules used by a group and on specific issues that lead to divergence from optimal outcomes. Since a judgement has a correct (or best/right) answer, that answer is shared by all the individuals in the group. *Preferences* are those decisions that have no correct answer but reflect individual differences in taste, values and so on. Preference aggregation, therefore, involves determining a way of making a decision that represents the optimal position for the group with intra-individual differences. In terms of aggregation methods, preferences are best aggregated via a representation model that allows for political bargaining (Arrow, 1963) while judgements require expert decision-making systems.

We contend that the corporation is traditionally conceptualized as a structure that largely divides these decision types into two different bodies within the corporation. The members (shareholders) are largely provided with decision rights around the *preferences* of the firm and operate via a representation model; they have the ability to change the firm's Constitution and Objects (or purpose) and elect the Board of Directors (see Eisenberg, 1969). This distinction has largely evaporated, in most for-profit organizations where the preference set is assumed to be profit maximization and shareholders are largely portrayed as an accountability mechanism that can hold directors and managers to account through the market for corporate control (Jensen and Ruback, 1983).

In contrast, management and employees operate via a traditional hierarchical approach to accountability as they seek to enact the purpose determined by the members (shareholders) – they are largely provided with the decision rights around *judgements*. Finally, the Board of Directors is a unique boundary-spanning mechanism that translates the purpose determined by members into action via the expert management decision system. Since board members operate as a collective (Bainbridge, 2002) with no individual having more formal power than another,

they are essentially a trust and norm-based, self-regulatory form of governance referred to in the literature as socialized accountability (Roberts et al., 2005). The mechanism behind socialized accountability is the interaction among individuals with a low power gap, as seen in a board meeting (Nicholson et al., 2017), that provides for freer information flows than those expected in either a market or hierarchical system.

The corporate form can thus be viewed as a form of interconnected accountability mechanisms for the distributed decision rights involved. Figure 1 highlights these three different mechanisms of accountability that form the basis for corporate control – a market mechanism around preference differences, a hierarchical mechanism for internal firm accountability around judgments, and a socialized accountability mechanism in the boundary spanning role of the Board of Directors. Table 1 provides a summary of these mechanisms and their advantages and disadvantages. The question posed by blockchain organizations is whether there are new ways to engage these mechanisms.

Insert Figure 1 around here

Insert Table 1 around here

BLOCKCHAIN TECHNOLOGY AND GOVERNANCE

Blockchain and co-ordination of decision rights

Blockchain is a relatively recent technology that has the potential to fundamentally alter the arrangement of decision rights associated with the direction and control of firms and "firm-like" organizations (Demsetz, 1988). A blockchain itself is a decentralized, transactional database technology that facilitates validated, tamper-resistant transactions consistent across a large number of network participants called nodes. As a technology it can reduce uncertainty,

insecurity, and ambiguity in transactions by providing full transactional disclosure and producing a single truth for all network participants (Beck et al., 2018).

The significance of blockchain technology is not that it is a production or exchange technology per se, but that it is a new way of co-ordinating economic activity. This differs from efficiency perspectives that instead argue blockchain technology simply offers margins of improvement to existing economic institutions (Davidson et al., 2018). In short, a blockchain allows for a potential fundamental re-think of the operationalization of decision rights across a value chain through the use of automated decision rules, governance tokens (or rights) as well as decision aggregation mechanisms (termed Oracles). Figure 2 provides one way to conceptualize blockchain technology in terms of decision rights. As the figure highlights, blockchain technology allows for both preference aggregation mechanisms (governance tokens that may be automatically involved in decision execution - often referred to as a DAO or Distributed Autonomous Organization) as well as judgment aggregation mechanisms (Oracles).

Insert Figure 2 around here

Since blockchain technology has evolved to combine the nature of a transparent ledger with smart (or automated) contracting, understanding the potential impact of blockchains on firm governance is best understood through contractarian perspectives of the firm. In developing his transaction cost based view of the firm, Coase (1937), like many others, positioned the firm as a nexus of contracts that brings together a team of production (e.g. see Blair and Stout, 1999, for a theoretical development of this perspective). While this basic idea has been developed in the intervening years, it remains an important perspective on the nature of the firm. A sub-branch of this literature most familiar to corporate governance scholars is the literature on agency costs (Alchian and Demsetz, 1972; Eisenhardt, 1989; Jensen and Meckling, 1976). This literature essentially seeks to understand how to organize the internal decision

systems of the firm to minimize the costs associated with directed co-ordination - it seeks to minimize the agency costs associated with delegation (Demsetz, 1988). The balance between market-based transaction costs and co-ordination costs associated with direction is heavily influenced by the costs associated with accessing and using the information associated with each (Alchian and Demsetz, 1972). Thus, as technology changes, the very nature of how society organizes the boundaries of the firm can change (Afuah, 2001). For example, we have the rise in co-ordinating organizations such as Airbnb, Uber and Airtasker that are primarily market-based responses to traditional hotel chains, taxi companies and labor hire firms respectively.

The key question is whether blockchain technology provides a marginal improvement on traditional approaches or instead a new way of organizing. To illustrate this challenge, Figure 3 provides a representation of traditional corporate governance arrangements and the use of blockchain to replicate that system.

Insert Figure 3 around here

Due to the costs associated with dispersed decision-making, members (shareholders) in the traditional firm are largely passive participants in the corporate governance of most dispersed firms. They act as a "last resort" accountability mechanism when the Board of Directors has failed in its delegated responsibility. Thus, this group of participants largely delegate the authority to deploy capital to a specific "Oracle" (in blockchain terminology) - the Board of Directors, who act to execute the constitutional decision-making powers of the firm. Only rare powers (such as removing directors and changing the constitution) are reserved for the shareholders, and they are rarely used. Further, the execution of decision rights is not automated, but rather encoded in laws and contracts (primarily the Company Constitution) that are subject to human manipulation and interpretation.

Implementing blockchain into our traditional views of the firm

In Coase's and subsequent authors' use of transaction cost theory, there is a clear separation between costs associated with organizing resources within the firm as opposed to across the market (Coase, 1937; Williamson, 1979). This, however, is not strictly correct as any transaction will involve both types of costs across a supply chain. For instance, if a firm member is comparing the costs of acquiring a good or service from the market with making the good or delivering the service in-house, that cost is essentially a function of both (Demsetz, 1988). Similarly, agency costs and the problems of shirking and opportunism focus on the costs associated with internal resource organization (i.e. the costs of managed co-ordination that, by definition, lacks a market discipline) rather than alternative comparison.

Blockchains have the potential to reduce both of these aspects - the transaction costs associated with transacting in the market as well as the shirking and opportunism associated with agency costs. The transparency and immutability of the blockchain have clear use cases in reducing monitoring costs and, with them, the agency costs associated with managed co-ordination and hierarchy. This would lead to implementing the technology alongside traditional firm structures. The more novel use case, however, lies in reducing the costs associated with market transactions.

New directions of blockchain used in firm-like organizations

Alternative uses of blockchain technology are more easily understood in light of Demsetz's (1988) work on the information costs associated with organizing and co-ordinating activities. Specifically, blockchain has the potential to re-align the vertical boundaries of firms in, for instance, the area of intellectual property. Despite the exceptions provided by some outstanding artists and entrepreneurs, individuals with expertise in creating some form of IP (an image, a song, or a general production pattern) are today generally only associated with a firm.

The office worker designing flyers, the copyrighter or jingle-writer in the advertising agency and the engineer in a manufacturing firm all work under direction. This is because they lack the specialized knowledge to exploit the IP - to turn the IP (e.g. the image) into something that is useful in the market (e.g. an attractive advertisement). Demsetz (1988, p159) suggests that the vertical boundary of the firm "*are determined by the economics of conservation of expenditures of knowledge*". Thus, a steel company produces a simple, easy to use product at pre-determined specifications because the costs of acquiring the knowledge to further transform the product are too high - that is better left to another specialist (say, an automobile maker).

The provenance, transparency, and automated contracting attributes of blockchain allow for a potential re-think in the boundaries around the firms that use intellectual property in very much the same ways radically altering how the economy organizers, particularly for intellectual property. Take a simple example of producing an animated movie or TV series. Currently, character development occurs within a single firm-like venture, with creatives being directed by managers and reimbursed traditionally through standard remuneration packages. Alternatively, using blockchain technology, a creator may develop a character that they register on a blockchain and sell the rights to use that character to an anime producer. That producer could, in turn, on-sell those rights should their project be unsuccessful - and importantly a predetermined proportion of the sale price could be automatically paid to the creator. As importantly, if a creator becomes well known, the value of that anime use right will increase for the holder, who may on-sell to a third party who can better exploit this increased value - with, again, a predetermined proportion of the sale price returning to the creator.

Just as importantly, this structure could allow the creator to sell the right to use the character in stuffed toys, posters, or even images for corporate branding (such as simple limited edition corporate loyalty cards). In each of these cases, the user can on-sell the use; the cafe gives the loyalty card with the image of the character to a loyal customer. That customer is then

free to on-sell the card, with a proportion of the sale price automatically going back to both the cafe and creator. Again, should the creator begin to build a strong reputation, that will drive the value of all derivative products based on the character and all parties are aligned to maximize the value in the use of the intellectual property. We have greater specialization in the exploitation of the value created in intellectual property and a better (arguably fairer) return of the share of that value to the creator and the individual who has the initial idea behind a specific use-case (say, the cafe owner who creates the loyalty card).

DISCUSSION AND FUTURE RESEARCH

Blockchain technology provides the promise of remedying many deficiencies in preference aggregation via an ability to incorporate preference aggregation mechanisms into collective decision making, a feature largely absent from the corporate form; a capacity to allow for meaningful innovation through preference divergence; and improved transparency and speed through automation. For example, blockchains could be used to improve the transparency and speed of members voting in General Meetings, reducing the need for proxy voting and allowing for greater shareholder participation.

The use of blockchain organizational forms provides innovative solutions for the incorporation of stakeholder interests. Blockchain based decision systems provide a new way to envisage the relationship between the organization and stakeholders. If there are particular preference differences between stakeholder sets, it would be possible to establish an entity that allows these stakeholders to directly negotiate to achieve a mutually beneficial outcome rather than indirectly influence each other through external mechanisms, including regulatory intervention.

A key challenge for the future is working out the limitations to the governance models possible – the unforeseen weaknesses that will take time and experience to develop.

Blockchains are sometimes unfortunately linked to various scandals and governance failures. Several major blockchain projects have suffered from governance failures where bad actors have exploited the automated nature of the constitutional rules. For instance, in the Beanstalk project[1], a bad actor bought enough governance tokens to vote to give themselves all of the project's reserves, leading to a loss of $US 77M. Technically, this is not a technology problem, but a governance issue as there was no safeguard on the automated transaction. It also remains a challenge for regulators to develop the regulatory regime to allow for innovation with sufficient protection for investors and users of blockchain technology. A real-time, dynamic regulatory framework that also provides transparency, equality, and continuous monitoring is necessary to potentially address the challenges.

[1] Betz, B. (2022). *Beanstalk Stablecoin Protocol 'Barn Raise' Aims to Restore $77M in Lost Funds*, CoinDesk. Retrieved from https://www.coindesk.com/business/2022/06/02/beanstalk-stablecoin-protocol-barn-raise-aims-to-restore-77m-in-lost-funds/

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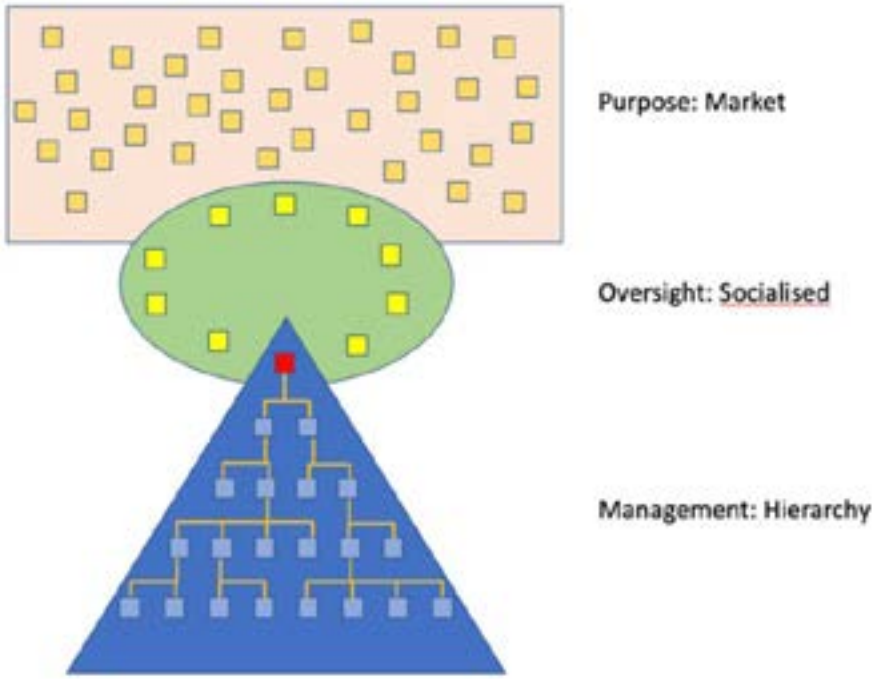
Table 1: Predominant accountability mechanisms

Predominant example	Markets	Group/clan control	Hierarchy
Good for…	• Inclusion • Large preference differences • Efficiency	• Norm-based control • Minor preference differences	• High transaction costs • High need for secrecy • Uniform purpose/objective
Inhibitors	• Information asymmetries • Transaction costs	• Significant preference divergence	• Exclusionary • Efficiency losses • Large preference differences
Governance examples	Stock exchange	Board of directors	CEO

Figure 1: The firm as a bundle of accountability mechanisms



16

Figure 2: Conceptualizing decision rights on blockchain

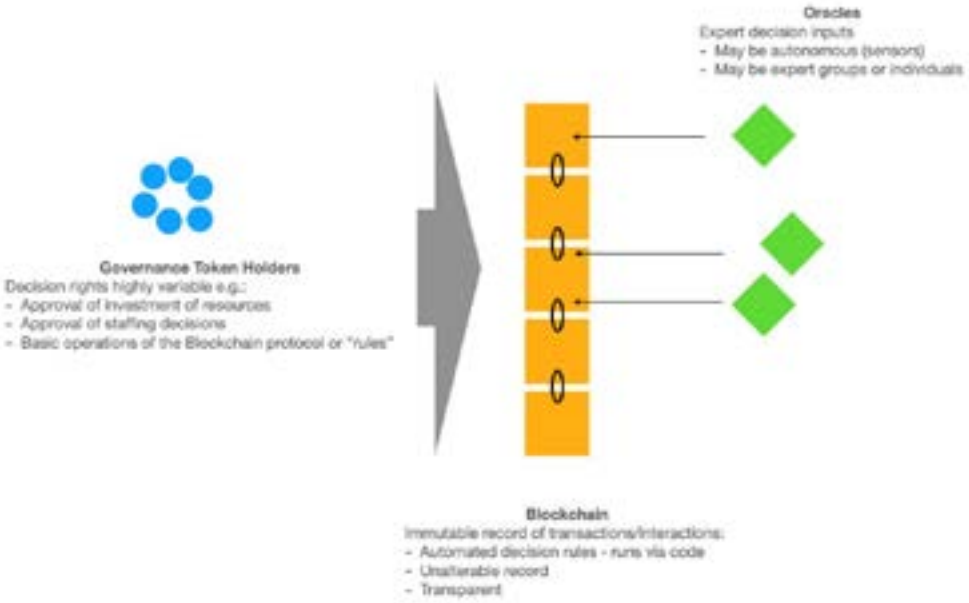
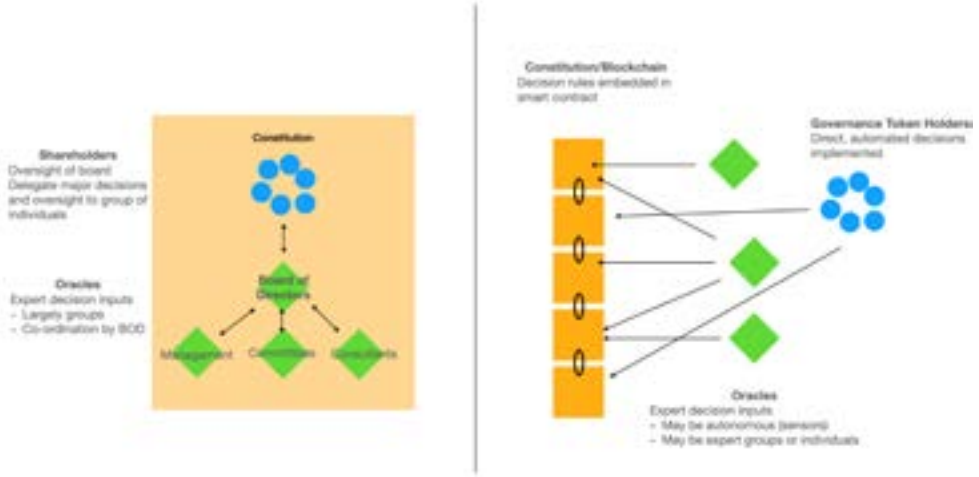


Figure 3: Traditional vs blockchain governance visualization



Is it a challenge? Regulation of workplace emotions when Working From Home (WFH)

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Is it a challenge? Regulation of workplace emotions when Working From Home (WFH)

The COVID-19 pandemic has created an intensive WFH (Work-From-Home) situation over an extended period. WFH blurs the physical boundary between work and family, creating a spill over of both work and emotions from one domain to the other. This paper analyses the challenges of workplace emotion regulation experienced by professionals (managers) in the IT sector. Data were collected from two different sample groups (Group 1 n = 21, Group 2 n= 25) through online interviews and analysed. New management practices such as provision of training to develop daily work schedule and regulate emotions, and the organisation of online events with employees' families are recommended to help IT managers overcome these challenges.

Keywords: WFH, COVID-19 pandemic, workplace emotion regulation, IT managers

INTRODUCTION

People regulate their emotions in the workplace depending on the goal they want to accomplish (Tamir, 2009). For example, a professional may feel angry at a situation but may not react to maintain workplace decorum and healthy work relationships. This control of emotions is also known as emotion regulation (Gross, 1998a, 1998b; Tamir, 2011). This study analyses the challenges experienced by IT professionals in the Sri Lankan IT industry in regulating workplace emotions, in relation to the Work-From-Home (WFH) situation induced by the ongoing COVID-19 pandemic and associated lockdowns.

Emotion regulation has been extensively studied in professional sectors such as education (Gratz & Roemer, 2004; Gross, 2002; Jiang, Vauras, Volet, & Wang, 2014; Netzer, Kleef, & Tamir, 2015; Tamir, Mitchell, & Gross, 2008), hospitals, public offices, and nursing homes (Hülsheger, Alberts, & Feinholdt, 2013). To date, there have been far fewer studies aimed at understanding emotion regulation among Information Technology (IT) professionals (Lindgren, Packendorff, & Sergi, 2014).

The research reported here contributes to the understanding of workplace emotion regulation among IT professionals, in the context of WFH style of operation. In the WFH situation, people have been performing their professional (paid) activities in the home environment, as against an office space that is physically separated from home (Waizenegger, McKenna, Cai, & Bendz, 2020). This has resulted in many kinds of challenges to all employees, which have been studied in other sectors (Panayiotou, Panteli, & Leonidou, 2021). However, the challenges faced by IT managers in regulating workplace emotions during the WFH period has not yet been studied.

The study reported in this paper identified three major challenges faced by IT managers in Sri Lanka in regulating workplace emotions in WFH situation. In addition, the ways in which managements

have been supporting the IT managers in overcoming the three challenges were identified and analysed. Finally, new management practices are recommended to help IT managers regulate their workplace emotions in WFH situation.

LITERATURE REVIEW

According to Gross and Levenson (1993), emotion regulation is an individual's ability to regulate their own emotions and those of others. Gross (1998a) proposed the process model of emotion regulation, also called the theory of emotion regulation. The process model of emotion regulation indicates that an individual regulates emotions using strategies like *(a) situation selection, (b) situation modification, (c) attentional deployment, (d) cognitive change,* and *(e) response modulation* (Gross, 1998a, 1998b). The first four strategies fall under antecedent-focused emotion regulation (reappraisal) and the last strategy comes under response-focused emotion regulation (suppression) (Gross, 1998a, 1998b). Even though workplace emotion regulation has been widely explored (Gratz & Roemer, 2004; Gross, 2002; Hülsheger, Alberts, & Feinholdt, 2013; Jiang et al., 2014; Netzer et al., 2015; Tamir et al., 2008), the regulation of workplace emotions in the WFH situation is a relatively new concept.

The WFH scenario of the past 2-3 years, driven by the COVID-19 pandemic, has provided a fertile terrain for understanding emotion regulation in various aspects of daily life. The pandemic itself has negatively affected the mental, emotional, and physical health of people all over the world, and in all facets of life (Di Blasi et al., 2021; Wang et al., 2021; Zhu, Wang. H, & Wang. A., 2021), and WFH has added to the effects of the pandemic. In the South Asian Region, Sri Lanka was recognised as a country that successfully handled the COVID-19 pandemic due to early lockdown, fast-tracking of COVID-19 suspects, and financial intervention (TRT World, 2020). The lockdowns in Sri Lanka, resulted in early adoption of the WFH system, as in most other countries attempting to contain the pandemic damage (Panayiotou et al., 2021).

The WFH has been challenging for workers (Panayiotou et al., 2021). At the management level, the issues that have arisen from the pandemic and related WFH practice have elicited new Human Resource Management (HRM) challenges (Opatha, 2020). Thus, emotion regulation becomes an important area to explore to enable handling these challenges at both personal and management levels (Panayiotou et al., 2021).

The key changes that have occurred in the working environment, as a result of WFH can be understood from work-family border theory (Clark, 2000). According to this theory, a person's environment is not confined to the physical workspace (e.g., office) and often traverses work and family borders (Clark, 2000). Specifically, it explains the ways in which people establish a balance between the physical and emotional domains of work and family (Clark, 2000). The COVID-19-induced WFH practice has eliminated the physical border between work and family. This challenges the work-family border theory (Clark, 2000) in that the theory does not deal with the absence of a physical border between work and personal space.

According to spillover theory, a person's attitudes, emotions, skills, and behaviours that are produced in one domain (work/ personal), move into the other domain (Zedak, 1992 as cited in Bell, Rajendran, & Theiler, 2012). A working person is linked to two constructs – work and family and they are constantly trying to balance their work and personal lives (Bell et al., 2012). The spillover occurs when attitudes, emotions, skills, and behaviours in one domain affect another domain through role participation. Role participation means a working person participates to perform different roles in work and family domains (Edwards & Rothbard, 2000).

This paper considers the absence of the physical border between work and personal space among a specific class of professionals – managers in the IT domain in Sri Lanka – and analyses the challenges elicited by this situation in regulating workplace emotions as a result of spillover. It also discusses the current and potential steps adopted by management to overcome these challenges. Consequently, this paper contributes to the existing body of knowledge in the area of workplace emotion regulation and WFH and generates managerial implications that organisations could initiate to support workers who face difficulty in regulating workplace emotions in WFH scenario.

METHODS

This paper reports on a subset of findings from a larger body of research and employs qualitative methodology focusing on emotional expressions. Since the focus of this research is on investigating the subjective experiences of people and their emotions, following previous research (e.g., Davies & Dwyer, 2007; Petit et al., 2015), a qualitative approach was used. Katz (1999) recommends the use of qualitative data to explore human emotional experience because it enables recognition of

nuances in the emotional experience, since human interactions are emotionally imbued (Olson, 2021).

Semi-structured, one-on-one interviews were conducted in English as this population was fluent in English (Sri Lanka Association of Software and Service Companies (SLASSCOM), 2014). Interviews lasted between 60 and 75 minutes. Data were not collected in person, but remotely via Microsoft Teams because the main study was carried out during the peak of the COVID-19 pandemic, creating several methodological challenges because of the impossibility of in-person interactions.

Purposive sampling, which is best suited for qualitative research was used to select the participants of the larger study as it allows researchers to select informative cases (Creswell & Poth, 2016; Ishak & Bakar, 2014; Marshall, 1996). The sample of the main study consisted of ten IT organisations whose management gave consent to support the main research. Of the ten IT organisations (A-J), five were owned in Sri Lanka (A, B, C, D, E), three were owned in the USA (F, G, H), and two were owned in the Netherlands (I, J).

One of the sample groups (21 participants) of the larger study comprised owners, directors, heads of departments, Human Resource (HR) managers/directors, other company-specified senior staff members (e.g., Chief Information Officer (CIO)) who work for the Sri Lankan offices, although the organisations themselves were incorporated in USA (seven participants), Netherlands (four participants), or Sri Lanka (ten participants). Next, another sample group of the main study comprised IT managers (25 participants), who represented ten different IT organisations (three USA-owned, two Netherlands-owned, and five Sri Lanka-owned). Table 1 provides the details of the research participants.

Insert Table 1 about here

NVIVO 12 software was used to analyse the data collected from 46 interviews; the original recordings were deleted after transcribing. In order to ensure anonymity of the participants, the participants and their organisations were de-identified and the events were modified (Bryman & Bell, 2007). In the present approach, the triangulation technique was used, in which, different sample groups were used to ensure the credibility of the findings. Both sample groups were involved in providing data on the same aspects, WFH and support provided by their respective organisations during WFH, which

enabled cross-checking of data to confirm the credibility of the findings (Lincoln & Guba, 2007)

Theoretical thematic analysis was performed to analyse the data of the main study following the six steps procedure recommended by Braun and Clarke (2006), Clarke and Braun (2013), and Trainor and Bundon (2020). In the main study, 15 codes were initially generated from the first sample group and 12 codes were generated from the second group, followed by the step of familiarisation with the data. The main study involved in searching for themes; six themes were derived, which included several subthemes from the first sample group and six main themes were identified followed by several subthemes from the transcripts of interviews with IT managers. The themes generated in the larger study were used for the present research paper.

RESULTS AND DISCUSSION

This study used two themes of the main study, viz., emotion regulation strategies and COVID-19 pandemic, to identify the challenges faced by IT managers in the regulation of workplace emotions under WFH situations, and the support provided by the management to IT managers to face those challenges.

It was found that *'…Especially with the COVID situation…people are working from home…'* (SL-C1) and this was initiated by all the surveyed IT organisations. IT managers identified several challenges due to WFH because WFH generates negative emotions (e.g., *'Sometimes it's [WFH] frustration…'* (NE-J3)), causes the absence of interaction with external parties (e.g., *'…we interact with other colleagues when we go to office and work with them, but now we have to stay at home'* (US-G5)), and elicits the situation of staying alone at home (e.g., '*…During the whole daytime, I'm alone in the house…'* (US-G6)).

There is evidence to confirm that IT managers of the ten researched IT organisations regulated workplace emotions when WFH. For example, an IT manager of organisation D said, '*I should definitely bear this* [work stress]*, I shouldn't express this to my family members'* (SL-D4). Nevertheless, two themes of the larger study aided in the identification of three major challenges faced by IT managers when regulating workplace emotions in WFH situation and actions taken by the management teams to support IT managers in overcoming these challenges.

Challenge 01: Management of work and family life while regulating workplace emotions

This challenge was identified from the sub theme, negative outcomes, which comes under a main theme of COVID-19 pandemic, in the larger study. WFH during the pandemic brought different experiences to IT managers because there was no physical boundary between work and home (Waizenegger et al., 2020). This is echoed in the comment, *'…You can't separate family life and work life. In our culture, earlier, you went to work early, you came back home and after that, you had a different life. But now, such work style is not possible. You are getting emails and WhatsApp messages at all times because you're always connected with people. You can't separate work from family life'* (US-G4).

According to work-family border theory, there are three types of work-life borders, viz., physical (domain-relevant behaviours), temporal (domain-specific responsibilities), and psychological (rules created for thinking patterns in case of thinking, behaviour, and emotions of one domain may be inappropriate to the other domain) (Clark, 2000). The comment of participant US-G4 indicates that the physical border between work and family domains no longer exists in WFH situation.

One of the major challenges faced by IT managers in the WFH mode of operation was the management of family life because,

> *'…Even though we are working from home, we have to work with a lot of family matters as well. We have to deal with kids. But again, the work we are assigned is up to us to manage'* (NE-J1).
>
> *'…there are some factors that we cannot control like family interference if they also work from home'* (SL-E1)

IT managers stated that they struggled in regulating their emotions while trying to manage family life and meeting the work demands in the WFH situation. The IT managers responded in the following ways when the researcher asked about ways in which they regulated workplace emotions in WFH situation.

> *'…I didn't talk too much with family members. I tried to ignore them'* (US-F3)
>
> *'…I ignore my parents. I've tried to avoid my girlfriend's calls. Until I come back to normal, I stay alone…I don't want to talk to anyone…It annoys me'* (US-H3)

The above comments show that one strategy used by IT managers was to avoid family members when they had to regulate workplace emotions in WFH situation. According to IT managers interviewed, one contributing factor for the struggle in managing family life while regulating workplace emotions in WFH is that there is no commute time between work and home. They highlighted the absence of physical space between the workplace and home due to WFH, which results in the absence of time to adapt to the home environment after regulating workplace emotions. This is echoed in the comment, '*...I had that travelling time to relax and come home. I don't have time to reset when I work from home. When they* [children] *come inside* [office room of the home] *I say—Just give me some time to be alone'* (US-H5).

Since there is no time to relax before entering the family domain, IT managers used the following strategy to reduce the impact of regulation of workplace emotions in WFH situation on family. They sought family support to relax by sharing their emotion regulation experience with family members. For example, one IT manager stated, *'I narrated that incident to my wife and then she understood. She also said that those things are happening in every organisation, don't take it personally and just let it go'* (SL-B3)

The management of the chosen IT organisations stated that they were aware that regulation of workplace emotions in WFH situation is a challenge while balancing work and family life. For example, the management of organisations H said, '*…we are doing programmes on how to get into the new normal life to help them control emotions and how to deal with difficult situation because they are with the family'* (US-H1).

Thus, every day, before starting work, management asked their subordinates, '*How is your family doing? and how are you doing today?* (NE-J2) and '*hobbies and what are we* [employees] *doing during this time'* (SL-E2). They asked the above questions to ensure that IT managers were able to balance work and family life, which in turn helps IT managers better regulate workplace emotions. The purposes of asking the questions are echoed in the comment, *'We give them a sense of belonging to the organisation. We try to build the culture that we had in the office environment virtually. We cannot achieve it 100% but try to have a casual chat by cracking jokes during the first few minutes. We personally check on them from time to time to see if there have been adverse impacts. In my case, I*

manage a set of other managers. I'm randomly having casual chats with them and see how they are doing. They feel like the organisation cares about them. We cannot avoid 100% of their work stress…' (NE-J2)

In addition, organisations have changed their work practices from strict to flexible (e.g., no specific time to start work) to enable IT managers to balance work and family life in WFH situation. These changes enabled IT managers to regulate workplace emotions successfully because IT managers stated that one of the challenges, they faced in regulating workplace emotions in WFH was managing work and family life. The following comments indicate how organisations changed rules from strict to flexible in WFH situation.

'*…allow them* [employees] *to stay with families and we allow them to work on the weekend to cover the workload…'* (SL-E1)

'*Before COVID, we used to log in at specific times. Now the timings are not strict. We can start and log off at any time as long as we do our work'* (US-F1)

Referring to the 'negative outcomes' theme of the main theme COVID-19, this research identifies the absence of physical boundary between work and home as one of the challenges faced by IT managers in regulating workplace emotions while managing work and family domains. This observation has not been reported in any empirical investigation conducted hitherto in the context of WFH. IT managers needed family support to share their feelings and relax in regulating workplace emotions because there is no commute time between work and home. The management of organisations constantly checked whether IT managers balance work and family life and changed their rules from strict to flexible to help them to regulate workplace emotions successfully while managing work and family domains.

Challenge 02: Effects on mental health resulted in losing the ability to regulate workplace emotions

The same sub theme, 'negative outcomes' showed that IT managers experienced negative feelings in WFH situation, which affected their mental health and resulted in losing their ability to regulate workplace emotions.

According to Opatha (2020), during the pandemic, working people commonly experienced negative feelings such as fear of getting infected and fear of being quarantined. According to one of the respondents, '*Due to work-from-home situation, now you can have a lot of mental issues, stress issues'* (NE-J1) due to being isolated and relentless work. Being isolated and relentless work affected their mental health and deteriorated their interpersonal relationships, which in turn affected their ability to regulate workplace emotions. IT managers spoke about their feeling of being alone and break-less work in WFH period in the following comments.

'...During the whole daytime, I'm alone in the house….' (US-G6)

'*...Some days we slept only one hour'* (SL-E4)

'...in the COVID situation, we are working from home. If I cannot complete work at five, I am working until midnight. Most of the days I am working until midnight. Even though I know that it is not good for my health, I cannot control it (NE-J3)

'After COVID, it's a full working day. From the time I wake up until bedtime it's a working day' (US-G5)

Furthermore, they revealed that staying alone and relentless work affected their mental health.

'...I had to deal with some of the mental trauma [due to WFH] *during this period. It impacted my work'* (SL-C4)

'...Even though I know that it is not good for my health, I cannot control it…' (US-H4)

The management of the surveyed organisations seemed aware of this issue, and some of them (e.g., A, E, F, J) took actions to stop such intensive work behaviour of employees, which in turn resulted in improved mental health of IT managers and their ability to regulate workplace emotions. Some organisations did not encourage IT managers to work continuously over a long period but encouraged them to stop working periodically. This is reflected in the comment by the management, *'...There is a tendency of their working throughout the day, but if we see somebody's online for a long period, that immediate manager tells them that they have been working long hours and must switch off and start afresh on the next day… As management, we encourage them to not work long hours and take steps to be healthy as much as possible'* (NE-J2)

Furthermore, organisations have provided various support systems such as e-channelling, yoga

sessions, and sessions on balancing mental health online to improve the mental health of the IT managers.

> *'You can schedule a meeting with one of the psychotherapies or psychiatrists…Not in-house. You can claim the fee. You can use e-channelling if you have a problem because we have identified that people's stress level is growing due to work from home…Those are the things we do for their mental well-being…'* (NE-J2)
>
> *'…There are online yoga sessions…'* (US-F1)
>
> *'During the pandemic they arranged sessions. Experts in the industry came and did sessions on balancing work-life and mental health'* (SL-A2)

The challenge of effect of mental health implies negative behaviour – IT managers tended to work long hours, which affected their mental wellbeing. This, in turn resulted in loss of their ability to regulate emotions. The loss of mental wellbeing is a serious matter in regulating emotions as Wissing and Eeden (1997) state that the consequences of mental well-being include better health, brain activation, and neurochemical effects and the opposite of those consequences could be experienced when people do not have good mental health. However, previous researchers have not identified the negative effects of the relentless work style of IT managers on their mental health and resultant inability to regulate workplace emotions. This is another new finding in this work. However, organisations organised programmes online to improve IT managers' mental health, which enabled IT managers to better regulate workplace emotions.

Challenge 03: Finding new approaches to regulate workplace emotions in the home environment

The sub-sub theme, situation selection, under the subtheme of antecedent-focused emotion regulation, itself under the main theme of emotion regulation strategies, shows another challenge faced by IT managers in regulating workplace emotions in WFH situations. IT managers had to find new approaches to regulate emotions that suited the family environment but not the workplace. For example, they used situation selection strategy, which implies the selection of situations like places, people, and objects to regulate emotions (Gross, 1998a, 1998b). While this strategy has been used in both pre-WFH and WFH situations, the situations (e.g., places, people, and objects) that were selected in the WFH

context were different according to the environment of work. For example, IT managers watched movies, went offline from calls, listened to music/Buddhist sermons, cooked, spent time with pets, and took naps when using situation selection strategy in WFH. In contrast, situation selection strategies when working from a physical office away from home included taking smoking breaks and restroom breaks. The following quotes show the choices of situation selection strategies when regulating workplace emotions in WFH and pre-WFH.

> *'I stay in the apartment and watch a movie'* (SL-E4)
>
> *'I am a smoker. I go out and smoke when I want to avoid people or situation, or I have a coffee. But now I can't smoke because I'm at home. I don't get the freedom to smoke, but I have tea or coffee, or resort to music'* (SL-C3)
>
> *'I don't like to talk with my parents. I try to stay alone in the room and play the guitar. Also, sometimes I listen to Buddhist sermons. Those sermons calm my mind'* (SL-E3)
>
> *'I can't go to bed to have a break and sleep for 15-20 minutes when I was not working from home. I can do that now. If I'm not talking, then I can forget everything and start afresh'* (US-F3)
>
> *'At office, I would stop whatever I am doing and go to the restroom and refresh. I would wash my face and then have tea. At home, I take a bath or listen to music or prepare meals. Then, I return to work and work for the number of hours that I need to'* (SL-C4)
>
> *'I come to play with my puppies. I don't go to talk with people. I know that if I go to talk with someone, I will never be able to give them a good response to what they ask…'* (SL-E5).

Gross (1998a, 1998b) discusses different emotion regulation strategies that individuals can utilise in their emotion regulation process. However, he did not show that individuals may use the same strategy in different environments in different ways, which is another finding of the present paper. The finding was that IT managers used situation selection strategy in both work and family domains, but in different ways in the office and WFH domains; they had to adopt new approaches that suit the home environment even though they used the same emotion regulation strategy. However, there was no evidence of actions taken by the management of any researched IT organisations to support IT managers to find new approaches to regulate workplace emotions during WFH.

CONCLUSION AND IMPLICATIONS

Previous researchers emphasise the need for emotion regulation during COVID-19 period to prevent irrational responses and to control negative emotions. (e.g., Di Blasi et al., 2021; Rubaltelli, Tedaldi, Orabona, & Scrimin, 2020). The findings of this paper also show that IT managers regulated workplace emotions in WFH situation, induced by the COVID-19 pandemic. However, themes of the larger study confirmed three challenges faced by IT managers in regulating workplace emotions. The first finding was that the regulation of workplace emotions is difficult when simultaneously managing work and family domains. Second, it is found that mental health was affected by loneliness and breakless work. Finally, this paper shows that IT managers used new approaches to regulate emotions which fits the home environment. For the first time, this research found that the management of the IT organisations supported IT managers in overcoming the first two challenges but not the third. The findings show that the management held casual conversations with the managers before starting work, changed work rules from strict to flexible, stopped the managers from having work long hours, and provided online support systems to help IT managers regulate workplace emotions.

In addition, this paper suggests new management practices that can help IT managers overcome all three challenges. First, the management could organise online programmes such as games and family days in which, family members could also participate. Secondly, online workshops and counselling could be conducted for family members to help them support the employee who works from home. Thirdly, management of organisations could conduct sessions to develop individualised daily/weekly work plans that include breaks. So that the managers can maintain a good work-family balance and not work continuously. These practices would improve the interaction time of IT managers with family members and enhance their mental health (Ryff, 1989), both of which are essential to effectively regulate emotions. Finally, this paper recommends that managements organise online training programmes for IT managers that teach them to regulate workplace emotions during the WFH period using approaches, that are suitable to the family environment.

Table 1: Research participants

Owned to	Group 1: Represented the management	Group 2: IT managers
Sri Lanka	(11) SL-A1, SL-A2, SL-B1, SL-B2, SL-C1, SL-C2, SL-D1, SL-D2, SL-D3, SL-E1, SL-E2	(11) SL-A3, SL-A4, SL-B3, SL-B4 SL-C4, SL-C3, SL-D3, SL-D4 SL-E3, SL-E4, SL-E5
USA	(7) US-F1, US-F2, US-G1, US-G2, US-G3, US-H1, US-H2	(9) US-F3, US-F4, US-F5, US-G4, US-G5, US-G6, US-H3, US-H4, US-H5
Netherlands	(4) NE-I1, NE-I2, NE-J1, NE-J2	(5) NE-I3, NE-I4, NE-I5, NE-J3, NE-J4

SL- Sri Lanka, US-USA, NE-Netherlands, A-J- Researched IT organisations

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Stream 7 Teaching and Learning

Developing and Delivering a Values-Driven, Interdisciplinary Foundation Business Curriculum in Higher Education: An Educators Perspective

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Stream 7 Teaching and Learning

Developing and Delivering a Values-Driven, Interdisciplinary Foundation Business Curriculum in Higher Education: An Educators Perspective

ABSTRACT: *Interdisciplinarity in the higher education curriculum creates an environment where students are exposed to, and draw knowledge from, several disciplines at one time including from traditional and non-traditional areas associated with their core studies. Learning across disciplines provides students with the opportunity to apply different perspectives to review complex problems and to gain new insights when finding solutions; relevant to today's interconnected society. This paper explores the embedding of a new interdisciplinary, values-driven curriculum across the foundation year of an undergraduate business program at a multi-campus Australian university. Views and experiences of educators new to interdisciplinary design and delivery, were examined. Interdisciplinarity as a contemporary teaching approach was found to provide benefits and challenges to both educators and students.*

Keywords: Interdisciplinarity, Interdisciplinary design, Higher education curriculum, Teaching in higher education.

Interdisciplinary education is a topic that has been a strategic focus in many tertiary institutions in recent years (e.g., Berasategi et al., 2020; Rhee et al., 2020). As curriculum spans both the confines of knowledge and institutions themselves, interdisciplinary education has become progressively more incorporated into university programs at both the undergraduate and postgraduate levels (Hannon et al., 2018). At its core, interdisciplinary education is about consciously applying knowledge and methodology from more than one discipline to examine a central theme, issue, problem, topic, or experience (Ashby & Exter, 2018). Integrating concepts from different disciplines allows students to synthesise and apply knowledge in innovative ways (Holley, 2017). As such, interdisciplinary teaching is a method of educational instruction whereby a student learns from a variety of different perspectives, which are then typically applied to a real-world setting (Styron, 2013).

Interdisciplinarity is a subset of 'integrative learning', an approach to learning that considers broad connections from multiple sources (Klein, 2005). Interdisciplinarity focuses on the synthesis of disciplines and the creation of new knowledge arising from this integration (Ashby & Exter, 2018). Distinguished from other cross-discipline approaches such as multidisciplinarity that consider the perspectives of different disciplines, the key to understanding the essence of interdisciplinarity is the focus on the *integration* of discipline knowledge (Repko & Szostak, 2021).

This study focuses on educators' perceptions of teaching new foundation (first year) courses (subjects), in a business degree in a multi-campus University, that were designed and are delivered as an interdisciplinary values-driven curriculum. First, the literature on interdisciplinary and values or themes-based curriculum is presented, followed by the methodology that was used to answer the Research Question: What are the perceptions of educators in delivering interdisciplinary values-driven foundation courses? Subsequently, the findings of focus groups with over 20 educators are presented, followed by a discussion of the emerging themes of the research in light of the literature. Finally, the limitations and suggestions for future research are presented in conjunction with an overarching conclusion that acknowledges the key contributions this study presents.

LITERATURE REVIEW

Interdisciplinarity

The roots of learning across disciplines can be found in the works of Aristotle, who learnt from the teachings of Plato and Socrates (Larsen, 2018). In Aristotle's view, focussing on disciplines in isolation from each other, referred to as disciplinary isolationism, leads to a narrow understanding and an overall reduction in the diversity of knowledge (Larsen, 2018). Despite this positioning of interdisciplinary teaching, traditionally, teaching and learning in formal secondary and tertiary education was done in silo disciplines. The danger of this siloed approach is that in an increasing complex world, students are missing out on the benefits of understanding "diverse forms of knowledge and inquiry" (Bear & Skorton, 2019, p. 60).

The social science literature provides a commentary on interdisciplinarity as an opportunity for learning at the boundary of disciplinary, cultural, and social groups (Gantogtokh & Quinlan, 2017). It is contended that at the boundary of different perspectives, 'a third space' emerges where joint or co-construction of learning takes place (Akkerman & Bakker, 2011; Almasi, 2016). As a result of this integration, new knowledge and perspectives are created and this 'formation' is critical to solving complex, global issues such as sustainability, urban and environment issues (Lam et al., 2014).

In conceptualising interdisciplinary education, Hannon et al. (2018, p. 1425) see it as "the integration of knowledge and ways of thinking from two or more disciplines to produce an outcome that advances student learning in a way that is not possible from a single discipline". Interdisciplinary learning is effective for developing critical thinking skills, problem solving, creativity and innovation,

collaboration and communication skills (Bear & Skorton, 2019). These skills constitute the top 'employability skills' sought by employers (Foundation for Young Australians [FYA], 2018; Ashby & Exter, 2018).

Values-Driven

According to Rodriguez (2007, p. 97), a values-driven perspective involves "understanding, examining, reflecting, externalising, discovering, accepting, and challenging past experiences and beliefs as we refresh our perspective about things, people, situations, and options". Such an approach is concerned with producing students who are open-minded and respectful citizens (Lilley et al., 2015). Our values include respect for First Peoples, sustainability, mental health and wellbeing, and diversity and inclusion.

First Peoples

First Peoples was selected as a priority because it directly aligns with the Universities Australia's (2011) objectives and the university in this study's strategic plan and graduate outcomes. While a large proportion of students studying at Australian universities have a conceptual understanding of the 'diversity of Indigenous Australia', knowledge of such content prior to commencing studies at university is likely to be at a low level (Moodie, 2019). Mills and Creedy (2019) note that it is essential for educators to be skilled in creating conditions that address the emotional aspect that is inextricably linked with learning about the health and cultural safety of First Peoples. Such unpleasantness is what Boler (1999) refers to as the 'pedagogy of discomfort'.

UN Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) are a set of 17 interlinked global goals that serve as a blueprint on sustainable growth for the future (United Nations, n.d.). Higher education institutions play an important part in "preparing leaders to create an ethical and socially responsible climate in the world's business enterprises" (Alsop, 2006, p.12). As Saitua-Iribar et al. (2020, p. 2) note "specifically, the university, as a key agent in the process of transformation towards sustainability, must commit itself to promoting sustainable values in the student body". Ultimately, by engaging with the sustainable development goals, universities can establish an institution that is 'globally aware' (SDSN Australia/Pacific, 2017) and create students that take part in lifelong learning (English & Carlsen, 2019) who can go into careers that make impactful change.

Mental Health and Wellbeing

Mental Health and Wellbeing is an area of ongoing concern and focus in business globally (World Health Organisation, 2021), and therefore should be in the curriculum to assist students in becoming more aware and adept at handling mental health and wellbeing concerns in preparation for entering the workforce. Houghton and Anderson (2017, p. 17) note that "there is growing recognition that mental wellbeing is a truly inter-disciplinary concern". Thus, it presents as an important topic for business students to learn. Houghton and Anderson (2017) acknowledge that having mental wellbeing as part of the curriculum will potentially enable students to better manage and support their own wellbeing and that of others.

Diversity and Inclusion

Diversity and inclusion are important for undergraduates' learning because "it creates a familiarity with and tolerance for different perspectives, identities, and experiences" (Rogelberg et al., 2020, p. 510). Furthermore, as society changes around us, there is an increasing expectation for graduates to grasp the concept of diversity and social justice (Collins, 2017). While Fuentes et al. (2021, p. 71) remind us of the need to consider "pedagogical approaches that are attentive to equity and inclusion" in preparing students to enter a divergent world (Brock et al., 2020), instructors can play an important role in fostering a climate of diversity and inclusion within their own classrooms.

METHODOLOGY

This is a qualitative study, located within the interpretive paradigm. The purpose of this study was to better understand the perceptions of educators who taught a selection of new interdisciplinary and values-driven courses (subjects) to undergraduate business students at a multi-campus Australian university. To this end, the views and experiences of educators, most of whom were new to interdisciplinary design and delivery were examined. The research gathered feedback from 24 educators who had taught one of the core subjects in question (the Future of Work, the Purpose of Business, and Business Decision Making) as well as 4 student peer assisted study session leaders (PASS leaders). Participants were aged between 20 and 62 years. None identified as Indigenous Australians, and teaching experience ranged from 1-20 years (average 9 years). Participants were contacted via email to voluntarily participate in the study. One-hour, online focus groups were conducted in which pre-formulated, open-ended questions were posed with small groups of educators

and PASS leaders. Sessions were recorded and transcribed.

FINDINGS

Participants were asked to provide feedback on the foundation subjects that they had taught during that period reflecting on the values driven interdisciplinary content.

Interdisciplinary Content

There were many examples shared of interdisciplinary content, showing a variety of ways the educators were able to modify their classes. For example:

> *"We were talking about the future of work, it touches on legal, diversity, gender, sustainability, culture." (P1)*

When asked about the nature of the interdisciplinary content, and in particular, whether the content went far enough, participants for the most part felt it was sufficient. However, one educator felt the content could have gone deeper:

> ***"****I found that perhaps some of the topics were a little bit surface level and we, you know, we're so focused on breadth that we didn't quite get into depth on some things." (P7)*

It was also suggested that:

> *"the students are happy to embrace a little bit of this interdisciplinary within the course ... I think we could probably do a little bit of an intro week at the beginning where we go through what the modules are and how they actually fit together ... how the jigsaw fits together." (P12)*

Participants were asked whether they felt it was important for foundation students to learn in an interdisciplinary way, and their responses were positive and future-oriented, understanding of the broader context. For example:

> *"I think it's important because that's how the real world operates. You can sit within a particular team or a particular area, but you still have to have knowledge and understanding of how your area integrates with others . . . and I also think from an employability perspective, it opens students up to more potential career pathways and doesn't limit their opportunities to one particular area." (P7)*

Teaching in an interdisciplinary way, however, requires a change in traditional teaching methods and challenges were anticipated. Several educators felt the content lacked a clear structure and would benefit from having 'sign-posts':

> *"I think it could work, but from the tutor's perspective what I noticed was I actually had a lot more scaffolding to do, a lot of backfilling because the modules, while they were quite deep and comprehensive in a way they were disjointed and so I found myself having to try and create frameworks." (P18)*

Values

First Peoples

First Peoples content was included in all foundation courses, and the importance of community was discussed when looking at First Peoples led businesses.

> *"The students looked into (Indigenous people of) other countries and how they approached in terms of businesses and employment ... it was quite interesting and students enjoyed doing that research and coming up with different aspects. So students enjoyed that and I think it was quite eye opening for all of us as well." (P3)*

There was broad agreement that First Peoples content was covered adequately for a foundation course. However, some educators also felt they could have gone deeper with the content but would require more training to be able to deliver material confidently: *"I could have gone deeper but concerned, as I wanted to be accurate." (P10)*

Educators reported that for many students, this was the first time they were encountering First Peoples content. At a more fundamental level, there was recognition that understanding First Peoples content was a way to demonstrate respect:

> *"It's important because they are the owners of the land and we need to show respect ... Everyone should have this respect." (P4)*

There were a small number of educators who had taught First Peoples content before, but none had done so in a foundation year course. In general, educators felt the materials provided in the learning module were adequate and sufficient to allow modifications to enhance the learning experience and to encourage conversations: *"The module gave me a good foundation to be able to teach and lead a discussion." (P9)*

However, the experience of teaching First Peoples content was not without challenges. Mainly, this concerned addressing 'the why'. Some Educators explained there was sometimes a 'feeling' of reluctance from students to learn First Peoples content. One tutor noted that students were

querying: *"Why are we doing this, this is ridiculous." (P15)*. There were instances where this reluctance manifested in non-verbal and, infrequently, verbal resistance. Educators needed more tools to be able to confidently manage these situations: *"How do we challenge those students in class?" (P7)*.

In summary, educators expressed a positive experience for themselves and their students in their exposure to First Peoples curriculum:

> *"Definitely, I think it will position the students in the right direction ... that was the past, it doesn't have to be the future." (P12)*

Sustainable Development Goals (SDGs)

SDGs were discussed at various points in the courses with each course taking a slightly different tack. For example: *"We covered SDGs and aligned those to business decision making." (P15)*. Some educators looked at the statistics underpinning the SDGs, such as the data around poverty which students found confronting but interesting. While other educators found students resonated more with conversations on the equity SDGs and women in work: *"I had a lot of feedback from students, that we should talk more about this." (P19).* Students were encouraged to consider the environmental cost of business decisions. In another course SDGs were embedded into assignments:

> *"In our course, SDGs were actually embedded into their assignment. They had to really understand them to be able to do their assignment effectively, which was good." (P2)*

In other courses, content looked at real-world data and applications of SDG information which the students found engaging. One tutor was able to increase relevance by sharing photos from his home country (Peru), others used SDGs to create business KPIs, and some increased engagement by adapting SDG content:

> *"...we did a cool activity with the SDG map, where you can look at how well each country is tracking. I think that they [the students] found that interesting ... All [of] these are real world things and they could connect it a little bit more." (P7)*

Some educators also commented that the focus on real-life applications of the SDGs was important to overcome initial hesitance:

> *"Some students were like, 'why are we talking about this in the future of work?' Once we started moving into why this was important and starting to use some case studies and getting them to really think about the impacts on those populations. And they started to get really involved, in fact, towards the end of one class, I couldn't stop them." (P18)*

Finally, there was general consensus that the material was covered sufficiently. The materials provided were very comprehensive. Educators said having an awareness and understanding of the SDGs was important for students so that they can use this knowledge to make positive changes in the world: *"It's important to 'plant the seed' as one day they will become business managers." (P17)*

Mental Health and Wellbeing

All foundation courses had incorporated mental health and wellbeing content into their courses in a variety of ways, and on a number of different levels. For example, some educators commenced a class with a 5 minute 'check-in' (P12) while others provided a more structured approach:

> *"So, we talked about some self-care activities we talked about how people are managing. So, I asked the question on how you feel you're coping with your study. So, we were always relating everything back to their studies." (P2)*

While some participants reported the mental health and wellbeing material was covered sufficiently, others felt they would have liked to have gone deeper but lacked the skills to do so:

> *"I was more than happy to chat about it, but I really did wish I had more training because like as much as I'm happy to talk about it, I'm not a mental health practitioner so I didn't want to say the wrong thing and actually say something that could be more damaging." (P16)*

Further, one participant (P8) felt the balance of perspectives could be more even, in that there was too much focus on individual approaches and not enough depth on what organisations should do.

Diversity (D) and Inclusion (I)

Educators affirmed D and I was included in their courses.

> *"We looked at businesses that were purposeful, so we encouraged students to find businesses that were diverse for a range of reasons ... for example a perfume company that produced non-gendered perfume. It was a really organic way to include diversity and inclusiveness." (P9)*

There was a general view that the content was engaging and could have been covered more deeply if

time permitted:

> *"There was a lot that we had to fit in ... I think we could have focussed more on how inequality occurs." (P2)*

The importance of including D and I in foundation year business studies emerged from the majority of participants.

> *"Our multicultural society, the sheer number of women in the workforce, the lack of women in leadership positions, the value diversity can have ... it's all interrelated and it's extremely important they understand. A lot of them are unaware." (P2)*

Tutors enjoyed teaching the content, and many found students were highly engaged with the topic which led to some robust conversations in some classes:

> *"There was a whole discussion regarding reverse discrimination. I actually enjoyed debating with them and it was interesting, how they were willing to actually listen. I've never really had students talk about this openly." (P14)*

DISCUSSION

The following presents a thematic discussion of the research findings and how they relate to the literature presented earlier.

Interdisciplinary Nature of Course

As proposed by Akkerman and Bakker (2011) in delivering the curriculum in an interdisciplinary value-driven manner a 'third space' indeed emerged. Participants in this study were generally positive about the new course design and saw benefits in both the values and the interdisciplinary nature of the curriculum for students. Positive aspects included an acknowledgment that an interdisciplinary approach mimics the real world (Styron, 2013). One participant explained that in professional work, the expectation is that you have some knowledge of other departments within an organisation and therefore a breadth of understanding was useful. This research found that the interdisciplinary structure enhanced the student's employability, supporting the findings of Bear and Skorton (2019). As the academics' personal learning and professional development had also been enhanced teaching this, it was noted "...they're kind of having like a double layered learning approach like they're learning the content but then they also kind of ... it's ... it's broad in a way and they're learning a little bit more about another discipline" (P3). This research also raises the importance of

structure and providing an introduction enabling students to see the 'bigger picture'. This supports work of Ashby and Exter (2018); where educators reported students were excited by the interdisciplinary nature of the content, particularly the discussion around practical business examples. This reflects the requirements of today's graduates (FYA, 2018).

Value 1 - First Peoples

This research found that of the concern of educators about "getting it wrong" aligned closely to the early work of Boler (1999). Supporting the findings of Mills and Creedy (2019), educators highlighted the importance of their own need for training and cultural awareness and sensitivity. Proving further training would build confidence to drill deeper into the content which some participants in this research felt they had only dealt with at a surface level.

The acknowledgement of the reactions and responses of students to the content of First Peoples was a point in time contribution to the literature on this topic. Overwhelmingly, the majority of educators observed positive responses to the curriculum, with many noting this was the first time students had been exposed to First Peoples knowledge. Supporting the findings of Moodie (2019), this research also noted the importance and relevance of culturally specific dimensions such as being collective and community decision-making processes to business today.

Despite the generally positive responses from students, however, teaching First Peoples knowledge also presented challenges. Establishing the 'why' was a challenge for educators as was facing what they termed 'reluctance' both explicit and implicit from students. Helping students understand the relevance of the content was critical to gaining buy in and engagement as also reported by Mills and Creedy (2019). For some students this was obvious, however others needed help to understand. The evidence of discomfort as described by Boler (1999) was also supported in this research with a minority of students challenging the value of this in the curriculum.

Value 2 – Sustainable Development Goals (SDGs)

Supporting the work of English and Carslen (2019), educators had a positive experience teaching these goals with the most common feedback being around 'creating the why'. The content was effective once students could see the wider implications of the content and it was covered to a deep enough level. SDG content was embedded into courses in a variety of ways. For example, in one course, students were able to create business KPIs using SDGs and business case studies, while in

another, students were guided through to a mapping activity where they were able to track the 'real world' implications. Other courses included SDG content into assignments.

Students also found some SDGs were more relevant and important to them than others. Some educators noted particular interest in certain SDGs, particularly the statistics and discussion on poverty, gender equality and air, land, and sea pollution. The opportunity to create 'real world' relevance also emerged strongly in the data supporting the aim of business schools to create globally aware graduates (SDSN Australia/Pacific, 2017). The majority of participants noted that as soon as students understood 'the why', there was enthusiastic engagement.

Value 3 – Mental Health and Wellbeing

As noted by the World Health Organisation (2021), there is a growing worldwide need to understand mental health and wellbeing and for it to be taught to the current and future generation to enact change. Despite this, the strongest theme to emerge in the research around mental health and wellbeing was the need for greater clarity of the content. There was a sense that mental health and well-being content was delivered in a less structured way. Educators felt unclear of their role and there were far fewer examples shared of mental health content. However, there was consensus that mental health is important and needs to be discussed more deeply. Specific content included a 5 minute 'check-in' before the commencement of each class, sharing information on support services available and a facilitated discussion on coping/resilience strategies.

Participants indicated a concern about understanding student mental health and how to respond. Educators were aware that they were often the first point of contact for the student and expressed a need for greater role clarity on how to respond appropriately. While Houghton and Anderson (2017) advocate for mental health and well-being in the curriculum, research to date is less explicit about the direct dangers educators may face as a result of 'opening up' about the topic and teaching it in the curriculum. One tutor was aware of her limitations in dealing with crisis and did not want to say anything 'that would be more damaging'.

Value 4 – Diversity (D) and Inclusion (I)

Diversity and inclusion topics were incorporated consistently in most classes and students engaged positively with the materials, meeting what Collins (2017) referred to as the 'expectations' that students should grasp the concept of D and I. Supporting the findings of Brock et al. (2020) and

Fuentes et al. (2021), this study also highlights the importance of pedagogy with participants noting high student engagement with the subject-matter and the interesting debates that the material generated. Educators felt comfortable debating D and I points and enjoyed the level of energy produced by active discussions in this space. This study supports Rogelberg's (2020) finding that the goal of familiarity with the content can be achieved by adding depth through personal experiences from work and life. In particular, subjects on gender pay gap and equity were noted as particularly interesting and engaging areas. Some educators felt the D and I materials were a natural fit to enhance the course and as such, the materials were seamlessly introduced in an "organic and authentic" way. Again, the educators noted high levels of engagement with the material as well as deep discussions. Educators felt students could relate to the importance of the materials. This study reinforced the importance of the educator as being critical in the teaching of D and I in the classroom effectively.

LIMITATIONS, FUTURE RESEACH AND CONCLUSIONS

The limitations of this study include that it was undertaken at a single Australian University and focused purely on the perspectives of educators. A national level project focused on the business curriculum would assist in matters such as generalisation, but also in the breadth and depth of examples of Indigenising the curriculum, assisting educators not only in Australia, but also globally. Future research could also seek to capture the student's perspective, including those Indigenous students who acted in the development of the curriculum as student partners. Further research could also consider providing examples of content and cases to allow for replication and use in addition to applying this approach at levels other than first year students. This collaborative curriculum and course development with a wide range of stakeholders which moved away from silos to creating a values-driven interdisciplinary program was not without its challenges. This process has indeed been innovative, complex, challenging, distinct and worthwhile. This study provides valuable insights into both the advantages and challenges of introducing a values-driven interdisciplinary foundation business curriculum. The role of the educator was found to be vitally important to the successful implementation of this approach, and for some, this presented a considerable challenge. Interdisciplinary training may be necessary to support educators in this new approach. However, the relevance of interdisciplinary study was deemed very relevant to students facing an increasingly interconnected world.

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4. Gender, Diversity and Indigeneity

Role of social capital in adapting to a post-pandemic work environment: Evidence from rural India

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Role of social capital in adapting to a post-pandemic work environment: Evidence from rural India

Abstract- *We explore the role of social capital in dealing with work-related challenges of the post-pandemic world, especially in the context of a resource-constrained environment. To conduct this qualitative study, primary data was collected through semi-structured and unstructured interviews of 27 women's self-help groups (SHG) working in the rural hinterland of Chhattisgarh state, India. Drawing on the grounded theory approach, we identify that the rural workforce i.e., women's SHGs adapt to the change of online systems via leveraging their social capital. Social networks, social norms, and trust all play important roles in adapting to this change. Our findings highlight the importance of social capital in successfully adapting to a new (online) work system. This work contributes to the existing literature on social capital and post-pandemic challenges.*

Keywords- Social capital, Post-pandemic world, Grounded theory, Work-related challenges, Rural India, Women's SHGs.

INTRODUCTION

In late 2019, a highly transmissible disease called Coronavirus Disease-19 or COVID-19 emerged from China which turned into a pandemic within a short period (Qiu, Chen, & Shi, 2020). Given the highly transmissible nature of the disease COVID-19 and its severity on public health, countries worldwide imposed several stringent suppression measures such as social distancing and nationwide lockdown to prevent its spread (Fang, Wang, & Yang, 2020). These measures aimed to restrict the movement of the public except for essential needs, and as a result of these measures, several organizations such as schools, universities, businesses, non-government bodies, community centers, and religious centers were temporarily shut down (Brodeur, Gray, Islam, & Bhuiyan, 2021).

The persistence of COVID-19 all over the world forced government bodies to extend stay-at-home orders and travel restrictions on the public. These restrictions hampered the activities of businesses which made some organizations shift to new ways of working like work-from-home via an online system (Castrillon, 2020), while those who were unable to face this new challenge were wiped out of the market resulting in an economic downturn (Costa, 2020; Sundaram, 2020). The COVID-19 pandemic has negatively impacted the world economy (Brodeur et al., 2021), especially the economies of developing countries (Bundervoet & Davalos, 2021).

Currently, we have entered the phase of post-pandemic situation and dealing with post-pandemic challenges. As per the IMF report (Susskind et al., 2020), the digital economy has accelerated due to the pandemic impact. Society has started adapting to new ways such as cashless payment, online shopping, e-learning, and remote working. The workforce sector is adapting to changes in working conditions such as videoconferencing and using modern technologies for facilitating remote work.

Adapting to these technologies becomes a need of the hour for society. Successful adaptation to these work-related changes requires possession of technological and intellectual resources by respective individuals. Technologies like computer systems, cameras, microphones, computer-based software, etc (being a tangible resource) are required for remote working. While intellect or cognitive

ability of an individual (being an intangible resource) is required to operate these systems and software for smooth working. But what happens when workforce does not possess the required resources to adapt to the changes, especially those residing in a rural backward society. This question motivated us to study 'How does rural workforce face work-related challenges arising due to covid-19?'

We adopted a theoretical perspective of social capital and a methodological approach of grounded theory to address the above-stated research question. We primarily considered women's self-help groups (SHGs) of rural society as a rural workforce for conducting this study. The findings of our study show that when resources are not available then social capital can be successfully utilized to face work-related challenges. More precisely, SHGs successfully adapted to the new (online) work system by leveraging their social capital, which involves social networks, social norms, and trust. This study contributes to the literature on the importance of social capital in addressing the post-pandemic challenges.

LITERATURE BACKGROUND

Social capital theory

Social capital has been conceptualized diversely by various researchers. Researchers such as Coleman, Putnam, and Brut have largely contributed to the field of social capital theory. Social capital is defined as relationships among individuals for facilitating actions (Coleman, 1988, 1990). It is through social relations with others one may utilize other forms of resources such as financial and human capital (Burt, 1992). Looking at the community or societal level, "social capital involves social networks, norms, and trust which helps in collectively improving the efficiency of society by facilitating coordinating actions" (Putnam, 1993).

Social capital signifies the importance of relationships. Social capital is located in the social structure i.e., in the link between actors but not in the actors themselves (Burt, 2000; Coleman, 1990). Social capital has structural, relational, and cognitive dimensions (Nahapiet & Ghoshal, 1998). The structural dimension of social capital deals with the characteristics of a social network such as the

presence and absence of relationships, network configuration, and pattern of linkages. The relational dimension of social capital considers the personal and emotional aspects of the relationship that influence the behavior of an individual. It includes norms, trust, expectations, and identity creation. The cognitive dimension of social capital is about the shared thoughts, interpretations, and meanings that emerge from the interactions of actors and their mutual relations.

Social capital is studied at a different level of analysis i.e., at an individual (Burt, 2000; Sauerwald, Lin, & Peng, 2016), organizational (Andrews, 2010; Boix & Posner, 1998), industry (Tóth, Nemkova, Hizsák, & Naudé, 2022), and society level (Kwon, Heflin, & Ruef, 2013). In this study, our primary interest is in the relationship among members of society. Hence, we adopted the notion of social capital as given by Putnam (1993) for the society level of analysis. Putnam (1993) emphasized the importance of both networks of relations and moral resources such as trust and norms for describing social capital.

Social capital and COVID-19

There is growing research on the role of social capital during the COVID-19 pandemic. The extant research on covid and social capital has been looked at from various perspectives. Some studies examined the positive effect of social capital on health outcomes during the pandemic i.e., collective action and socially responsible behavior lead to low mortality rate and spread of the virus in European countries (Bartscher, Seitz, Siegloch, Slotwinski, & Wehrhöfer, 2021). The social capital in the form of public trust and actions helps in combating covid-19 (Jalan & Sen, 2020). Social capital mitigates the spread of covid-19 due to the presence of shared norms and trust within the network (Makridis & Wu, 2021). The emergence of bonding and bridging social capital in the local society of Hong Kong helped in fighting covid-19 (Lau, 2020). At the individual level, the presence of social capital reduces the close-contact behavior of people in society which helps in controlling the spread of covid-19 (Liu & Wen, 2021). As a counterpoint, some studies showed that the spread of covid-19 increased due to social ties (Mogi & Spijker, 2021), and covid-19-related deaths increased in Catholic countries because of high social interactions based on religious denomination (Laliotis & Minos, 2022).

But the role of social capital in the post-pandemic world is understudied. Few researchers emphasized the importance of social capital in dealing with the challenges of the post-pandemic situation. According to Deal and Levenson (2021), social capital is crucial for a hybrid work system. Social capital and technological empowerment have a positive impact on rural resilience and pandemic prevention (Wang, Zhang, Xu, Ruan, & Tang, 2021). The hotel and travel industry is most affected by the covid-19 pandemic. Drawing on social capital theory, Leung, Sun, Zhang, and Ding (2021) showed that person-organization fit impacts (social) trust which enhances organizational attractiveness for Gen Z to join the hotel industry during the post-pandemic situation. Even for large family-owned firms, the internal and external social capital make those firms capable to manage risks in the post-pandemic environment (Calabrò, Chrisman, & Kano, 2022). Organizations' leaders should focus on strengthening weak ties and building social capital in new teams which will support a hybrid work environment (Deal & Levenson, 2021).

Studying the role of social capital in the post-pandemic environment still has great scope to be explored further. And to the best of our knowledge, this is the first research work to study the role of social capital in dealing with new work-related challenges as faced by rural Indian society in the post-pandemic world.

RESEARCH METHODOLOGY

We adopted a qualitative research approach for satisfying the exploratory focus of this study (Saunders, Lewis, & Thornhill, 2007). For conducting this study, a grounded-theory method is selected, as it is suitable for exploring relatively new research areas (Glaser & Strauss, 1967). Grounded theory is a systematic methodology that involves coding and themes identification from raw case data for the construction of a theoretical model (Strauss & Corbin, 1997). It requires an iterative process of collection and analysis of data, and its constant comparison with the literature for developing a grounded theory model.

An "interpretivist" epistemological lens is adopted to analyze the data (McAuley, Duberley, & Johnson, 2007). The insights from data are presented in a form of a case in the next section of this study.

Data sample

For addressing the research question of this study, we have chosen to study women's self-help groups (SHGs) residing in a forest-rich state of India. These women are tribals and engage as work partners with the state government organization dealing in minor forest produce and related products.

Data collection

The primary data for this study is collected in various phases. Data collected in each phase was continuously analyzed before going ahead to the next phase. We followed a mix of unstructured and semi-structured interview processes for collecting data from SHGs. Field visit observations and secondary data from the organization's annual reports and magazines are used for triangulating the data. In the initial phase, we focused on getting familiar with the context of rural society through unstructured interviews. Based on the gathered data we framed semi-structured questionnaires for the next phase of data collection. The data collection process continued until the theoretical saturation is achieved, i.e., when further data yields no new insights or explanations of a stated theme (Glaser & Strauss, 1967).

We conducted a total of 27 interviews with women's SHGs (time ranging from 15 minutes to 50 minutes, i.e., 30 minutes duration on average). All the interviews were tape-recorded with the prior permission of the interviewees. The interviews were conducted in Hindi language and analysis was done based on raw data which was then translated and codified in the English language manually. The field visit was done to 6 different districts of the states and covered 19 villages. [All details of collected data are given in the table below]

Insert Table 1 here

Case context

This case is based in India, a developing economy. India has a large segment of rural society as compared to urban ones. Nearly 65% of Indians live in rural areas. The rural workforce accounts for around 69% of total employment in India. This is the case of women's self-help groups of one of the Indian states and their mechanism of dealing with post-pandemic situations.

Women's self-help groups are part of a state's rural society, they are engaged as a partner with a state-government organization for work. This organization deals in minor forest produce (MFP) and herbal products for community welfare. These women are indigenous people of the state commonly called tribals and work in the form of SHGs for earning purposes. The historical and family background of SHGs' women is that they are from backward communities where some of them struggle to fulfill basic needs. Most of them are illiterate, uneducated, and lack mobility and financial resources. Their family income is generated through the collection and sale of MFP, farming, and labor work. Their inclusion in the form of SHG with the state-government body is a source of earning additional income, leading to the social and economic development of rural society, especially women. Their work task revolves mainly around manufacturing herbal products from minor forest produce (MFP) such as making tamarind bricks and candies, Indian gooseberry juice and candies, butter tree cookies and squash, processed honey, processed cashews, etc. The SHGs work 6 days a week at the processing centers established by the government bodies and located in their respective villages. The majority of the work is skill-based and manually done with the minimal use of automatic machinery.

They received continuous training for skill up-gradation by several government employees, research fellows, and marketing interns. During the pre-pandemic time, all the bookkeeping was done manually in paper form by the SHGs, all information was recorded and shared in a hard-copy format, and real-time training was done at the village, district, and state levels. For attending training, all women's SHGs of a particular region used to regularly travel to the respective place.

DATA ANALYSIS

The analysis of the collected data resulted in a grounded theoretical model (involving first-order codes, second-order themes, and aggregate dimensions) and a framework as shown in the figures below. The analysis of qualitative data was done as suggested by Miles and Huberman (1994).

Insert Figures 1 and 2 here

Propositions developed from the analysis of data and model, are given in the following section.

Rural society deals with change through social capital

Due to several restrictions imposed by the government for preventive measures after the covid-19 outbreak, a situation of new normal emerged in society. The way of dealing with regular business activities has taken a major shift from physical form to virtual, affecting all types of businesses and related activities (Castrillon, 2020). Similarly in the context of rural India, most of the activities shifted to remote work systems (Sawhney, 2022). During the post-pandemic situation, the training of SHGs was shifted to online/virtual mode. As most of the villagers do not even have smart mobile phones, so they started taking online training together at a fellow member or villagers' home or at the unit center where the technological facility is available in any form of computer, smart mobile phones, or laptop.

The bookkeeping of records was also shifted to online format i.e., via an online app and spreadsheet. WhatsApp groups were created for regular updates of information. SHGs' women being uneducated and illiterate took the help of an educated person from their village, community, or family to fulfill this new requirement. Some of the SHGs involved a suitable educated woman from the village either as a member of SHG or a freelancer to fulfill this purpose and perform the online duty.

Through social capital, one can get access to actors with a required set of intellectual capital, knowledge, or information (Nahapiet & Ghoshal, 1998). These women's SHGs deprived of

technological and intellectual resources still managed to adapt to the new work system by reaching out to their fellow villagers, community members, friends, or family members and seeking their contribution to help them with the new work system. Social capital is the interpersonal linkage among individuals which facilitates actions (Coleman, 1988; Putnam, 1993). It is a group-level asset including relations and potential benefits arising from such relations (Kim & Cannella Jr, 2008).

The support from social relations helped women's SHGs to address this challenge of adapting to the (new) online-work system when they do not possess the required resources (like a computer or mobile phone, and basic knowledge to operate an online system or software). All these conditions bring to our attention that social capital acts as a mediator to bridge the gap between new development and its adaptation by rural society, especially when required resources are lacking.

This prompts us to frame the following proposition based on the theoretical understanding and presented case evidence-

Proposition 1: *When resources are unavailable to adapt to a new work system, then social capital can be leveraged for bridging the gap between the new work system and its adaptation by society.*

Role of social networks, social norms, and trust

Social networks, social norms, and trust are integral parts of social capital (Putnam, 1993). A social network consists of interactions between actors. People engage in interactions for sharing information, experience, thoughts, etc. Granovetter (1973) highlighted the importance of interpersonal ties such as strong and weak ties between individuals. The SHGs' women dealt with the forefront challenge of familiarizing themselves with a virtual/online system through the help of informal interactions with fellow villagers, community members, friends, family, or neighbours.

The support from other actors also hinges on social norms and trust. Social norms are shared beliefs or standards of socially acceptable behavior by a particular group or society (Coleman, 1990; Lapinski & Rimal, 2005). Norms are internalized by members of society and the existence of particular norms can be identified by observing the pattern of behavior within a group or society (Cialdini & Trost, 1998). As in this case, these SHGs' women live in a society where people help each

other selflessly and support one another during crises as in the situation of COVID-19. All villagers used to work collectively and collaboratively, women prefer working in a group which helps them in mitigating challenges and maintaining daily work-life balance. Even villagers work in a team for regular income-generating tasks such as agricultural farming and collecting minor forest produce. Working and spending time together creates an environment of collectivism and cooperation in society.

Trust is a relational factor, it is an attribute of a relationship that helps in getting support from other actors for achieving goals (Tsai & Ghoshal, 1998). Trust develops through long-term relationships. It is dependent on social bonding or connections (Glanville, Andersson, & Paxton, 2013), which happens when people share common characteristics within-group such as caste, religion, ethnicity, communication language, etc. In this context of the study, SHGs and fellow villagers converse with each other in a common local language. People of rural society are more open to each other in terms of sharing problems, information, grievances, or happiness; they all live in a transparent and close-knit environment and belong to the same native place. Even the (generational) roots of current villagers belong to the very same community and region. All these characteristics of affinity, transparency and nativeness develop trust in society.

Trust, social norms, and social ties all play important roles in society. Social capital can help deal with challenges when trust and norms are embedded in social relations.

This prompts us to frame the following proposition based on the theoretical understanding and presented case evidence-

Proposition 2: *All three elements of social capital i.e., social network within a society, social norms of a society, and trust for each other in society play an equally important role in successfully adapting to the new work system.*

DISCUSSION AND CONCLUSION

With the emergence of the covid-19, a wave of emotional anxiety, and physical, financial, and mental distress also emerged (WHO, 2020), which created economic and social disruptions in society.

Further, restrictions imposed by the government to curb covid-19 impacted the operating style of several sectors such as the healthcare sector, food service sector, education sector, retail sector, etc. Most of the sectors shifted to digital platforms for satisfying customer needs and complying with government norms (Abrar, 2022; Phadnis, 2021; Soni, 2022; Weforum, 2020). The industries such as textile, automotive, chemical, food and beverage, forestry, etc., that cannot be entirely shifted to remote work systems still managed to reduce people's physical interactions through virtual meetings, online reporting, online training and consulting (Chandrashekhar, 2020; Lund et al., 2021). But the inclusion of an online system was a challenge for the rural workforce as they live in a resource constrained environment.

This study highlights the role of social capital in addressing work-related challenges faced by the rural society of India due to the COVID-19 pandemic. The main challenge was an adaptation by the rural workforce to the changes made in the traditional work system. The restrictions on mobility and the emergence of preventive measures like social distancing resulted in the involvement of new technologies, remote working, and virtual meetings in our daily life (Lund et al., 2021). These virtual meetings and online work systems also became prominent in rural India after the pandemic. But its adaptation by rural society was challenging due to the non-availability of required resources with designated rural workforce i.e., women's SHGs. Social capital made it easy to shift to remote work for organizations' employees (Deal & Levenson, 2021), and this is also visible in rural society.

According to the previous literature, social capital mitigates risks (Calabrò et al., 2022), boosts resilience (Wang et al., 2021), prevents virus spread (Bartscher et al., 2021; Liu & Wen, 2021), and supports hybrid work environment (Deal & Levenson, 2021). Through qualitatively analyzing this study, we identified that social capital is also helpful in adapting to a new work system.

We make the following contributions to the field of social capital and post-pandemic challenges. Firstly, this study identifies the importance of social capital in dealing with changes in resource constrained environment. Secondly, this study showed that relational and structural components of social capital such as social networks, social norms, and trust equally support the rural workforce in adapting to the change. The social network which is developed within the society based

on interpersonal connections and informal interactions; socially embedded norms of cooperation and collectivism; and trust built on affinity, native connections, and long-term relationships supported the women's SHGs (rural workforce) to easily adapt to the new (virtual) system of work.

This study also has implications for the practice world. Social capital may also be leveraged during other contingent circumstances. Investing in building social capital is beneficial for implementing community-level programs for social welfare. The schemes and programs related to co-working or co-learning in such areas of high social capital may be implemented successfully.

Limitations and future research

This study has focused only on the women's SHGs of a particular state of India. So, it can be extended by involving other types of the rural workforce (such as men and women not associated with SHG) for analyzing the social capital impact on post-pandemic challenges. We have considered only the work-related challenge in this study, but the role of social capital can be examined in addressing several other challenges related to financial, mental, or emotional distress. A further extension to this work can be for studying the difference in adapting to a new work system based on high and low social capital regions.

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TABLES AND FIGURES

Table 1: Data Collection Details

PRIMARY DATA				
Type of data	**Field Visit-1**	**Field Visit-2**	**Field Visit-3**	**Total**
	October 2021	February 2022	May 2022	3 field visits
Field visit observations	1 District- 2 villages	2 Districts- 8 villages	3 Districts- 9 villages	6 Districts- 19 villages visited
Semi-structured and unstructured interviews	5 women's SHGs Time duration- 3 hrs	12 women's SHGs Time duration- 6 hrs	10 women's SHGs Time duration- 5 hrs	27 interviews Time duration- 14 hrs
SECONDARY DATA				
Annual reports of the organization	Studied reports of past 4 years (2018-2021) to understand the covid impact on restructuring of activities			4 reports- 230 pages

Figure 1: Grounded Theoretical Model

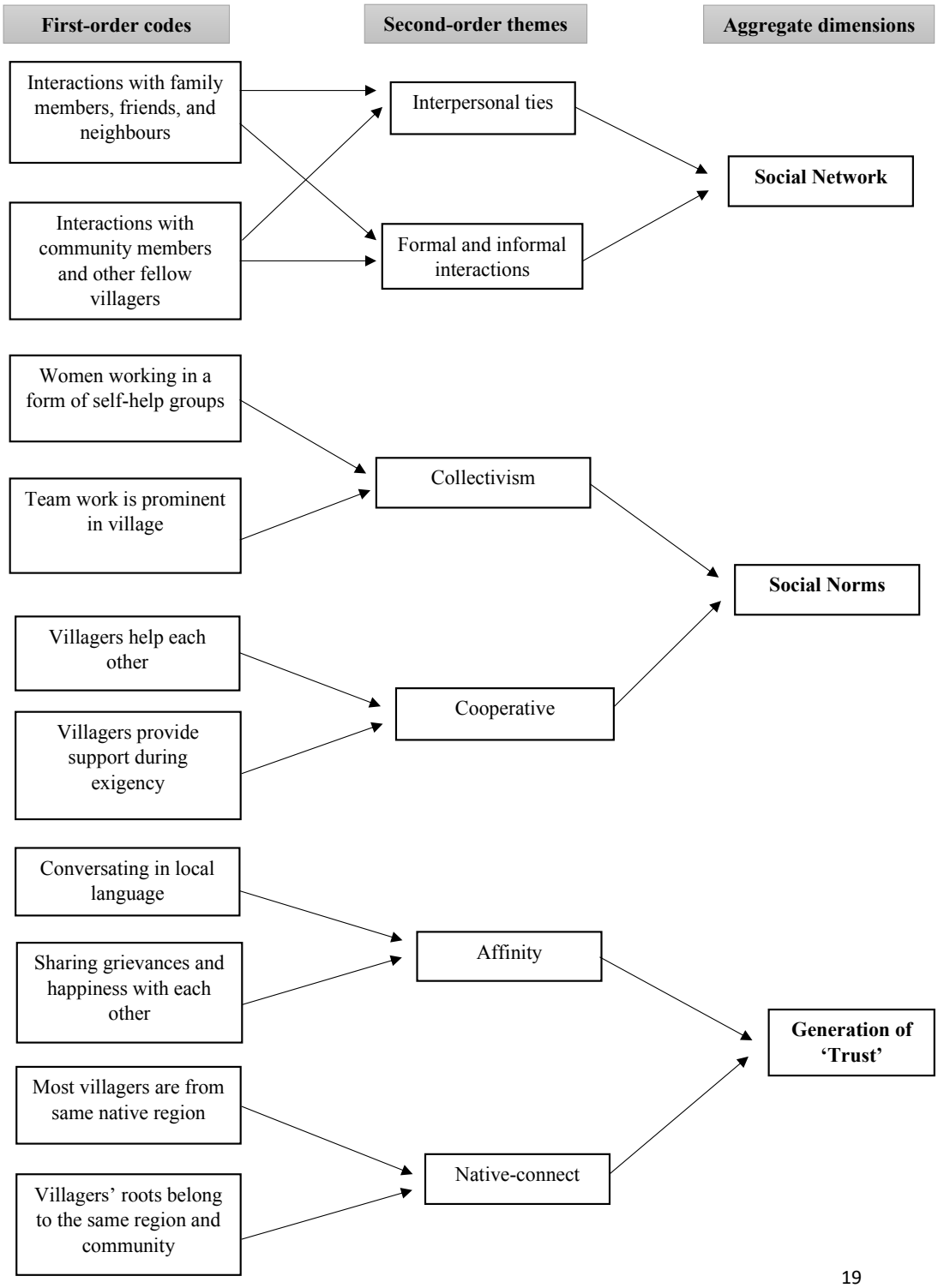
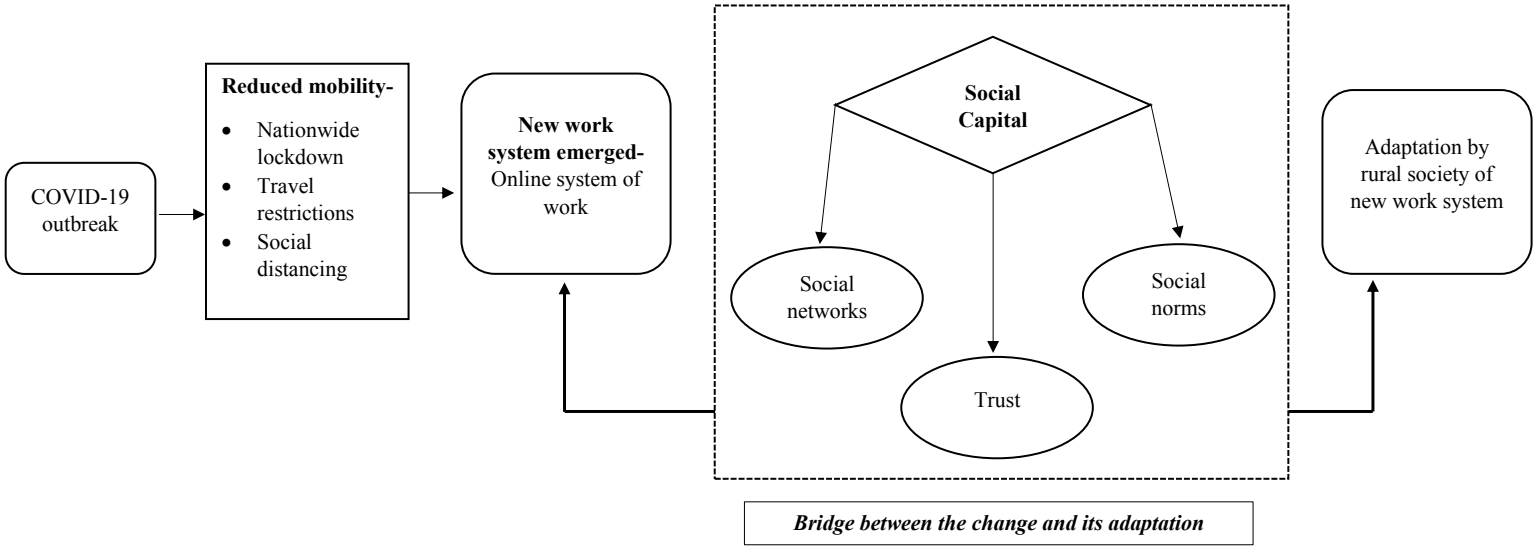


Figure 2: Framework of Social Capital Addressing Post-Pandemic Challenge



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6. Leadership, Governance and Strategy

Evolution of an Innovative Business Model

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6. Leadership, Governance and Strategy

Evolution of an Innovative Business Model

ABSTRACT

This study focuses on studying and analyzing the business model evolution of an Indian co-operative organization that is more than 20 years old and operates with a hybrid logic of economic, co-operative, and social welfare. A single-case study method is adopted. This study considers activity-system and genealogical perspectives for analyzing the evolution process of the organization's business model. The main findings of this study reflect that business model is an emergent phenomenon; the evolution in business ideology leads to the evolution of the business model; the process of business model evolution may not only be about the replacement of activities but successively advancing value chain activities; and external support plays a vital role in the evolution of the business model.

Keywords: Business model evolution, Case study, Activity-system perspective, Genealogical perspective.

INTRODUCTION

Business Model is a concept that has been looked at through various perspectives by researchers over the last decade. Some consider the business model as a synonfor to strategy (e.g., Arend, 2013), while some consider it as a separate phenomenon (Foss and Saebi, 2018).

The history of the business model concept highlights its emergence from strategy. An organization's core strategy is the central component of its business model (Hamel, 2000). While Casadeus-Masanell and Ricart (2010) view the business model as a reflection of the firm's realized strategy, Arend (2013) sees it as a useful representation of the organization's value-creating activities, and Dahan et al. (2010) consider it as a tool for strategy implementation.

A business model includes several components such as strategy, resources, network and partners, customers, value propositions, and revenue model (Wirtz et al., 2016). The business model concept is shifting from technology orientation to strategic orientation in modern business (Wirtz et al., 2016).

Taking this strategic orientation of the business model further, we seek to study the evolution of the business model from both a genealogical perspective and an activity-system perspective. In the social sciences, Michel Foucault and Friedrich Nietzsche have contributed to the understanding of the genealogical approach. Genealogical analysis reveals the historical-contingent conditions of the creation of a subject (Rasche and Chia, 2009). A genealogical aspect shows the successive and distinct forms of a subject which take on a new significance at every turn (Lisa, 2008). Here, the subject is the business model of a cooperative federation.

We focus on studying the evolution of the business model, without adopting "a pseudoscientific theory of change" (Mintzberg and Lampel, 1999). This perspective can be understood in line with Mintzberg and Lampel's (1999) 'evolution of strategy'. The evolution of strategy differs from biological evolution, it is not about replacing older schools of strategy but advancing the previous one without replacement. Considering this viewpoint, we endeavor to contribute to the business model evolution subject uniquely, differing from existing studies that consider change-replacement as the core unit of analyzing business model evolution.

As per Zott and Amit (2010), the activity system perspective concentrates on the interdependent activities of a firm, which encourages holistic thinking. An activity is referred to as the engagement of a firm's resources to serve its purpose. The firm's activity system involves the choice of activities, their linkage, and governance. It is the interdependencies among a firm's activities that provide insights into the evolution process of a firm's activity system over time due to the changes in the competitive environment (Siggelkow, 2002).

Considering both the viewpoints stated above, we seek to address the following research questions:

a) Does the business model of an organization goes through continuous change over some time (emergent process) or not?
b) What is the business model evolution process?
c) What are the important elements in such an evolution of the business model?

An "interpretivism" approach has been adopted for conducting this exploratory study. A single longitudinal case study has been used as a methodology as it involves a detailed examination of a particular case within a real-world environment and helps in gaining a comprehensive understanding of the context and the process over some time (Saunders et al., 2009).

LITERATURE REVIEW

The concept of the business model (BM) has become prevalent and gained momentum in scholarly research since the 1990s dot-com boom era (Zott et al., 2011). It has been referred to differently by various researchers. Some refer to the business model as an architecture (Dubosson-Torbay et al., 2002), a cognitive device (Baden-Fuller and Haefliger, 2013), a pattern of activities to create an appropriate value (Amit and Zott, 2001; Zott et al., 2011) and, a conceptual model (Osterwalder, 2004), etc.

A business model provides an "integrated picture of a company" (Yunus et al., 2010). The business model is defined as an "architecture of value creation, delivery, and capture mechanisms" (Teece, 2010), here *architecture* indicates "the functional relations among the mechanisms and underlying activities" (Foss and Saebi, 2017). As per Zott and Amit (2010), the notion of the business model is built on the firm's boundary-spanning system of activities as a focal firm continuously interacts with its suppliers, partners, customers, etc. through transaction mechanisms.

Businesses operate in a dynamic environment that necessitates firms to discover or invent new business models or modify existing business models to adapt to environmental changes (such as competition, technological disruption, changes in market conditions, and so on), giving rise to the concepts of business model innovation (Foss and Saebi, 2017) and business model adaptation (Landau et al., 2016).

For one set of researchers, Business model innovation is about designing a new or disruptive form of the business model (Markides, 2006; Aspara et al., 2010; Casadesus-Masanell and Zhu, 2013), while the other group identifies it as improving/modifying/reconfiguring a current business model (Cortimiglia et al., 2016; Amit and Zott, 2012). According to Foss and Saebi (2017, 2018), a firm can innovate business models in terms of scope (modular/architectural) and novelty (new to firm/industry), resulting in four typologies of business model innovation: evolutionary, adaptive, focused, and complex business model innovation. A business model adaptation process involves aligning the firm's business model to a new context or a changing environment (Saebi et al., 2017; Landau et al., 2016).

Researchers have predominantly studied business models from two perspectives, i.e., static and transformational. The static perspective mainly focuses on understanding business model components, architecture, and structure (e.g., Teece, 2010; Johnson et al., 2008; Osterwalder et al., 2005). While a transformational or dynamic perspective focuses on business model innovation, incremental change, reinvention, etc. (e.g., Casadeus-Masanell and Ricart, 2010; Markides, 2006; Amit and Zott, 2012). The evolutionary (emergent) aspect of the business model is understudied as only a few researchers have contributed to the business model evolution subject (e.g., Bohnsack et al., 2014; Velu, 2017; Lubik and Garnsey, 2016; Demil and Lecocq, 2010; To et al., 2020). Business model evolution is described as the process of continuous changes which can be intended or emergent between and within core components of the business model (Demil and Lecocq, 2010). The extant literature on business model evolution is mostly focused on studying the evolution process through a resource-based view. Existing studies describe how the accumulation of resources (Demil and Lecocq, 2010), dynamic capabilities of the firm (Velu, 2017), and path dependency (Bohnsack et al., 2014) influence business model evolution.

For this study, we have chosen the activity-system perspective by Zott and Amit (2010). The business model is designed on the elements of content, structure, and governance (Zott and Amit, 2010), which answers what, how, and who questions related to business activities. Content describes 'what' activities are to be performed for value creation, structure describes 'how' those activities are linked together, and governance defines 'who' should perform those activities.

RESEARCH METHODOLOGY

In this study, we focus on exploring the evolution of the business model from a genealogical perspective **(**Rasche and Chia, 2009) and an activity-system perspective (Zott and Amit, 2010). For conducting this study, we selected a single case study method **(**Eisenhardt, 1989) as this research has an exploratory focus.

Research setting

We studied and analyzed the evolution of a "State Government Minor Forest Produce Federation" (SGMFPFED) business model. This organization is a three-tier cooperative federation operating in the state of India. It is a state government agency working for the socio-economic development of tribal people, who are the majority population in the state. This organization was chosen for conducting our research study because it is more than a 2-decade old organization and has been present since the formation of the state in the year 2000. Secondly, the organizational structure of this organization is unique. This is a three-tier cooperative federation where owners are the minor forest produce collectors (tribals), but the management of business operations is done by top government officials and other employees. Thirdly, the business model of cooperative organizations differs from other types of organizations, such as for-profit firms, social enterprises, and NGOs (Mazzarol et al., 2014). The business model of this cooperative federation focuses on enhancing the economic and social benefits for its members, who are the tribal community. Fourthly, the context of this study is based in India, which is a developing and democratic country and has a mixed (capitalist and socialist) economic system. Also, there is a high influence of political parties on government undertakings, so over 20 years, several political parties have come into power and implemented various social and business-related policies accordingly. Hence, this organization represents an ideal

setting where the evolution of a business model can be traced and analyzed to derive unique insights into its elements and the process.

Data collection and sample

We used multiple means for primary and secondary data collection. Secondary data comprised 22 annual general meeting reports of the organization covering 1,290 pages, information from the company website, other published books, and brochures of the federation. This data is supplemented by the interviews of organization employees, which consists of 20 in-depth unstructured interviews with 20 officials of the federation. Interviewees involve employees at the lower and middle levels of management. Interviews were audiotaped with the prior permission of interviewees and were taken in the Hindi language which was later on converted into the English language. The duration of an interview was around 30-40 minutes. All the information gathered from the interviews was manually transcribed and notes prepared. We studied and analyzed all the data and presented the key elements related to business activities in a (5-year) phase-wise form to identify and analyze the evolution process of the business model.

Case study

The State Government Minor Forest Produce Federation (SGMFPFED) is a cooperative federation that is registered under the unpartitioned State Co-operative Societies Act, 1960. It is currently known for its minor forest produce (MFP) based products, which are sold under the brand name "State Herbals" throughout the nation. This co-operative organization was established in the year 2000 when the state was formed by the partition of a pre-existing larger state in India.

The state had an abundance of non-wood forest produce (NWFP), also called minor forest produce (MFP), but due to the lack of a proper value chain, most of the forest produce could not be traded for a suitable value. The development of a proper value chain for such forest produce had the potential of becoming a good source of income for MFP collectors (the majority of whom are tribals) and other villagers.

SGMFPFED has the aim of benefiting the tribal community of the state, whose only source of income is through MFP collection and sale. The MFP collectors are the owners and members of this cooperative federation, which is a three-tiered body made up of 901 primary co-operative societies at

the village level, 31 district unions at the district level, and 1 apex body- the headquarter (HQ) at the state level. The headquarter (HQ) and the district union (DU) of this cooperative organization are created and staffed by government employees, and the key functionaries forming the permanent skeleton of its organizational structure are also recruited by the HQ. The grassroots level work is, however, carried out through a cooperative mechanism. This organization currently performs various business activities, including MFP collection, trade of raw MFP, primary and secondary processing, herbal product development, product distribution, and marketing. These business activities generate income for their members (MFP collectors), self-help groups (SHGs), and daily-wage workers in the villages.

A chronological record of key developments at SGMFPFED is given in the appendix (at the end).

DATA ANALYSIS

In this section, we analyze the case of SGMFPFED from a business model and genealogical perspective and derive propositions on business model evolution.

Business model evolution

As per the SGMFPFED case, the business model of the organization has evolved over 20 long years. We took a genealogical perspective to analyze the evolution of SGMFPFED's business model by understanding the historical contingent conditions of a business model development. As per the genealogical approach, the institution/value code cannot be detached from its history (Rasche and Chia, 2009; Given, 2008).

An organization's core business activities form a business model (Zott and Amit, 2010), so we focused on the emergence of new business activities over some time. This case represents the organization that was initially dealing in only nationalized MFP trade but later added a new line of business activities which includes selling herbs and medicines (made from available MFP and herbal plants) in the market. This activity was followed by selling raw un-nationalized MFP and processed MFP products in the market. The progressive addition of various business activities to previous ones led to the development of the business model accordingly.

The development of the business model of this organization seems to be continuously emerging, which motivates us to propose that the business model is not static but an emerging concept

that develops in an unintended order, just like an emergent strategy (Mintzberg and Waters, 1985). This leads to the development of the following proposition-

Proposition 1a: A business model is a continuously emerging phenomenon.

The case shows that the organization's business model has evolved over a long period, so the reason behind it needs to be analyzed. We could identify that initially, the organization had the aim of benefitting its members and owners (who are the MFP collectors) by acting as a mediator in the MFP trade, but later the ideology of business evolved towards providing livelihood earning opportunities to local villagers (who are majorly comprised of tribal and other backward communities) through new projects of manufacturing and selling herbal products and medicines. In addition to that, a new MFP project which involves MFP collection, processing, and distribution was also included to enhance income generation opportunities for MFP collectors, women SHGs, and other villagers.

The organization makes continuous assumptions about its environment, mission, and core competencies (Drucker, 1994). The expansion of the organization's aim was based on assumptions, particularly driven by geographical, social, and economic factors. The state has an abundance of natural forest produce as the state has a great amount of its geographical area covered by deciduous forests. The minor forest produce including herbs, herbal plants, oilseeds, leaves, honey, cashew, etc., have an exorbitant value in the market. The majority of the state's forest areas are covered by poor tribals whose main source of income is dependent on minor forest produce and related activities, and the majority of the state's population consists of backward classes. There was a lack of proper value-chain connecting MFP to ultimate customers due to which most of the MFPs could not be sold at the right value. So, the organization decided that the trading and processing of the minor forest produce will be a good source of economic activity in the state which will promote the socio-economic development of tribals, women, and other backward classes residing in forest and connected village areas.

To assess the prospects of new projects, well-defined market research was conducted. The research study helped in the identification of an untapped market for herbal products, medicines, and NWFP-based products. The reliable prospect of income generation through these activities was also

analyzed. So, the organization gradually extended new business activities for the welfare of a deprived community in the state, leading to the gradual development of its business model accordingly. This analysis leads to the development of the following proposition-

Proposition 1b: As business ideology evolves, the scope of business activities expands and the business model of the organization evolves.

Process of business model evolution

The case shows that the business model of the organization continuously evolved as per the emergence of new business activities. This business model evolution process includes developing a value chain for a new project and then gradually advancing it as per requirements.

As per the SGMFPFED case, the organization has two different value chains, one dealing with the trade of raw MFP and the other with the production and sales of other MFP-based products. Initially, the organization used to trade only in nationalized MFP, but later on, with the addition of new business activities, it also started trading in un-nationalized MFP. The collected raw MFP was first distributed through a simple tender process, and then it was shifted to an advanced tender process. With the advancement of technology in the market, the payment process was also shifted from demand draft to e-money transfer, and the tender process was shifted to an e-tender process.

During the initial phase of a new *Vanaushdhi* project, herbs and herbal plants were collected from the forest and processed into herbal products and medicines for sale in the market through the retail outlet of the organization. Based on the success of this project, another NWFP project was implemented. The new project required the development of additional value chain activities such as a collection of MFPs at two levels (village and Haat Bazar level), then primary and secondary processing of MFP done at processing centers, and finally distribution of MFP-based products (under "State Herbals" brand name) in the market through marts and retail outlets. So, the value chain activities were advanced accordingly.

Later, the organization established a marketing cell for the promotion and distribution of products and a market information system cell for conducting market research studies. Soon after the establishment of this business and related value chain activities, the organization started selling

products at various trade events and through private distributors across the country to promote the "State Herbals" brand in the market, which proved to be beneficial for the firm. A project management unit was established to further enhance and manage the business activities. The analysis of the value chain activities of the organization leads to the development of the following proposition-

Proposition 2: The business model evolution process involves successively advancing the organization's value chain activities.

Factors influencing business model evolution

A business organization is not a sole creator or distributor of value but creates value in connection with external parties (Beattie and Smith, 2013), which form an integral part of a value chain.

In this case, support from various government agencies helped the organization in executing the projects. Starting new business activities and expanding those activities require financial and non-financial support. Especially when a majority of profit is distributed to the members of the organization (MFP collectors) and only a minor portion of the profit is retained for business operations, it becomes crucial to seek external financial support for implementing new projects. Central and state governments, as well as other government agencies, have constantly provided financial support to the organization for business operations. Another one-time funding support was given by various international bodies. All the financial assistance boosted the business activities of the organization and helped in developing the related value chain smoothly.

The SGMFPFED organization initially only traded in raw MFP and then slowly emerged into other business activities related to MFP processing and herbal product development. As this was the new business area for the organization and was technical, the organization continuously arranged for several technical and skill development training programs at the state, district, and village levels. The training assistance was taken from several national institutes. The continuous training program helped the organization's workers, SHGs, villagers, and MFP collectors perform their tasks.

With the emergence of new business activities, R and D has become one of the core activities of this organization. For research and development-related work, assistance was taken from various government-led research institutes regarding new product development from MFP.

The business model evolution process has been supported by external parties and collaboration with various agencies. This has led to the development of the following proposition-

Proposition 3: External support in the form of financial assistance, training assistance, and research-related assistance facilitates the business model evolution process.

DISCUSSION AND CONCLUSION

By exploring the evolving change in the business model of SGMFPFED over 20 years, we observed that the business model is an emergent phenomenon. The key highlights from this research study are as follows: Over two decades, the organization has evolved by adding several new business activities and emerged into a broad business spectrum. The business model evolution process is not focused on making changes by replacing one activity with a new one, but it is seen as successively adding new value-chain activities to the old model. The business model evolved mainly due to the expansion of the organization's aim. The evolution process is slow, but adequate support from external parties helped the organization in the evolution process.

Contribution of this study

This study extends support to the work of Demil and Lecocq (2010) by identifying the business model as an emerging concept. Furthermore, we tried to extend the discussion of business model evolution by analyzing the evolution process from a genealogical and activity system perspective. Our study helps in determining the importance of business ideology and external support in business model evolution.

Existing studies on business model evolution focused on the changes in an organization's business model as a response to its environmental change or as a result of its resource accumulation or dynamic capabilities developed over time (Demil and Lecocq, 2010; Velu, 2017; Lubik and Garnsey, 2016). This case study reflects that the business model evolved due to the expansion in the aim of

business or evolution in business ideology (from being a source of members' welfare to a source of income generation and women empowerment).

Just like the evolution of strategy, the business model also evolves without replacing any previous activity with the new one. It is the process that involves successive addition/development of value-chain activities.

It has been widely analyzed that external partners form an integral part of a business model, but through our research study, it is also identified that the support from those external partners facilitates the evolution process of the business model and helps in executing the related strategy smoothly.

Limitations and future research

The findings of this study give unique insights into the business model evolution and this study can be extended further by studying the impact of the Indian political system on the business model of an organization. This is a single case study-based research which can be analyzed further by comparing it with different case studies of other organizations.

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APPENDIX

Chronological Record of Key Developments at SGMFPFED from 2000 till date.

4.1 Phase one: The formation of SGMFPFED (2000-2001)

SGMFPFED was established in November 2000. During this phase, the organization's only business activity was to trade nationalized MFPs.A state government or its authorized agent had monopoly power for trading the nationalized/specified MFP. The process of trading involved a step-by-step procedure. Firstly, the members of primary co-operative societies (tribals/MFP collectors) collect the MFP from forests and store it in a temporary collection center made in the village where they receive their labor charges immediately from businessmen who are appointed through advance tender or federation (in the case of a simple tender process). This process was managed and supervised by two federation employees and a forest guard (a state government employee). The collected MFPs were then sold to the businessmen through an advance tender process or a simple tender process.

The profit earned from the sale of nationalized MFP was distributed in the following form: 70% of the profit was distributed as a bonus to MFP collectors (this distribution varies depending on the quality and quantity of MFP received from collectors); 15% of the profit was used to provide basic amenities to villagers, and the remaining 15% of the profit was used to develop the forest and forest produce. If a loss was incurred due to low demand in the market or low collection of MFPs for climatic reasons, then the same was borne by the state government.

4.2 Phase two: New projects (2001-2005)

(2001-2002): From this phase, SGMFPFED took charge of performing business activities in addition to the above-stated business activities. A new project for developing herbal medicinal products from herbal plants was initiated by the state government to make the state a "herbal state" as per the state Chief Minister's announcement. This project involved the following tasks: nursery development; pharmacy development; in-situ and ex-situ conservation processes; plantation of herbal plants; procurement and processing of herbal plants and other (un-nationalized) MFPs into medicines or herbal products; selling herbal medicines, herbs, herbal plants, herbal products, and raw MFPs; and the development of training and processing centers. The motive behind this project was to sustainably utilize the natural forest resources such as herbs present in abundance in the state for providing livelihood to villagers and the development of society.

(2002-2003): A ministry of central government provided 25 lakh per project funding for 3 years for an in-situ and ex-situ conservation project to be operationalized in 9 forest divisions.

The trading of medicines and herbs was started through a mutual agreement between seller and purchaser, which was managed by the federation.

The training was provided for the cultivation of herbal plants to forest-area connected villagers, workers, and members of forest protection society by the Centre for Entrepreneurship Development (CEDMAP) and the Central Institute of Medicinal and Aromatic Plants (CIMAP).

(2003-2004): 47 warehouses were developed for MFP storage to reduce the transportation expense and preserve the quality of MFP for a long time.

For the development of the "tree-borne oilseeds in the state" project, National Oil Seeds and Vegetable Oil Development (NOVOD) provided Rs. 38 lakh of funds to the federation for the plantation of oilseed trees.

A previous project of *Vanaushdhi* was in progress. Several herbal products and medicines were prepared from herbal plants and herbs with the help of (women) SHGs and local villagers under the supervision of a local *Vaidya.* These products were then sold directly to the purchaser by the respective village forest committee. SHGs and villagers engaged in this process earned income as a daily wage or commission. These business activities were managed by the respective district union through the support of the primary society's manager.

To construct a stable distribution structure, the federation established a retail store in the state capital city for the sale of herbal products and medicines manufactured by processing units established under the *Vanaushdhi* project.

The training was also provided for forest conservation and sustainable harvesting to the MFP collectors, farmers, village forest committee members, and workers of the national body.

(2004-2005): 3 projects for 3 years (worth Rs. 27.5 lakh) related to the plantation of good quality medicinal plants in the state were accepted by the National Medicinal Plant Board.

A market survey was conducted at the primary level to identify the prospects for enhancing the business of other MFPs by establishing a separate business unit and trading raw NWFP in the market. The survey included collecting information about the types and quantities of other MFP species and herbs present in the forest region of the state, the demand and price of those species in the market, and the possibility of processing them into a new herbal product.

As a result of the market survey (stated above), the federation identified various non-wood forest produce (NWFP) species for processing and trading, based on which a new business project related to NWFP collection, processing, and distribution was presented to the federation and approved by the national body. The national body also provided financial support for 3 years to the federation for 4 sub-projects, namely, in-situ conservation, ex-situ conservation, NWFP processing, and NWFP distribution. The International Development Research Centre (IDRC), Canada also provided financial support for the same project for 3 years regarding NWFP cultivation and capacity development. In addition to the above-stated support, the Tribal Welfare Department provided financial support of Rs. 144 lakh to the federation for the collection and processing of NWFPs under the NWFP project.

A separate independent body, 'The State Government Certification Society' (SGCERT), was formed for the certification of NWFP and herbal plant-based products manufactured by the federation. A national workshop was organized in the state capital to promote the trade of medicines and herbal products by SGMFPFED.

4.3 Phase three: A new way ahead (2005-2010)

(2005-2006): The federation started the NWFP project. Firstly, a resource enrichment process was started, followed by NWFPs collection and processing. A total of 28 processing centers were established for the processing of 7 types of NWFPs. These processing centers were operated by local (women) SHGs and managed by the primary society's manager. The training was provided to MFP collectors and SHGs for collection and processing by a master trainer appointed by the federation. *Vanaushdhi project:* There were 12 established medicine production centers (*Aushdhi Nirman Kendra*) in 12 district unions of the federation for manufacturing various herbal products, which were then sold through the retail outlet in the state capital. As of 2005-06, 50 types of herbal products (worth Rs. 43 lakh) were manufactured and sold under the brand name "State herbals" by the federation. A private firm was engaged in packaging, designing, and labeling products under the "State herbals" brand name.

Two junior research fellows were also appointed by the federation for conducting short-term market research to improve this business by accumulating knowledge of herbs, herbal plants, and medicines from collectors and practitioners of the traditional medicine system.

The federation through primary societies started purchasing two types of oil seeds from collectors at a fixed support price (decided by the state government). These oilseeds were then processed into oil cakes and sold in the market.

A marketing cell was established at the head office (H.O.) and each of the 6 divisional circles to assist in the sale of products in local markets and other states through various marketing activities, as well as to guide processing centers in manufacturing high-quality products as per market demand. In addition, to boost the marketing and sales of herbal products, the federation started appointing private wholesalers and retailers through advertisements.

A fund was provided to each forest division of the federation for the establishment of a retail outlet (to be run by women SHGs and managed by 1 marketing manager) and a warehouse in each divisional circle.

A market information system (MIS) cell was established at H.O. in the state capital to accumulate all the information related to MFP trade and traders, production areas, and other market details for better managing the business.

For capacity development, regular training related to collection, processing, distribution, and sustainable harvesting was provided to workers, SHG members, collectors, and other beneficiaries through various government institutes and local master trainers.

A research and development process for 12 projects related to other MFPs was also started during this year for sustainable harvesting practices and maintaining herbal product quality.

(2006-2007): 50 types of NWFP species were selected by the federation based on a market study for trading and processing. For the business activity of the NWFP project, the federation established a unique value chain specifically for NWFP collection and processing.

First, raw NWFP was collected and sold by collectors to women SHGs at the village level or Haat Bazar level. Second, if collectors sold NWFP to village level SHG, then this SHG would bring it to the Haat Bazar level. Third, Haat Bazar level SHG would sell NWFP either to a mart for direct sale of raw NWFP or to processing centers (run by SHG) for developing products from raw NWFP (as per market demand). Fourth, the processing centers would sell manufactured products to the mart. Fifth, the NWFP mart (wholesale center established by the federation) would sell raw and processed NWFP to traders and retailers, respectively. These activities were closely monitored by the primary society's manager or supervisor, appointed by the federation. The trading in the whole value-chain process (starting from NWFP collectors to the final customers) was done at the price fixed by the federation. SHGs earn income in this process through commission.

Due to the high demand in the market for herbal products and medicines manufactured by *Vanaushdhi Centers,* the Ministry of Tribal Affairs provided Rs. 3 lakh funds per district union for developing *Vanaushdhi Centers* and enhancing related resources.

NWFP (wholesale) marts were established in 6 divisional circles. These were managed by 1 senior marketing manager and 1 junior marketing manager appointed by the federation. The federation provided Rs. 10 lakh as working capital and Rs. 112 lakh for further development of marts.

Another supportive decision was taken by the federation to establish retail outlets in every district union to speed up the distribution process in the entire state, for which financial support of Rs. 1.5 lakh as working capital and Rs. 0.5 lakh for furnishing was provided to each of the retail centers.

Special training was given to the primary societies' managers for selling and promoting herbal products manufactured by the federation.

"European Commission project": all of the above-stated business activities (other than nationalized MFP trading) such as resource survey, *Vanaushdhi*- herbal products and medicines development, NWFP trading and processing, distribution through marts and retail centers, research and development, MIS, product certification, capacity development were organized into a single project (worth Rs. 21.2 crores). This project was funded by the 'European Commission', so it was named a 'European Commission project'. The project was aimed at providing income opportunities to the villagers by establishing microenterprises run by women SHGs.

(2007-2008): Changes made in regular activities through technology: From this year, reporting of information was computerized through tally software at H.O. and D.U. levels. To ease the payment process, an "e-money' transfer was started for MFP trade (shifting from demand draft to e-money). Traders buying MFP would pay directly into the bank account of the federation through RTGS or NEFT, and with the core banking system, the fund transfer between D.U and H.Q of the federation was made easy and saved miscellaneous expenses and time.

A 'European Commission' project was in progress. Federation officers and workers went on an official tour to the Central Food Technological Research Institute (CFTRI) Mysore, Tampcol, Chennai, and Himalaya Bangalore to understand the capacity development area and process. A state-level training program was organized by the federation for beneficiaries regarding NWFP collection and processing, SHG formation, and women's empowerment.

(2008-2009): federation started taking part in various national and state-level events and trade fairs for the promotion of the "State herbals" brand. In the year 2008-09, the federation took part in five such events and managed to sell products worth Rs. 2.28 lakh.

Tendu Patta trading: profit distribution structure was changed from the year 2008. 80% of the profit to be distributed to nationalized MFP collectors (family-wise), 15% profit to be used for carrying out activities related to other MFPs such as trading, storage, and processing, and the remaining 5% profit to be kept as a reserve-fund with H.Q for loss recovery of primary societies.

A 3-year bio-diversity project was initiated by the federation for bio-diversity conservation in forest-depleted areas for which the Ministry of Environment, Forest and Climate Change and the United Nation Development Program (UNDP) provided a fund of Rs. 250 lakh.

(2009-2010): The federation took part in 10 different business/trade events and managed to sell products worth Rs. 2.63 lakh.

Under the 'European Commission's project, a market survey was conducted by the Indian Institute of Foreign Trade (IIFT), New Delhi to identify the opportunity of exporting the NWFP.

A technical training program was conducted by the Indian Institute of Forest Management (IIFM) Bhopal, CFTRI Mysore, and the Indian Institute of Natural Resins and Gums (IINRG) Ranchi for NWFP processing and new product development. Research-related support was provided by the Tropical Forest Research Institute (TFRI) Jabalpur and CFTRI Mysore to the federation.

4.4 Phase four: Development in progress (2010-2015)

(2010-2011): Under the 'European Commission' project, the business activities of NWFP trading and processing were performed by women SHGs (at three levels: village, Haat Bazar, and processing center) for which each SHG was provided a loan of 2000/person for carrying out operations. SHGs were given decision-making power to decide the purchase and sale price of raw NWFP.

To promote lac processing, a new scheme was launched by the government for below-poverty-line people to help them earn their livelihood through lac development and processing. Under this scheme, total funding of Rs. 14.97 crores was provided by the central government (80%) and the state government (20%).

This year, the federation took part in 6 trade events and sold products worth Rs. 2.78 lakh.

Experts' help was taken from Dabur and Hindustan Unilever Bangalore for improving the quality standards of NWFP processing. BAIF Pune provided training to senior and junior executives of the federation on business and financial management and program planning and monitoring. These executives then provided training on the same subject to all SHGs running microenterprises and retail centers.

(2011-2012): As of this year, 72 herbal products were made and sold by the federation. This year, the federation took part in 7 trade events and sold products worth Rs. 3.92 lakh.

Training on 'trading and microenterprise management' was provided by the livelihood basics school in Bhopal to master trainers, who then trained the SHGs.

(2012-2013): As per government welfare policy, sarees were distributed to women collectors of tendu patta (1 per family).

Promotion and marketing of "State herbals" products were done through e-media, radio, SMS, hoardings, brochures, and pamphlets.

(2014-2015): Minimum Support Price for (un-nationalized) Minor Forest Produce (MSP for MFP) was announced by the central government to provide basic economic support to MFP collectors. This scheme was funded by both the central and state governments in the ratio of 75:25, and the loss incurred (if any) would also be shared in the same proportion. In the initial phase, MSPs were announced for 3 MFPs.

The Ministry of Tribal Affairs provided a fund of Rs. 10 crores in two phases for warehouse development and other MFP processing. Additionally, a Rs. 2 crore fund was also provided by the state government for MFP processing and establishing processing centers. The central government provided additional financial support of Rs. 32 crores for MFP processing as well as the establishment of ayurvedic medicine and herbal product development centers in the state capital.

4.5 Phase five: An evolved organization (2015-2020)

(2016-2017): Completion of the 'European Commission' project on December 31st, 2016. Under this project, a total of 124 micro enterprises (including NWFP production, collection, processing, and distribution cent*ers),* 48 *Vanaushdhalya*, 30 retail centers, and 6 herbal medicine development centers were established, while 1302 SHGs and 17196 beneficiaries benefited. The loan scheme for SHGs was removed because of poor management and a rise in the insolvency of such SHGs.

(2017-2018): An MFP-based employment-oriented project (for 7 years) of Rs. 29.5 crore value was started by the federation. This project includes the development of NWFP-based livelihood earning

activities, a warehouse, distribution-related activities, RandD, herbal healthcare development, MFP conservation, MIS, human resource management, and capacity development.

(2019-2021): A method of profit distribution to tendu patta collectors was changed to NEFT transfer directly into their bank account, which was earlier done through primary co-op societies as a cash payment.

MSP was announced for 38 other MFP species by the government. In addition to that, the federation decided on a fixed support price for 14 other species of MFP, making a total of 52 species of MFP purchased by the federation for trading and processing. Raw MFP was sold by an e-tender process through the federation's online portal.

A private distributor was appointed by the federation for distribution and retail marketing of 'State herbals' products in the entire country, including the responsibility of operating marts and retail centers.

Research and Development- three contract-based projects were started with IIT Kanpur, CFTRI Mysore, and the Indian Council of Agricultural Research (ICAR) related to the research and development of MFP-based tasks. A project management unit (PMU) was formed at the H.Q of the federation for which an MOU was signed between IIT Kanpur and the federation for promoting MFP-based tasks such as trading and processing.

A new scheme of the Tribal Cooperative Marketing Development Federation (TRIFED) for establishing processing centers named 'Van Dhan Vikas Kendra' for MFP processing was initiated in the year 2018. This scheme focused on improving the livelihoods of tribals and other backward communities by providing income generation opportunities from MFP-based product development. This scheme was implemented in the state through SGMFPFED to promote MFP processing under this scheme. 139 'Van Dhan Vikas' centers were established in the entire state for which Rs. 15 lakh/center was provided by the government ministry. The existing processing centers of the federation were converted into new 'Van Dhan Vikas Kendra'. These centers were operating through self-help groups, benefitting 1390 women's SHGs and 17424 beneficiaries. Technical and skill development training was provided by a government agency to SHG women regularly for the smooth functioning of these centers.

Stream 2: Organisational Behaviour

Leader humility and employee mental health: the mediating role of occupational self-efficacy

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Leader humility and employee mental health: the mediating role of occupational self-efficacy

Abstract

Employee mental ill-health is one of the major challenges that organizations are facing in this current dynamic business environment. In this regard, this study investigates the association between leader humility and employee mental health. Further, this study also investigates the mediating role of occupational self-efficacy between leader humility and employee mental health. The responses were collected from 231 Indian Informational Technology professionals in three waves, time-lagged manner and, were analyzed using partial least squares structural equation modeling. The finding revealed that occupational self-efficacy partially mediates the association of leader humility with employee mental health. This study can be useful for practitioners to understand how leader humility can boost employee mental health.

Keywords: leader humility, occupational self-efficacy, mental health;

As the nature of business has become increasingly dynamic and uncertain, to survive and flourish, there is a greater need for the employees to work effectively to deal with the new and unexpected job demands. However, this uncertain business environment and changing job demands contribute to stress and impact employee wellbeing. The mental health of the employees is an important aspect that governs the productivity of employees and their organizations. For example, Grossmeier et al. (2016) and Miller (2016) found that employee health predicts organizational productivity. Further, organizations with health-promoting policies are found to have better revenue and performance (Dimoff, Kelloway & MacLellan, 2014). However, employee mental ill-health has become one of the major challenges that organizations are facing in this current dynamic business environment. According to the 2020 McKinsey report, 62% of the employees reported mental health as the major challenge (McKinsey, 2020). Though multiple factors can affect the mental health of an employee, such as frequent workplace changes, and work demands (Loretto, Platt & Popham, 2010), the leader's behavior also affects the mental health of the subordinates, as it represents different resources that can impact the ability of the employees to deal with their job tasks (Montano et al., 2017; Nyberg, Bernin & Theorell, 2005).

The leadership literature has traditionally focussed on identifying the leader's traits and behavior that can improve the key organizational performance indicators such as net profits and

employee performance (Montano, Reeske, Franke & Hüffmeier, 2017). Even the large-scale study, GLOBE focussed on identifying the leader characteristics that contribute to "effective leadership" (Montano et al., 2017). Due to the popularity of this research theme, leadership studies have typically focussed on finding different mechanisms that can help in attaining the pre-determined organizational goals, without considering the potential benefits and risks associated with leadership (Nyberg et al., 2005). However, recent reviews suggest that leadership has an important role in determining health outcomes in organizations (Kuoppala, Lamminpaa, Liira, & Vainio, 2008; Skakon, Nielsen, Borg & Guzman, 2010). Therefore, the focus needs to be changed from the "effectiveness" of leadership towards a more balanced approach that focuses on the mental health of the employees. Recently, scholars have started recognizing the importance of humility in leadership, as it has a positive impact on employee wellbeing (Zhong, Zhang, Li & Zhang, 2019). However, the existing literature investigated the effectiveness of leader humility in enhancing work engagement and job satisfaction and did not focus specifically on the mental health of the employees. This study aims to bridge the gap between these two research areas by examining the association of leader humility with the mental health of the employees. Further, this study also aims to understand the underlying mechanism of this relationship.

HUMILITY

Humility reflects a strong motive for learning through interpersonal interactions. Owens, Johnson, & Mitchell (2013) defined humility through the following three components. First is the ability to self-reflect and see oneself accurately in terms of strength and weakness. Humility implies the desire of being self-aware through interactions with others. Such individuals admit their limitations and seek realistic feedback about themselves. Also, they are less prone to overconfidence bias, poor decision-making, and complacency. The second component of humility is appreciating others' contributions and strengths. Humility involves other-enhancing behavior. In an organizational context, individuals who possess humility tend to acknowledge the contributions of others and appreciate their abilities and strengths. This helps in developing a better perspective to identify valuable resources for learning and

growth. The third component of humility is teachability, which implies open-mindedness, and a desire to learn and seek feedback.

THEORY AND HYPOTHESIS DEVELOPMENT

Theoretical Framework

Conservation of Resources Theory

According to the conservation of resources (COR) theory, people try to preserve, protect and develop resources (Hobfoll,1989). Hobfoll (1989) defined resources as objects, states, conditions, and other things that have value to the individual. These resources improve the ability of an individual to satisfy their current demands. According to Zhang et al (2020), humble leaders are a source of resources for their employees. The availability of resources encourages the employees to engage in resource gain strategies and allows them to develop their resource pool (Tuan et al.,2021). Thus, we draw from the COR theory to reason that the humble behavior of leaders provides essential resources for the employees. Availability of these resources can help to build personal resources like occupational self-efficacy, which can help the employees in dealing with stress and thus improves their mental health

Leader Humility and Employee Mental Health

Individual are said to be in a condition of good mental health if they are capable of realizing their potential, coping with daily challenges, working efficiently, and can contribute to their community (World Health Organization, 2022). According to Skakon et al. (2010), stress among employees is influenced by the strengths of relationships at work. Therefore, a leader's behavior such as supporting the employees and empowering them can prevent stress and improve the employees' affective well-being (Skakon et al., 2010). According to Owens & Heckman (2012), humble leaders admit their mistakes and limitations. Such leaders verbalize gaps in their knowledge and expertise. In this way, these leaders legitimize the developmental journey of the employees and thus reduce the burden and

mental stress upon the subordinates. Employees working under such leaders feel comfortable being "in process" of improvement and development.

Humble leaders spotlight the strength and efforts of their subordinates by verbalizing appreciation for the follower's contributions and strengths. They ensure that the employees get due credit for their contribution and their efforts are noticed. Thus, the employees feel more confident in themselves and which keeps them in a good mental state. When a leader shows appreciation and expresses confidence in employees, it helps in reducing the stress level on the job, whereas harsh criticism and personal insult are a source of stress, especially when it comes from a leader or supervisor (Yukl., 2013).

Further, leaders who are humble model teachability. They care about the opinions and suggestions of the employees (Cojuharencoa & Karelaia, 2020). Leaders who are humble are willing to accept suggestions from their subordinates (Owens et al, 2013). Such leaders are concerned about the challenges that subordinates face (Afshan, Kashif, Khanum, Khuhro & Akram, 2021). This helps in the mutual development of both the leaders and the subordinates (Owens and Heckman, 2012). Further, humble leaders are more approachable and create an environment where employees are not afraid of sharing their problems (Oc, Bashshur, Daniels, Greguras & Diefendorff, 2015). Thus, the employees working under such leaders can look for more resources in the form of support from their leaders. These employees are better able to cope with existing resource loss and also add new resources. Therefore, the perception of having such support from the leader is likely to reduce the employee's mental health issues. There, we propose the following hypothesis:

Hypothesis 1: Leader Humility is negatively associated with employee mental ill-health.

The mediating role of Occupational Self Efficacy

Self-efficacy is the individuals' belief in their capabilities and outcomes of their efforts (Bandura, 1977). Self-efficacy is a personal resource that helps an individual in dealing with the daily stressor in life (Rigotti, Schyns, & Mohr, 2008). Further, it is essential to define the scope of self-efficacy, as it is

specific to the task that is being performed (Bandura, 1977). Since feedback and behavior of a leader have a direct influence on the perceived competence of employees in his work compared to other domains, this study includes occupational self-efficacy. Occupation self-efficacy is the belief of an employee in his capability to perform the work task proficiently (Rigotti et al., 2008). Further, previous studies have found that employees tend to perform better in their jobs when they have high occupational self-efficacy (Tims, Bakker & Derks, 2014).

The self-efficacy of employees may depend on various personal and organizational factors. Leader behavior plays an essential role in developing the occupational self-efficacy beliefs in the employees (Mao, Chiu, Owens, Brown & Liao, 2019). According to Owens & Heckman, 2012), leaders who show humility appreciates and acknowledge the contribution of the employees. According to Kim & Beehr (2017), verbal persuasion such as praising or complimenting an individual can have a positive influence on one's self-efficacy beliefs. Similarly, Jeung & Yoon (2016), leader humility gives a signal to the followers that their abilities to achieve high-level performance are noticed and thus improve their self-efficacy. According to Chen, Liu, Zhang & Qian (2018), leaders who are humble are open to suggestions and ideas from others. This enhances the confidence of the employees in their job skills. The respect that employees experience while working under such leaders also enhances their beliefs in their ability to deal with job demands (Chen et al.,2018). Thus, when a leader appreciates the work of the employees and is receptive to their ideas and feedback, it makes them feel more confident about themselves.

Self-efficacy is a belief in one's capability to cope with tough situations. This provides the foundation for an individual's motivation and well-being (Bandura, 2012). In a study on health workers in China, self-efficacy was found to be negatively related to employee anxiety (Xiao, Zhang, Kong, Li & Yang, 2020). Further, self-efficacy helps cope with high-risk and overwhelming work and thus has a significant role in maintaining mental health (Sun et al., 2020). However, people with lower self-efficacy are more likely to suffer from depression (Shamshad & Khan, 2020). Thus, we argue that employees with higher occupational self-efficacy are less likely to have mental ill health issues (see Figure 1). Therefore, we propose the following hypothesis:

Hypothesis 2: *Leader Humility is positively associated with employee's occupational self-efficacy*

Hypothesis 3: Employee's occupational self-efficacy is negatively associated with employee mental ill-health

Hypothesis 4: Employee's occupational self-efficacy mediates the association between leader humility and employee mental ill-health

Insert Figure 1 about here

METHODOLOGY

Sample and Procedure

Through online surveys created with Qualtrics, data is gathered from 231 Indian IT industry personnel. The responses were collected in three phases. At time 1 (T1), the measurement of leader humility and demographic variables were collected. After approximately 2 weeks later, the measure of occupational self-efficacy was collected. Further, around 2 weeks later, the measure of mental ill health was collected. Initially, we reached out to approximately 500 employees. Finally, 231 matched responses were achieved showing a response rate of 46.2%. The demographics profile shows that the sample was male-dominated (78%) and the most of respondents (45%) are between the age of 31-40 years.

Measures

Leader Humility

Leader humility was accessed by the nine-item scale adopted from Owens et al. (2013). The employees were asked to rate the humility expressed by their leader. The sample item included "My immediate supervisor often compliments others on their strengths" and "My immediate supervisor is open to the ideas of others". The responses ranged from 1 (strongly disagree) to 7 (strongly agree). A

low score on these items indicates that the leader is less humble, whereas a high score indicates that the leader is very humble.

Occupational self-efficacy

Six-item scale adapted from Rigotti et al. (2008) was used to measure occupational self-efficacy. Employees were asked to rate how strongly they agree with the statements regarding their self-efficacy. The sample item includes "I can remain calm when facing difficulties in my job because I can rely on my abilities" and "I feel prepared for most of demands in my job". The responses ranged from 1 (not at all true) to 6 (completely true).

Mental Ill Health

Five-item scale was adapted from Berwick., Murphy, Goldman, Ware & Barsky (1991) to measure mental ill health. The sample item includes "How much of the time, during the last month, have you been a very nervous person" and "How much of the time, during the last month have you felt calm and peaceful (reverse coded)". The responses ranged from 1 (never) to 6 (everyday). A low score on these items (high score on reverse coded items) indicated good mental health whereas a higher score indicated poor mental health.

RESULTS

Partial least squares structural equation modeling (PLS-SEM) was used to examine the data, as it is a more robust technique as it is better in handling non-normal data and smaller sample size (Hair, Ringle, & Sarstedt, 2011). The analysis was performed using SmartPLS 3.3.9 software. The analysis is done in two stages as suggested by Ringle et al. (2020). The structural model was evaluated following an evaluation of the measurement model.

Measurement Model Analysis

Measurement model is assessed to understand the quality of the data. This ensures that the construct measurement is reliable and valid. Two items related to mental ill health were removed from the analysis as their factor loadings were less than 0.6. The reliability is measured through Chronbach's alpha and

composite reliability. For all the constructs, the composite reliability and Chronbach's alpha values were more than 0.70 and are indicated in Table 1. After the examination of reliability measures, the convergent validity was measured through average variance extracted (AVE). The AVE scores were more than the cutoff score of 0.5 (Fornell and Larcker, 1981) and are denoted in table 1. Finally, the heterotrait-monotrait (HTMT) ratios approach was used to test the discriminatory validity. The results are shown in Table 2 and the HTMT ratios between all the constructs were less than the acceptable cut-off of 0.85. Thus, both the convergent and discriminant validity is established.

Insert Table 1 about here

Insert Table 2 about here

Structural Model Analysis

Structural model analysis is done through the evaluation of path coefficients and the significance level (Hair et al, 2011). The results were generated by bootstrapping procedure using 5000 resamples to test whether the relationships are significant or not. The results are shown in Table 3. H_1 evaluates whether there is a negative association between leader humility and employee mental ill-health. Supporting H_1, the results confirm that leader humility is negatively associated with employee mental ill health (β=-0.237, p<0.001). Supporting H_2, a positive relationship was found between leader humility and occupational self-efficacy (β=0.285, p<0.001). H_3 predicted the negative association between occupational self-efficacy and employee mental ill-health. The results suggest that there is a significant negative association between occupational self-efficacy and mental ill health (β=-0.322, p<0.001). Thus, H_3 is supported.

Insert Table 3 about here

Mediation Analysis

H_4 evaluates whether the association between leader humility and mental ill health is mediated by occupational self-efficacy. The total effect (H_1) was negative and significant (β=-0.237, $p<0.001$). The path coefficients are given in Table 4. When the mediator (occupational self-efficacy) was introduced in the structural model, the indirect effect between leader humility and mental ill health was found significant (β=-0.076, $p<0.01$), while the direct effect was also found significant (β=--0.139, $p<0.05$). Hence, the results suggest the partial mediating role of occupational self-efficacy between leader humility and mental ill-health. Consequently, H_4 is supported.

Insert Table 4 about here

DISCUSSION AND IMPLICATIONS

The present study investigated the association between leader humility and employee mental health in the Indian IT sector. Employees face a lot of stress during their work and one of the primary sources of stress is their leaders (Montano et al,2017). However, when a leader is humble, it benefits the employees by improving their mental health. The findings show that leader humility is negatively related to employee mental ill health, i.e., it helps to foster the mental health of the employees. The finding revealed the underlying mechanism of how such leader behavior can influence the mental health of the employees through the partial mediating role of occupational self-efficacy. The leaders who appreciate the efforts of the employees and encourage them to continuously improve themselves, makes the employee feel confident about their work-related skills and competence. Such employees with higher occupational self-efficacy are more confident in dealing with work demands than those with lower self-efficacy. Therefore, the finding suggests that a leader's humble behavior mitigates employees' mental ill health directly and indirectly by enhancing their occupational self-efficacy beliefs.

Theoretical Implications

Currently, to the author's knowledge, no research has examined the relationship between humble leader behavior on employee mental health. By extending the existing nomological network of leader humility, this study adds to the body of knowledge on leadership studies. Further, by exploring the underlying role of occupational self-efficacy, this study highlights the importance of leader behavior in fostering the self-efficacy beliefs of the employees. Finally, the study also adds to the literature on employee wellbeing.

Managerial Implications

This study portrays the benefit of a leader's humble behavior. The results of this study suggest that leaders should acknowledge the importance of humility and they are encouraged to appreciate the contributions and efforts of the employees. Such leader behavior can boost employees' self-efficacy beliefs and can improve their mental health. Thus, we suggest that organizations should be inclined to include humility as a criterion for hiring managers. Further, organizations should promote employees who are willing to accept their limitations, demonstrate a willingness to learn, and acknowledges others' contribution.

Limitations and future research directions

In order to improve the mental health of the workforce, the current study emphasizes the value of humility in leaders. However, the sample for this study is only limited to the IT sector. Thus, future studies should test this research model in different work and cultural contexts. Further, this study examined the effect of occupational self-efficacy as a mediator between leader humility and employee mental ill-health. Future studies should investigate the possible mediating role of other factors like relational energy, trust in leader, etc. Finally, to establish causality, a longitudinal study should be undertaken by the researchers.

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Figure 1: Research Model

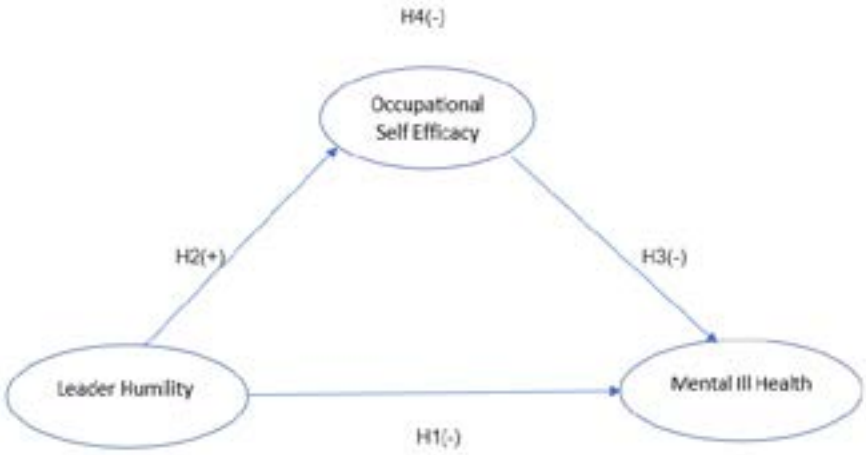

Table 1. Factor loadings, reliability and validity

	Factor Loadings	Chronbach's Alpha	Composite Reliability	Average Variance Extracted
Leader Humility		0.893	0.914	0.552
LH1	0.637			
LH2	0.691			
LH3	0.751			
LH4	0.669			
LH5	0.713			
LH6	0.781			
LH7	0.776			
LH8	0.808			
LH9	0.835			
Mental Ill Health		0.819	0.891	0.733
MIH1	0.789			
MIH2	0.889			
MIH3	0.887			
Occupational Self Efficacy		0.864	0.898	0.594
SE1	0.740			
SE2	0.708			
SE3	0.800			
SE4	0.754			
SE5	0.801			
SE6	0.816			

Table 2. Discriminant Validity using HTMT

	Leader Humility	Mental Ill Health	Occupational Self Efficacy
Leader Humility			
Mental Ill Health	0.236		
Occupational Self Efficacy	0.310	0.365	

Table 3. Hypotheses testing

Hypothesis	Path Coefficients	T statistics	P value
H1: Leader Humility -> Mental Ill Health	-0.237	4.550	0.000
H2: Leader Humility -> Occupational Self Efficacy	0.285	4.618	0.000
H3: Occupational Self Efficacy -> Mental Ill Health	-0.322	5.589	0.000

Table 4. Mediation analysis

	Hypothesis	Path Coefficients	T statistics	P value
Total Effect	Leader Humility -> Mental Ill Health	-0.237	4.550	0.000
Direct Effect	Leader Humility -> Mental Ill Health	-0.139	2.003	0.045
Indirect Effect	H4: Leader Humility -> Occupational Self Efficacy -> Mental Ill Health	-0.076	2.726	0.006

4. **Gender, Diversity and Indigeneity**

(Re) Production of gendered societal institutional constraints in organizations: A qualitative study of women board of directors in Sri Lanka

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(Re) Production of gendered societal institutional constraints in organizations: A qualitative study of women board of directors in Sri Lanka

ABSTRACT

Despite mounting evidence that having more women on boards of directors is essential for business and for elevating women's status in society, the prevalence of women on boards remains low across industries and globally. As per the literature, women's board of directors' career journeys are influenced by both societal and organisational institutional constraints. Building on feminist institutionalism that connects gender, power, continuity, and change brought by historical, organizational, and rational choice institutionalism, this qualitative study explores the influence of gendered societal institutional constraints reproduced at the organisational level. Through analysis of the narratives of 42 women board directors in Sri Lanka, the study provides distinct contextual findings in contrast to the dominant views of western-oriented empirical findings.

Keywords*: (Gender, Feminist Institutionalism, Institutional Constraints, Women on boards)*

INTRODUCTION

Women representation and their influence on boards continues to be low across industries and globally (Halliday, Paustian-Underdahl, & Fainshmidt, 2021; Deloitte, 2018). While slow growth can be discerned, (Catalyst, 2021), low representation persists. This is despite evidence that more women on boards of directors is critical for business and for elevating women's status in society by ensuring the inclusion of their experiences and voices in decision making (Aluchna & Aras, 2018; Terjesen, Sealy, & Singh, 2009), policymakers (Stevens, 2010), practitioners and civil society (Catalyst, 2006, 2021; Deloitte., 2018; CWDI., 2018, 2020) consistently highlight the need for women on board positions in terms of observed and perceived importance of achieving gender equity in societal and political leadership (Bullough, Kroeck, Newburry, Kundu, & Lowe, 2012; Nielsen & Huse, 2010).

The present study builds on previous research on women on boards of directors, which is a dynamic topic in academia with more than four decades of research history (Burke, 1993; Chizema, Kamuriwo, & Shinozawa, 2015; Kirsch, 2018; Terjesen et al., 2009). This key theme is presented below is women's progression to high positions is influenced by cultural, political, and legal constraints (Chodorow, 2012; Grosvold & Brammer, 2011; Halliday et al., 2021; Terjesen, Aguilera, & Lorenz, 2015; Terjesen, Aguilera, & Lorenz, 2018; Terjesen & Singh, 2008). Thus, the need for regional studies is emphasised in the context of capturing the experience of women and the nature of local resources

needed to expand the potential of women on Boards of Directors (Adams & Flynn, 2005; Kirsch, 2018; Smith & Parrotta, 2018). In addition, studies that emphasise the standpoints of women are required to determine whether women view board positions as more or less attainable, whether interest in board directorships is related to the gender gap, or whether board directorships have implicitly different characteristics that emerge in various national contexts (Grosvold, Rayton, & Brammer, 2016). Previous studies have found that women on boards of directors encounter gendered institutional constraints at two levels: societal (Brieger, Francoeur, Welzel, & Ben-Amar, 2019; Cabeza-García, Del Brio, & Rueda, 2018; Cheung & Halpern, 2010) and organisational (Adams & Flynn, 2005; Grosvold et al., 2016; Oakley, 2000; Pajo, McGregor, & Cleland, 1997). However, only a few studies have looked at women's appointment to boards of directors from a multi-level viewpoint (Grosvold et al., 2016; Kirsch, 2018; Terjesen et al., 2018). Thus, there is a growing call for a holistic and contextual viewpoint in terms of interactions between societal and organizational level (Bechtoldt, Bannier, & Rock, 2019; Brown, Crampton, Finn, & Morgan, 2020; Gomez et al., 2001; Grosvold et al., 2016) which is critical for policy initiatives to promote more women on boards of directors. Therefore, more study is needed to examine multilayer contextual determinants of women's access to directorship, which are distinct from national contexts (Nielsen, 2010) in order to fully comprehend the phenomena (Johns, 2001; Welter & Smallbone, 2011) of women's underrepresentation in board positions. Given the knowledge gap presented by the paucity of studies at regional and holistic levels, in this paper we focus on the (re) production of gendered societal institutional constraints at organisational levels in reaching women to directorship in the context of a developing country-Sri Lanka.

Our qualitative study conducted in Sri Lanka, a developing economy provides distinct contextual findings in contrast to the dominant views of the western-oriented empirical findings (Bilimoria, 2000; Kirsch, 2018). Further, the scholarly work on the underrepresentation of women on boards of directors in Sri Lanka is, to our knowledge, exceptionally scarce and exclusively quantitative. Thus, qualitative holistic findings that integrate both societal and organizational context provides policymakers with a more comprehensive viewpoint to the issue of under-representation of women in board positions in Sri Lanka. The contributing factors in reaching women to board positions identified in the literature are not universal. Thus, knowing the women board of directors in a specific institutional context would provide

a more exciting contribution to literature (Kirsch, 2018). More importantly, findings will offer unique practical insights into gender development processes in the South Asian region in a similar context as well as in other regions where applicable. The findings contribute to finely nuanced theorization of institutional constraints experienced by women on board of directors examined using multiple lens: feminist institutionalism and feminist standpoint theory. Therefore, the theory developed based on the combination of these two theories provides deeper theoretical insights about under representation of women on board positions. Finally, the application of critical analysis through the feminist standpoint theory collaboratively with feminist institutionalism is bridging the gap of the emancipatory purpose of institutional theory (Willmott, 2011).

In this paper, we first elaborate the theoretical framework by building on institutional theory and, more specifically, feminist institutionalism. We then present the empirical evidence on gendered institutional constraints at the societal and organisational level. The next section presents the research methodology and the Sri Lankan context. Following the research findings, we finally present the discussion and conclusion of the study.

THEORETICAL FRAMEWORK

Feminist institutionalism provides the theoretical foundation for the current study on women on boards of directors in studying the (re)production of gendered societal institutional constraints at organization level that expects masculine leadership that explain further in next section. Feminist institutionalism draws on institutional theory grounded on three pillars of institutions. Institutions are made up of regulative, normative, and cultural-cognitive pillars that provide structure and guidance to social life when combined with related activities and resources (Scott, 2008). Foundation institutionalists perceived humans as a product of culture, with a focus on the regulative and normative pillars, whereas the new institutionalists regard humans as rational agents, and shifted the focus to the cognitive aspect of actors (Mayhew, 1989; Rutherford, 1995). Accordingly, the cultural-cognitive pillar explains individual actors' responses to their external world and acknowledges that external cultural frameworks shape internal interpretive processes (Scott, 2008). Normative pillar is discussed in terms of the norms and values. The regulative pillar is concerned with rule-making, monitoring, and

sanctioning actions such as expediency, force, sanctions, and responses that institutional actors must adhere to in order to obtain legitimacy (North, 1978). However, from a feminist perspective, and with reference to women's actions to reach board positions, institutions exhibit a gendered culture that includes the active and constant (re)production of gender (Ljungholm, 2017) particularly in the informal context (Bjarnegård & Kenny, 2016). Feminist institutionalism is concerned with the connections between gender, power, continuity, and change generated by historical, organisational, and rational choice institutionalism (Kenny, 2013; Mackay, Kenny, & Chappell, 2010). Feminist institutional theorists argue that both formal (regulative) and informal (Cultural-cognitive, Normative) institutions are gendered (Krook & Mackay, 2010; Thomson, 2018). The gendered logic of appropriateness (Chappell, 2006) within informal institutions, privileges the masculine ideal, particularly in political and legal situations(Chappell, 2014). This is argued to play a critical part in the development of gendered institutions in society(Thomson, 2018).

GENDERED INSTITUTIONAL CONSTRAINTS

Gender is a socially constructed cultural attribute that is used to distinguish men from women (Bjarnegård & Kenny, 2016; Haslanger, 2000). And, all human societies see gender as a hierarchy where women are in subordinate positions relative to men (Sidanius & Pratto, 2001). The term 'gender' is most commonly used to refer not only to the "socially constructed norms, values, roles, and identities accorded to human beings based on their (assumed) sex but also to the opportunities and threats associated with these" (Grosser, Moon, & Nelson, 2017, p. 542). Gender contributes to the development of human identity and the establishment of groups within society or organisations (Mackay et al., 2010); nevertheless, women are constrained by this identity and the relationships that create power and hierarchy (Bjarnegård & Kenny, 2016) through the process that Scott (1986) termed the internationalization of connections. Thus, from a feminist institutional perspective, gendered constraints are evident can be identified in terms of cultural-cognitive, normative and regulative pillars and at both the societal and organizational levels (Grosvold & Brammer, 2011; Grosvold et al., 2016; Terjesen et al., 2018), as discussed next.

Gendered societal level constraints

The cultural norms and values ascribe gendered social roles to women and men in society (Cheung & Halpern, 2010). Thus, culture plays a significant part in shaping how predetermined preconceptions and world views in society affect women's career advancement (Gomez et al., 2001; Polkowska, 2014). For example, women were stereotypically seen as exhibiting the opposite traits of males on all the competence-related traits such as aggressiveness, independence, unemotional, objective, dominant, active, competitive, logical, worldly, self-confident, and skilled in business, indicating that stereotypically feminine traits are associated with incompetence"(Oakley, 2000, p. 326). As per the Oakley's findings women in management are perceived to be less self-assured, less analytical, less emotionally stable, less consistent, and have less inadequate leadership qualities, all of which have a detrimental impact on their career advancement (Baumgartner & Schneider, 2010; Ragins, Townsend, & Mattis, 1998). Nelson and Levesque (2007) and Konrad, Ritchie, Lieb, and Corrigall (2000) stress the presence of childcare responsibilities and gender schemas such as homemaker, belonging to others, nurturing, deference, and abasement constrain women to be in the boardroom. Career women in Sri Lanka, according to Herath (2015), have to work two jobs: at work and at home, regardless of their occupation. Women are in charge of household duties and even tutoring children. However, there has been a recent trend in urban middle-class families for men to take on domestic responsibilities as well. However, women are still responsible for a large portion of unpaid household responsibilities. A quantitative study of women executives in Sri Lanka concludes that the culture has been established by placing excessive family duties on women's shoulders and preventing women from achieving top positions(De Alwis & Bombuwela, 2013). Gaio Santos and Cabral-Cardoso (2008) found the traditional gender roles in the family contribute to a work-life balance conflict when it comes to reaching the top. Välimäki, Lämsä, and Hiillos (2009) add to this by mentioning traditional gender roles continue to have an impact on women's ability to reach top positions even in economically advanced countries.

Gendered organizational level constraints

According to Acker (1990), all aspects of organisations, such as rules, procedures and hierarchies, are gendered. While appearing to be gender-neutral or gender-free, organisations actually reflect long-

standing distinctions between men and women, masculinity and femininity, power and dominance, in ways that contribute to the reproduction and maintenance of gender inequality (Stainback, Kleiner, & Skaggs, 2016). As captured by glass ceiling and glass escalator metaphors, these inequalities manifest in artificial barriers that hinder skilled women's progression while simultaneously fast-tracking men to senior management positions (Arfken, Bellar, & Helms, 2004; Baxter & Wright, 2000; Bechtoldt et al., 2019; Jackson & O'Callaghan, 2009; Jackson, O' Callaghan, & Leon, 2014; Ryan & Haslam, 2005). Radical feminists, on the other hand, claim that the hierarchical-bureaucratic model was not founded on a gender-integrated or gender-in common base of experience. As a result, it is difficult to find a gender-neutral structure in more culturally oriented organizations (Oakley, 2000). Thus, women's access to the pinnacles of organisational achievement are further restricted by processes and practices that manifest as glass cliffs, glass walls, firewalls (Adams & Flynn, 2005), sticky floors (Schmidt, 2008) , and leaking pipeline issues(Baker et al., 2019). Even at the top of the corporate ladder, women have roles in the job that are comparable to those they have at home, such as education and nurturing. This picture apparently depicts the discrimination known as glass walls (Arfken et al., 2004; Saavedra, Araújo, Manuel de Oliveira, & Stephens, 2014), which limits women's horizontal mobility across careers and professions (Chodorow, 2012).

Acker's (1990) analysis demonstrates that organisational cultures tend to reflect masculine norms and fail to recognise employees' requirements to balance work and family obligations. Discriminatory practices, such as stereotyped conceptions about pregnancy and work-life balance that are fixed and oversimplified discourage and demotivate women's endeavours to succeed (Diehl & Dzubinski, 2016; Oakley, 2000; Polkowska, 2014). Furthermore, discrimination based on wage disparities and rigorous evaluations of women's work performance by setting high standards above males (Diehl & Dzubinski, 2016) further constraints women reaching to board positions.

According to Ragins et al. (1998), corporate culture is unfriendly to women as they do not receive full recognition or support for leadership in a male-dominated setting preventing them from rising to the top. Women have been excluded from high-level roles because males find it difficult to manage or be overseen by women. And, the issue is not with an individual woman but rather with organisational attitudes and hidden restrictions that contribute to hostile corporate culture towards women as a group

(Ragins et al., 1998). Moreover, the less supportive corporate environments block training and counselling that women need in career development (Baumgartner & Schneider, 2010; Jackson & O'Callaghan, 2009), forcing women out of the pipeline for top roles (Polkowska, 2014). Thus, many women may find it difficult to develop qualities that companies state are required for board positions (Mattis, 2000).

Regional differences are also evident. For example, Pajo, McGregor and Cleland (1997, p 181)) found that in the New Zealand context, barriers to women and "resilience of boardroom culture should not be underestimated". Adams and Flynn's (2005) found national culture and associated corporate governance practices affect women's corporate advancement; thus, Norway, Canada, the United Kingdom, and the United States were more receptive to women on boards compared to Italy and Japan. Sri Lanka, for example, discovered that the corporate culture is not fair to women in promotions, appraisals, and compensation by emphasizing the lack of equitable treatment in quantitative research of women executives (De Alwis & Bombuwela, 2013). Therefore, the corporate culture of each firm is critical in appointing women to top positions that call for affirmative action.

The constraints experienced by women on boards of directors may be country-specific, depending on economic, political, and cultural variables (Kirsch, 2018; Smith & Parrotta, 2018). Hence, a country-specific study would be more informative in advancing women, particularly in that specific context (Kirsch, 2018), and has the potential to provide good policy implications for that particular national context and as well as similar national contexts. However, we find overwhelming research studies have concentrated on western countries and their women boards of directors (Glass & Cook, 2016; Marquardt & Wiedman, 2016; Pajo et al., 1997; Shambaugh, 2008), with relatively few studies addressing other countries (Maheshwari & Nayak, 2020). This has resulted in a significant contextual gap in terms of empirical setting and its theorisation. In line with this contextual gap, the present study based on qualitative interviews of women board of directors in Sri Lanka is seeking to address the following research question.

- What gendered societal institutional constraints are experienced by women on board of directors in an institutional context of Sri Lanka?

- How are gendered societal institutional constraints re (produced) at the organizational level and how do they constrain women to directorship positions in Sri Lankan organizations?

RESEARCH DESIGN

The ontological orientation of this study is based on nominalism that leads to multiple realities (Burrell & Morgan, 2017; Guba & Lincoln, 1994) and the epistemological orientation is centred in critical traditions and standpoint theory, whereby it is assumed that knowledge is achieved through lived experience (Hartsock, 2017; Ramazanoglu & Holland, 2003). Accordingly, the study critically examines the standpoint of women on boards of directors in order to understand the constraints they experienced. The qualitative method used in the study was narrative enquiry (Clandinin, 2006; Czarniawska, 2004), which is based on the belief that experience as a fundamental axiological category. The initial approach to the participants was made through social networks, such as LinkedIn, using a publicly available list. Based on thematic interviews, 42 narratives of women on boards of directors were collected in both public and private companies in Sri Lanka. The sample was chosen based on theoretical sampling in a purposeful and snowballing combination. The study is a methodical synthesis of feminist intuitionalism and data based on abductive reasoning (Dubois & Gadde, 2002; Timmermans & Tavory, 2012) in order to generate knowledge on women on boards of directors based on feminist standpoint theory. The grounded theory technique, adapted from Gioia methodology (Gioia, Corley, & Hamilton, 2013), was used to code the data. Data coding was done both manually and using the NVivo-12 qualitative data analysis tool. Finally, the research was conducted according to the University of Waikato's ethical procedures.

THE SRI LANKAN CONTEXT

Sri Lanka as a patriarchal society (Lynch, 1999) characterised by extended family relations (Niles, 1998), transgenerational caring roles (Malhotra & Mather, 1997) and social stratification of people (Fernando & Cohen, 2011). In Sri Lankan society, men are considered the major providers of income and security, while women are expected to be nurturers and caretakers (Wijayatilake, 2001). Sri Lanka has a history of relative gender equality in terms of later marriages, bilateral descent, and the value of daughters in the home, continuous kin support after marriage, and widespread access to education for

women in relatively other countries in South Asia (Malhotra & Tsui, 1999) Women's economic participation has improved their social position; however, some cultural practices, particularly in family structures (e.g., extended family) and interactions, have not changed(Cho et al., 2015). Therefore, in terms of living standards and social standing, many educated Sri Lankan women enjoy a moderate level of participation in socioeconomic and cultural spheres (Herath, 2015). As highlighted by Solotaroff, Joseph, Kuriakose, and Sethi (2020) social norms that prevent women from working in certain industries or sectors and obstruct women's safe transportation to and from work. Furthermore, women are concentrated in less mobile, female-friendly industries that offer flexible hours and do not depreciate human capital returns when they take time off for maternity leave, childcare, or other home obligations (Solotaroff et al., 2020). This is quite low, even when compared to South Asian counterparts like Bangladesh (17%) and India (12%) (*International Financial Corporations, 2021*). On the basis of this information we argue that there are institutional constraints in reaching women to directorship in Sri Lankan context as a re (production) of gendered societal constraints at organizational level as shown in below findings.

MAIN FINDINGS

The key findings are displayed in Table 01, which demonstrates the societal constraints that prevent women from reaching board positions, as revealed by the participants. Accordingly, the main themes recognised by the participants were the Gendered division of labour at home and women's multiple roles. Participants highlighted still the Sri Lankan patriarchal society uphold male breadwinner role which influence women to perform larger portion of unpaid job at home. Participants further revealed that unequal division of labour in the domestic sphere regardless of marital status compared to the career men in forming extra tension for women. Furthermore, women are expected to fulfil multiple roles at home, such as mother, daughter, and wife, and the desire to do so to the best of their abilities puts them under additional strain in trying to be respectable feminine (Ansari, 2016; Fernando & Cohen, 2014; Radhakrishnan, 2009) as per the social expectation.

Participant's narrative further demonstrates *'internalization of patriarchal culture'* constraints women advancement to board positions. The internalizations continue through both formal (education)

and informal (in the family) institutions. According to the participants, women are not pursuing their professional development and are instead moving into less mobility jobs in an effort to fill the unfair portion of the gendered division of labour. The invisibility of successful women in terms of work-life balance has made this situation even worse. Moreover, participants revealed women have less confidence to be a leader as a consequence of internalization of patriarchal mind-set that consider women subordinate to the men. In conclusion, as revealed by the participants' narrative, the continuation of Sri Lankan patriarchal culture, explained through historical institutionalism, has been internalized in the Sri Lankan society that prevent women from achieving board positions.

Organizational institutionalism focuses on how social and cognitive features of institutions are linked to actors' behaviour (Powell & DiMaggio, 2012). Rules and regulations, symbols, cognitive scripts, and moral templates are among the institutions that provide a meaningful framework for influencing human behaviour (Scott, 2008). Despite women's subordination due to gender stereotypes, liberal feminists contend that men and women are equally capable and should have an equal opportunity to succeed at advancement in the workplace (Brewis & Linstead, 2009). As feminist institutionalism asserts the gendered institutional context can (re) produce at individual and organizational level (Thomson, 2018).

As per the key findings displayed in Table 02, participants revealed, *first* women on board of directors encountered discrimination through the *vertical segregation* in reaching to top that is illustrated through the glass ceiling (Jackson & O'Callaghan, 2009; Jackson et al., 2014). Participants' narratives demonstrate how gender stereotypes on women's competence and dedication to leadership roles hinder them from reaching director positions. Stereotypes are beliefs that are based on assumptions that are either false or predetermined (Fernando, 2012). Thus, stereotypical view that believe women is in lack of competent and dedication for leadership roles (Oakley, 2000) that bind with patriarchal culture that consider men superior to women in decision making and gender division of labour and multiple role has reproduce at organizational level in discriminating participants to directorship positions. In addition, because women have historically not occupied positions of leadership, individuals in organisations anticipate masculine leadership. Participants thus encountered different forms of discrimination on their path to the directorship. Accordingly, participants discriminate in

promotions by placing them in difficult assignment that could be justified by the notion of the glass cliff (Adams & Flynn, 2005). Participants also encountered discrimination due to gender-specific interview criteria and restrictions on training opportunities within Sri Lankan organizations. Findings thus support the gendered institutional context of society, which considers men to be superior to women that explain through the Marxism feminism, is reproducing at the organisational level as vertical segregation in constraining women to reach directorship.

Secondly, participants reveal women on board of directors' constraints through *horizontal segregation* when they join the male friendly occupations or industries that could be justified through the glass wall (Adams & Flynn, 2005). Social training in gendering occupation/industries is continues through the formal (e.g. Education) and informal (e.g., family up bringing/media) institutions. As a consequence, women board of directors who joined the highly male dominated industries and occupations encounter high performance scrutiny in double discriminating them through both vertical and horizontal segregation. And also, participants further highlighted women on board of director's encountered excessive distress in joining male friendly occupations/industries in preventing them to rise in leadership positions. Accordingly, the below section critically discusses the findings of the study in drawing policy implications.

DISCUSSION AND CONCLUSION

Fundamental institutional frameworks, such as education, government, families, and religion; inherent disparities in systems, had an impact on participants potential to participate in the boardroom (Grosvold, 2011; Grosvold & Brammer, 2011). The key findings of the data show that the persistence of patriarchal culture in Sri Lanka, which is justified by historical institutionalism (Krook & Mackay, 2011), has been integrated into people's interpretive processes, imposing many constraints on Sri-Lankan women's access to upward mobile careers. Marxist feminism incorporates gender to the Marxist perspective's analytical concerns, arguing that, while males have a hierarchy through a system of class (gender similar to class), men as a collective dominate and control women through a system of gender (Seneviratne, 2018). Thus, society is characterised by systemic inequality, which causes males to dominate and women to be subordinate in a social arrangement explained by patriarchy. Thus,

continuity of patriarchal structure has made it difficult for women to advance in their careers because of the burden of unpaid labour and the multiple roles they must play in society (Konrad et al., 2000; Nelson & Levesque, 2007).

Gendering of organization (Acker, 1990) which favours masculine leadership prevents women achieving directorship through organizational segregation. As evidenced by the experiences of women on boards of directors in Sri Lanka, a man-friendly cultural-cognitive and normative institutional framework is responsible for the vast majority of constraints that women board of directors' encounter in the context of Sri Lanka. Thus, this analysis supports in confirming the view of Marxist feminism that emphasize the double discrimination of women in rising to the directorship through the influence of capitalism and patriarchal system. Thus, re (produce) societal level informal institutional constraints have been (re) produced at organizational level due to the continuity of patriarchal culture that explained through the historical institutionalism in constraints reaching women to board positions in the context of Sri Lanka.

Women board of directors often mediate between societal-level institutional pressures which is reproducing in the organizational level that can be critically explained through the feminist standpoint theory, which has a dual vision in providing a more comprehensive view of social reality from both the dominant group's and their perspectives. Thus, the feminist intuitionalism lens enhances the understanding of gendered institutional cross-national differences in explaining why few women reach to board positions in Sri Lanka. Practically, our findings could be employed to inform Sri Lankan and similar societies, organisations, policymakers, and advocacy groups on the intensity and probable origins of constraints to progress more women to director positions.

Despite the above implications, we also acknowledge the research limitations, particularly that our research sample only included 42 women on boards of directors, which means that results cannot be generalised but rather provide insights for advancing more women to directorship.

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Table 1: Illustrative quotes of gendered societal institutional constraints

Main Theme	Illustrative Quote
Gendered Division of Labour at Home and Women's Multiple Roles	**Patriarchal culture that uphold male breadwinner role** *"So, I'd say there's a lot of blocks because Sri Lanka is a patriarchal society. When men and women work, women still shoulder an unfair portion of the housework. So that's lots of expectations of women. They are expected to play the lead role in looking after children, picking up the family to do the housework, everything."* (40-Pini-CEO/Non -executive Director- Service Sector) *"So, my parents had an [...] company but all my life they've always said, little brother is getting the business, he is getting the business, so, I was always like, fine, I'm not I'm not into, I was never*

	interested. So, it was always, my family is very, very open-minded, but patriarchy was always there". (38-Mona-Executive Director –Service Sector)
	Performing a larger portion of non-paid works at home *"Sri Lankan society as a society I think forward, but then there is also a very feminine motherly thing that is expected from women in Sri Lanka. On one hand, you are encouraging a girl to free herself, let go of all the constraints and perform as an individual. But, on the other side, you are tying her with lot of motherly things"* (01- Ama-Executive Director – Service Sector) *(02-* *"And I think Sri Lankan society is such. It's not always a joint household, like, household work is not joint. Yeah, it's usually on the wife or the mother"* (33 – Heli-Executive Director-Production Sector) **Playing multiple role** *"So, disadvantage is that the expectation from a mother who's pursuing a career and expectations of father who's pursuing a career is very different. So, so if there's a. If there's an event in a house or in-laws house, a dinner to a birthday to a funeral. The woman will be expected to take lead and contribute. But, the father, mother or Son is not expected to contribute at that level. So, they will have a meeting or conference call, they will not. They will be excused for sure. But a woman who doesn't do her daughter in law's duty or as daughter's duty will be looked down upon "* (14-Nelu-Executive Director –Service Sector) *"When we look at hindering, it is a very cultural thing. Although women go to the university, getting educated, the priority should be home. They should be home at 5.00 o'clock to perform the multiple role. You know they cannot mingle with colleagues after work. So, that kind of thing in this modern world could hinder the progress of a female. Because the demand doesn't stop at five o'clock. If you're in a corporate role you want to be able to keep up. There's a meeting at 7.30pm, you have to sit down. If you have to meet a deadline, you have to be able to find the time to do that. I think that one thing".* (31-Eni-Executive Director-MNC-Production Sector)
Internalization of patriarchal culture	**Formal and informal social training** *"That's something I think, even from, I think, from a society, I was going through some text books. In the Buddhism textbook in grade 3, it says, how to be a good daughter (rather than being a good child). It's just like the whole stereotyping that we are doing"* *[The following figure is the snap shot of that lesson; the heading of the lesson is "Good Daughter"]* *Source: http://www.edupub.gov.lk/Administrator/Sinhala/3/budda%20g-3/budi%20g-3.pdf* *"…… the whole lesson is about a good daughter and her blessing …… So like from the primary stage, they are saying to be a good girl and how many times will tell a boy who is not outward or not playing soccer in school. Parents telling a child, don't be a girl. That's the biggest damage you do a child, I mean, imagine you have a you have a son and a daughter and you're telling your son to don't be a girl that can be so detrimental to your daughter"* (32-Fiona -Executive Director -MNC- Service Sector) *"Sometimes when I go into those universities and I sometimes speak to pretty young girls who come for jobs and internships, it's just incredible. It's really sad. I mean, it's really smart, hard working. But they will never get there or achieve anything, it's because people are pulling them down. And, the biggest thing that pulls them down is their own self confidence. How shall I say, the way they brought up there, their mind-set because they feel that they're not good enough"* (25 –Yavi-Executive Director-MNC-Production & Service Sector) *"If you ask me what you do to change, the change should start in our homes and the change should start in our schools. We have to teach our men to respect women. We have to teach them to think more about what it means to be a father and a husband.*

	And not just what it means to be a woman and a mother. So, the change has to start from within society and it needs to be what we teach our children. We need strong female role models for our children. Give your children books that are not princess fairy tales. Give them give them stories that are have strong female role models, makes a difference" (40-Pini-CEO/Non -executive Director- Service Sector) **Not engaged in professional development** *"On the negative, negative side…and this is not just men only, or families, men telling, no, you're now married, you have children, you have to stay at home and look after the children. It's not just the men, the women themselves have this thing in their head. That "now I have children now I must stay at home So ,I won't blame only men. Right? They are very quick and ready to let the husband cater for them. Give them the money, and they want to just put their feet up and hang around at home. Right. So nobody said that doing both things is easy"* (03- Bino-Executive/Non-executive Director- -Production & Service) *"…of course, you need to read and keep up with your area of work. Now, for example, if I'm in the bank, then I must learn about the bank. So, you need to read, you must be up to date. If there are courses you have to go follow those courses. Very often women don't spend time on themselves. I don't mean going to a beauty salon. But what I mean is taking a course of study, study course, going for training, training up, going for workshop, and training. I think we should go and keep updating our knowledge all the time, so that we can contribute"* (16- Pumi-Executive/Non-Executive Director-Service Sector) **Moving to less mobility job** *"Most of the females do give up halfway, because of these challenges (gender division of labour and multiple roles"* (11 Kami-Executive Director-Production & Service Sector) *"I feel that women go to school, go to university, get their degree, and get a very comfortable government job. You know 8 to 5 jobs and then marry, have children and be like, Oh, you know, kind of a wife and upbringing children and that is it. They have made a frame, right…. They have made a frame and just give up. Career progress".* (22 –Vino-Executive Director-MNC- Service Sector) **Lack of self-confidence to be a leader** *"So, let's say, I want someone to be a manager one day. When I asked, they said 'no, I can't do that'. I have heard a lot about it. They are not taking senior positions or like more responsibilities. They think they can't do it in a male dominated world. … And they said no this is too senior a role for me. So, women are very reluctant to take a challenge of a job"* (07-Gimi-CEO/Non-Executive Director –Service Sector) *"And, in my mind, I always wanted to be number two, because that was the most comfortable area because if you have somebody to look after. So, I never wanted to be number one even in my mind".* (13-Menu-CEO/Non-Executive Director- Service Sector) **Invisibility of success women in terms of work and life** *"I was under the impression that for the woman to succeed, they either had to be single or they had to be divorced. Because, the time that I was joining up with ladies like that was not successful".* (15 Oshi-Executive Director-MNC Service Sector) *"I would say now we come to a tough position. Since, we sometimes talk in public about women's leadership and all. I feel sometimes the real issues don't come out. Because, if I have seen actually, most of the women who are actually playing very high roles in professional life, if you see most of them actually, personally, I know most of them, nothing against them. But no. I have seen most of them don't have something in their life".* (15 Oshi-Executive Director-MNC –Service Sector)

Table 02: Illustrative quotes of (re) production of gendered societal institutional constraints in organization

Main Theme	Illustrative Quote

Vertical Segregation	**Gender stereotypes that hinder women leadership opportunity** *"People try to show me like you are a lady you can't do it.* (07 –Gimi-CEO/Non-Executive Director –Service Sector) *"The factor that also stopped me from getting a CEO is that I have only one child, but they've almost waiting for me to have another child and go off to maternity leave and not come back (laugh). And, it was actually I had a certain income. I have worked actually 20 years without one breaking my career right, every single day. But yes, I always feel like they were thinking, Okay, she has the money, she won't come back to work, to have two or three children and stay at home. So, I felt that that was an unsaid but it was like in certain questions in certain ways in my reviews when I would ask you this, are you planning on having a bigger family that would come up occasionally"* (27- Ayu -COO/Executive Director-Production & Service Sector) **Historical absence of women in leadership positions** *"I was leading, leading a project, we had a event, marketing based advertising event, conference sort of event. And, I was leading the event and one guy. He was actually a friend. He was, he didn't like the fact that I led the project. He came up to me and he was in a bit of a joke. Though, he founded that as a joke. He meant it. Mm hmm. He said, 'Why are you leading this when you have so many men to lead''.* (12-Lucy-Executive/Non-Executive Director-Production & Service Sector) *"There were a lot of women trying to find jobs and we were told we don't want to give executive cadres for women in our companies. These are large companies, Sri Lanka. The people in the company, especially senior hands, were not happy that there was a woman in a management position. They were not happy to take instructions. However, we promoted at the same time the issues in the company. Although, they do not want to see a woman. And, I think I was lucky in that I was senior to all of the others. There was no obvious male who could be considered for the position. And, I think if they wanted to, they would have had to get someone from outside"* (30-Dino-Executive/Non-Executive –Production and Service Sector) *Women enter into the social spectrum which was previously occupied by men. I don't know whether they were dominating it but they were occupying it. So, when we come to that structure, most of the realities are created for men. And, when you enter first they see…. they don't see a leader they see women that they're familiar with. And, the most of the women they are familiar with are the women in the domestic front"* (01-Ama-Exective Director– Service Sector) **Expecting masculine leadership** *"But, what I realized when I came to the board was that they were expecting my father. Right…they wanted to follow somebody. They didn't want to do their job. It's easy to follow a person, not just do your job when you have a very charismatic person to drive. …. They selected me but they didn't want me. They wanted a different person sitting in me, they wanted my father. But, I am not my father, very different from my father. They selected me but they didn't want me."* (01- Ama - Executive – Service Sector) *"There was a time I used to fight, you know my management meeting why we are not recruiting more people. Why are we not recruiting more women? Why is it? you know it was always the case, the reply is not all women are like you. One thing is all men think I am like men. Anyway, I am different"* (06-Feri-Executive Director -MNC-Service Sector) **Discrimination practices in rising career ladder** *Discriminating in promotions* *"Yeah, I think, in Sri Lanka, as women, you have to be at least three times smarter than a man to get that senior position. If you take our female leaders, they are extraordinary, so you have to be an extraordinary person to become a leader as a female, but you can be mediocre, become a leader as a male(smile)"* (27- Ayu -COO/Executive Director-Production & Service Sector) *Assigning to difficult jobs* *"Okay, and right after my maternity leave, I came to be the head of an IT company for a start-up company. So, at that time, it was making a big loss, and I had to turn it around. So, within two years, I converted it to be profitable. And then by the third or fourth year, I had grown in revenue to, you know, over four or $5 million and made a huge profit. So, they were really happy about that. But my problem is, you know, the moment you do better in your career, they keep giving you more work. And what happened was it started begin in other regions"* (27- Ayu -COO/Executive Director-Production Sector)

	Setting Training Boundaries *"I think men must also accept that the women can do work, and that they will also look at a woman for a senior position. Because very often men think oh, 'going to get married and have a child and not come and stay at work'. Therefore, a lot of the young girls are not sent out for training, things like that. So, men must not look at women like that, and give them equal chances"* *(16- Pumi-Executive/Non-Executive Director-Service Sector)* *Women Specific Interview Criteria* *"But, women faced for an interview for promotion, they want to know everything from you know, from your personal background to everything matters. And, if a man, they just assume that he is happily in the family and you know, go off anywhere, so, even they don't ask those questions. You know, if I have to answer, they ask how you are going to leave your child and go. But, if you're interviewing a man, they'll never ask that question. So, the questions and the biases towards women, even in Sri Lanka, because culturally they expect a certain thing about you"* (27- Ayu -COO/Executive Director-Production Sector) *Harassment* *"There are also times when people try to be. You know, they try to take advantage of my feminine position. So yeah, I went through that whole lot. ….I mean, I used to hurt myself at the beginning when I was young, I used to feel very sad. But over time, I realized there is no point because nobody's going to help me, they will only talk bad about me. So, I might do what I want, I just carried on"* (16- Pumi-Executive/Non-Executive Director-Service Sector)
Horizontal Segregation	**Social training in gendering the occupation/industries** *"There is a lot of unconscious bias. People think women fit certain roles and men fit certain roles. So, for example, if you take the newspaper and job adverts, you will see advertisements for sales men and receptionists what's the image that comes to your mind when you think of a woman. So, there's just a lot of prejudice in society"* (40-Pini-CEO/Non -Executive Director- Service Sector) *"Sometimes lecturers mentioned ladies go and join Sri Lankan Air Line not the Port., because, in Sri Lankan airlines, they made ladies in a saree saying 'Ayubowan' or hosted in ground staff. But in Sri Lanka port you are able to travel to so many destinations and really contribute to the economy mostly. But, Lectures mentioned ladies to join Sri Lankan airlines not to the port"* (14-Nelu -Non -Executive Director-Service Sector) **High performance scrutiny** *". …….in these industries, if a man you're seeing is more powerful, there's more respect. If a woman goes, okay, you think, she will take up the role right. Or sometimes they can even try to like, you know, side-line, you make you feel inferior…So, I think when I really started in this position, like a female coming as a finance director of this company, was, well, yeah, it was a bit of a challenge. It was a shocker for those outside. Definitely try to test me. They try to test you on how you would react. The whole traditional mentality of thinking,"* (31-Eni-Executive Director-MNC-Production Sector) *" In the organization side, I did not have any challenge since it is my home where I work for a long time. But, in the industry that had huge under representation of women in top positions. It was challenge to showcase our talent in a male dominance industry […]"* (37-Liza-COO-Servcie Sector) **Excessive distress in joining male friendly occupations/industries** *"So, the first challenge is that both industries are not used to women and woman in a leadership position. So, the first challenges on the women's side, there was no big challenge in logistics……the next thing says pharmaceuticals. I did have challenges because a that in that industry wouldn't been involved in a way of accepting women in leadership roles"* (35- Jalii-CEO/Executive/Non-executive director-Production & Service Sector) *"Yes. So I'm not saying those are challenges, but they were factors that I was aware of. One thing in our industry. There are 3 percent women participation, so, I, even in, as I mentioned to you, I'm the only female SBU of all the companies in our group. So, sometimes, men would perceive a woman as not so strong as somebody who might not be able to lead a team"* (09-Ima-CEO-MNC- Service Sector)

Stream 2.
Organisational Behaviour

The impact of organisational justice on organisational citizenship behaviour and turnover intention in China

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Stream 2.
Organisational Behaviour

The impact of organisational justice on organisational citizenship behaviour and turnover intention in China

ABSTRACT: *Drawing from social exchange theory, this study aims to investigate the impact of organisational justice on organisational citizenship behaviour and turnover intention by applying a four-dimension model of organisational justice, which includes distributive, procedural, interpersonal, and informational justice. The participants are 215 workers aged 18 to 59 in China. The results revealed that overall organisational justice has statistically significant positive effects on organisational citizenship behaviour, but only partially influences turnover intention. In particular, informational justice has the most significant impact on organisational citizenship behaviour. This study also finds that organisational citizenship behaviour can mediate the relationship between organisational justice and turnover intention. This study gives empirical implications for enterprises in China to increase organisational citizenship behaviour and reduce turnover intention.*

Keywords: organisational justice, organisational citizenship behaviour, turnover intention, China

Employee turnover is always an issue that influences an organisation since it causes a loss of talents and the high cost of training new employees (Hassan, 2014). Numerous enterprises in China face low staff retention and high turnover rates (Xiao & Cooke, 2012). China's average staff turnover rate has been 18.8% (Chu, Ding, Zhang, & Li, 2022). Over half of the managers quit their organisations after working for only 8 to 12 months (Gong, Chow, & Ahlstrom, 2011). Understanding how to lower turnover is therefore crucial for many Chinese enterprises.

Price (1977) defined "turnover" as a rate of employees who have left during the period being considered, which is generally distinguished into involuntary turnover and voluntary turnover (Parker & Gerbasi, 2016). Involuntary turnover reflects the employers' intention to terminate the contract with employees, while voluntary turnover always depends on employees' choices (An, 2019). *Turnover intention (TI)* means an employee's intention to quit the current organisation (Fishbein, 1967; Ma & Trigo, 2008), which has been proved to always lead to voluntary turnover (X. P. Chen, Hui, & Sego, 1998; Steel & Ovalle, 1984). Therefore, decreasing TI can be seen as decreasing voluntary turnover, and this paper use TI as a predictor of voluntary turnover.

By reviewing the literature, we found that much attention also has been drawn to *Organisational citizenship behaviour* (OCB) due to evidence that it can lower the TI and further lower employee turnover (Batra & Kaur, 2021; Coyne & Ong, 2007). OCB was defined as individual discretionary behaviour without direct rewards but is beneficial to the organisation, which is not included in the performer's official responsibilities (Organ, 1988). OCB can be

helping colleagues, attending events that are not required, and preventing work-related problems from occurring (Cohen & Avrahami, 2006; Lee & Allen, 2002). Some prior research indicates that employees who perform more OCB also have lower TI (Batra & Kaur, 2021; Coyne & Ong, 2007). Therefore, OCB can be a significant factor in decreasing turnover through lower TI.

Besides, we also found that *Organisational justice* (OJ) has drawn attention in research because it can influence many unique variables such as TI and OCB (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Yu, 2022). OJ refers to the employees' perception of fairness in the workplace. The elements of OJ include the degree to which employees think about the outcome, procedures, and interactions with members of the organisation (Greenberg, 1987; Moorman, 1991). Therefore, Greenberg (1990) pointed out that OJ includes distributive, procedural, and interactional justice. *Distributive justice* refers to the employees' perception of fairness related to outcome distributions such as payment, benefits, promotions, job safety, and the outcome of dispute resolutions (Adams, 1965; Deutsch, 1975; Greenberg & Colquitt, 2013). Procedural justice refers to the employees' perception of fairness related to the decision-making process in an organisation, such as the manner of understanding and perceiving specific procedures and objective aspects, or the way of implementing a specific procedure (Al-Zu'bi, 2010; Leventhal, Karuza, & Fry, 1980; Thibaut & Walker, 1975; Tziner & Sharoni, 2014).

Interactional justice refers to the employees' perception of fairness related to their treatment during the enactment of the procedure (Bies & Moag, 1986). Greenberg (1993) furtherly developed a four-dimension OJ model by separating interactional justice into interpersonal justice and informational justice. *Interpersonal justice* refers to the perception of fairness related to the given interpersonal treatment in enacting procedures and the outcome distribution. Paramaartha, Mukhtar, and Akbar (2019) stated that interpersonal justice is fostered when the organisation respectfully treats the employees and avoids making improper or offensive remarks. Informational justice refers to the perception of fairness related to the interpretation and information between the employees and supervisors regarding timeliness, specificity, and truthfulness (Greenberg, 1993; Tziner & Sharoni, 2014). Informational justice can be an employee's perception of candidness during contact with a supervisor (Colquitt, 2001).

Prior studies proved a relationship between OJ and OCB (Dhawan, 2021; Iqbal, Aziz, & Tasawar, 2012), OJ and TI (Lim & Saraih, 2020; Mengstie, 2020; Özkan, 2022; Vaamonde, Omar, & Salessi, 2018). These studies reveal that employees are more likely to perform OCB if they think they are treated fairly. Employees' perceived treatment by the organisation will influence their intention to quit, and those treated unfairly will have higher intentions to quit (Efanga, Aniedi, & Idente, 2015).

Notwithstanding many prior researchers studied the relationship between OJ and OCB, OJ and TI, few investigated these three variables in a single research, especially in the Chinese context. Besides, most of these previous researches used the two-dimension or three-dimension OJ, which includes distributive justice and procedural justice, rather than the four-dimension model (Iqbal et al., 2012; Saraih et al., 2017). To fill these gaps, this paper proposes a model on the social exchange model that employees perceive more four-dimension of OJ, are more likely to perform OCB and have lower TI. Social exchange theory reveals that people make ongoing contributions to repay their organisation for the favourable treatment they received Blau (1964). Furthermore, Saoula, Fareed, Ismail, Husin, and Hamid (2019) stated that social exchange theory provides a strong theoretical guideline for explaining the association between OJ and OCB, OJ and TI.

This study contributes to the literature by studying the relationship between OJ and OCB, OJ and TI in a Chinese context and providing a theoretical perspective for Chinese organisations to understand how OJ enhances OCB and reduces TI. Furthermore, since most prior studies that study OJ and OCB, OJ and TI used the two- or three-dimension OJ model (Colquitt, 2001). The scale of OJ we used in this paper is based on the four-dimension model developed by Greenberg (1993). Thus, our study is in line with the development of the OJ research, which corroborates that the four-dimension model of OJ can fit the data better than the two- or three-dimension model of OJ (Colquitt, 2001). Our proposed conceptual model is presented in Figure 1.

Insert Figure 1 about here

THEORY AND HYPOTHESES

Relationship between OJ and OCB

Organisational justice (OJ) refers to the employees' perceptions about their treatment and that

of others in an organisation and the impact of these perceptions on employees' behaviours (Greenberg, 1987, 1990). Furthermore, a confirmatory factor analysis by Colquitt (2001) showed that one-, two-, or three-dimension models less significantly fit the data than a four-dimension model. Therefore, we will use the four-dimension model of OJ for better data fit and separately figure out the impacts of the four dimensions of OJ on OCB and TI.

Podsakoff and MacKenzie (1989) developed a five-dimension model to measure OCB, which includes *altruism*, *conscientiousness*, *civic virtue*, *courtesy*, and *sportsmanship*. Podsakoff, MacKenzie, Moorman, and Fetter (1990) proved that this five-dimension model could apply in most western countries. However, the OCB measurement in China may differ from western countries due to cultural differences (Farh, Earley, & Lin, 1997). Therefore, Farh et al. (1997) designed a new five-dimension model of OCB for enterprises in China by a confirmatory factor analysis, which includes *altruism toward colleagues*, *conscientiousness*, *identification with the company*, *interpersonal harmony* and *protecting company resources*.

Altruism toward colleagues refers to voluntary behaviours of helping others solve work-related problems (Podsakoff & MacKenzie, 1989). Employees with Altruism toward colleagues will consider others' issues. *Conscientiousness* means that employees voluntarily work beyond the minimum job responsibilities. *Identification* means the discretionary behaviour that shows an individual is responsibly involved in or cares about the organisation's development and would be willing to spread positive news of a company outside and safeguard the company image. Interpersonal harmony means the discretionary behaviour to avoid pursuing personal power and negatively affecting others (Farh et al., 1997). *Interpersonal harmony* is added to the new five-dimension model of OCB because its cultural value is highly weighted in Chinese society. For example, anyone who first destroys interpersonal harmony is supposed to share much more blame in traditional Chinese society, no matter for what reason (Yang, 1995). *Protecting company resources* is the voluntary behaviour of avoiding abusing company regulations and resources for personal use (Bond & Hwang, 1986; Yang, 1995). *Protecting company resources* is added to the new five-dimension model of OCB because it can be attributed to the strong family orientation in Chinese society. Family orientation refers to the integration of one's self or personality into the

family (Schwartz, 1990), leading to in-group favouritism and making employees use company resources for personal interests. Due to the strong impact of the family in Chinese culture, employees' OCB may be hampered when corporate resources are used for personal purposes (Farh et al., 1997). Therefore, this study will measure OCB by this five-dimension model of OCB.

Prior research has proved that OJ could impact OCB (Arif, 2018; Dhawan, 2021; Ismail, Iqbal, & Adeel, 2018; Yu, 2022). Fair organisational structures can reduce TI by fostering trust within the organisation (Aryee, Budhwar, & Chen, 2002). Additionally, Ismail et al. (2018) stated that employees would intentionally work to provide the organisation with as much feedback as possible if they perceive being treated properly and with concern. Hence, OJ in the workplace may be essential to OCB and TI because it will change how employees regard their relationship with the organisation.

According to certain studies by Dhawan (2021) and Iqbal et al. (2012), employees' perception of resource distributions has a statistically significant and positive relationship with OCB, but has no strong impact on OCB (Iqbal et al., 2012; Nuzula & Nurmaya, 2020). However, these researchers also claimed that employees are more likely to exhibit OCB the higher the incentives and rewards they receive. Dhawan (2021) also proved that distributive justice could significantly predict OCB. Therefore, we hypothesise as follows:

H1: Distributive justice has a positive impact on OCB.

Prior research also showed a statistically significant and positive relationship between procedural justice and OCB (Dolan, Tzafrir, & Baruch, 2005), and procedural justice significantly positively impacts OCB (Fathuroni, 2021; Maria, Darma, & Setyawan, 2020). Employees tend to report more OCB when they sense more justice by feeling organisational processes are more consistent, correct, and representative (Dolan et al., 2005; Leventhal, 1980). Therefore, we hypothesise as follows:

H2: Procedural justice has a positive impact on OCB.

It has been proved that interpersonal justice and OCB have a statistically significant positive correlation (Dhawan, 2021; Khan, Khan, & Ullah, 2017), and interpersonal justice can positively impact OCB (H. Chen & Jin, 2014; Dhawan, 2021). Interpersonal justice increases OCB by giving

employees a sense of psychological superiority and fostering an emotional bond with their company (Hussain & Khan, 2018). Therefore, we propose as follows:

H3: Interpersonal Justice has a positive impact on OCB.

Some researchers have proved a statistically significant positive relationship between informational justice and OCB, and informational justice positively affects organisational identification by establishing the psychological contract with employees (Asadullah, Akram, Imran, & Arain, 2017; Asgari, Nojabaee, & Arjmand, 2011). Organisational identification can also enhance work-related behaviour, including OCB (Cornelissen, 2006; Riketta, 2005; Van Dick, 2001). Furthermore, Dhawan (2021) also directly proved that informational justice could positively impact OCB. Therefore, we propose as follows:

H4: Informational Justice has a positive impact on OCB.

Relationship between OJ and TI

TI can be considered a predictor of employee turnover (Ciftcioglu, 2010). Employees with TI will spend more time searching for a new job and think about whether to quit or consider working in another company. Hence, TI can be measured by three items: the intention to search, considering quitting, and intent to quit (G. Chen, Ployhart, Thomas, Anderson, & Bliese, 2011; Cropanzano, James, & Konovsky, 1990; Konovsky & Cropanzano, 1991). Prior research found a strong association between OJ and TI, and proved that OJ is negatively related to TI by the four-dimension OJ model (Lim & Saraih, 2020; Mengstie, 2020; Özkan, 2022; Vaamonde et al., 2018).

Several studies have demonstrated that distributive justice has a statistically significant and negative relationship with TI and a significant negative impact on TI (Addai, Kyeremeh, Abdulai, & Sarfo, 2018; Hussain & Khan, 2018; Lim & Saraih, 2020; Rai, 2013; Rusbadrol, Panatik, Sarip, & Mohd, 2021). However, Taofiq (2021) proved no significant impacts of distributive justice on IT. To investigate this argument, we propose as follows:

H5: Distributive justice has a negative impact on employees' TI.

Additionally, TI has been proved to be significant and negative with procedural justice and is negatively affected by procedural justice (Gharbi, Aliane, Al Falah, & Sobaih, 2022; Hussain & Khan, 2018; Lim & Saraih, 2020), though which is inconsistent with the research by Taofiq

(2021) that no significant impact of procedural justice on TI. Therefore, we propose as follows:

H6: Procedural justice has a negative impact on employees' TI.

Although some scholars found no statistically significant relationship between interpersonal justice and TI (Khan et al., 2017; Rai, 2013), some research also proved that interpersonal justice could predict TI (Lim & Saraih, 2020; Mehmood, Munir, & Batool, 2020; Taofiq, 2021). Therefore, we propose as follows:

H7: Interpersonal justice has a negative impact on employees' TI.

Besides, Hussain and Khan (2018), Mengstie (2020), Lim and Saraih (2020), and Taofiq (2021) found that informational justice has a significant negative relationship with TI and a strong negative impact on TI. They concluded that the employees who are not appropriately informed regarding decisions would be more inclined to quit. However, some scholars proved that interpersonal justice could not significantly impact TI (Akinrinlola, Kusa, & Wapmuk, 2021).

Consequently, we suggest the following:

H8: Informational justice has a negative impact on employees' TI.

METHODOLOGY

Participants and Procedure

This study collected data through online surveys. Participants were convenience sampling who were working in China between 18 and 59 and agreed to answer the questionnaires. We promoted our questionnaires on several Chinese social media and collected 215 questionaries within two months. Four responses were excluded due to incomplete responses. Therefore, a total of 211 samples were valid. The online survey was set to ensure that each participant could only submit the questionnaire once. The questionnaire includes demographic information regarding age, gender, career field, and scales to measure OJ, OCB, and TI. The respondents were divided into six groups by age. The largest percentage of our sample came from those between the ages of 46-52 (31.28%). The majority of respondents (32.23%) work in the field of Education, Finance (12.8%), and Government and Public Administration (14.69%). 67.77% of the participants are female, and 32.23% are male. The data was then analysed by SPSS.

Measures

This study used established scales to measure four dimensions of OJ, OCB, and TI. Unless otherwise specified, all items were measured by a Likert five-point scale ("1=Strongly Disagree to 5=Strongly Agree").

Distributive justice (α = 0.92). Distributive justice was measured by one question from the scale developed by Colquitt (2001). Sample item includes " To what extent your outcome is justified, given your performance?".

Procedural justice (α = 0. 78). Procedural justice was measured by five questions from the scale developed by Colquitt (2001). Sample item includes "To what extent your company's procedures have been free of bias?"

Interpersonal justice (α =0. 79). Interpersonal justice was measured by two questions from the scale developed by Colquitt (2001). Sample item includes "To what extent your supervisor has refrained from improper remarks or comments?"

Informational justice (α =0. 79). Informational justice was measured by five questions from the scale developed by Colquitt (2001). Sample item includes "To what extent your supervisor has communicated details with you in a timely manner?"

Organisational citizenship behaviour (α =0.85). OCB was measured by fourteen questions from the scale developed by Farh et al. (1997). Sample item includes "To what extent are you willing to help colleagues solve work-related problems?"

Turnover intention (α =0.84). TI was measured by three questions from the scale developed by Cropanzano et al. (1990), Konovsky and Cropanzano (1991), and Shore, Newton, and Thornton III (1990). Sample item includes "How likely is it that you will look for a job outside of this organization during in future?"

RESULTS

The hypotheses were tested with the Pearson Correlation Coefficient and Linear Regression Analysis. Table 1 shows that the OJ scale's reliability is 0.89, the OCB scale is 0.85, and the TI scale is 0.90, which Cronbach's Alpha tested.

Insert Table 1 about here

Table 2 shows that distributive justice positively correlates with OCB ($r=0.20$, $p<0.01$) and negatively correlates with TI ($r=-0.17$, $p<0.05$). Procedural justice has a statistically significant positive relationship with OCB ($r=0.20$, $p<0.01$) but has no statistically significant correlation with TI ($r=-0.10$, $p>0.05$). The results also support that interpersonal justice has a statistically significant positive relationship with OCB ($r=0.24$, $p<0.01$) but has no statistically significant correlation with TI ($r=-0.02$, $p>0.05$). Meanwhile, the correlation between informational justice and OCB is statistically significant and positive ($r=0.27$, $p<0.01$), but there is no statistically significant relationship between informational justice and TI ($r=-0.12$, $p>0.05$).

Insert Table 2 about here

Table 3 shows the linear regression relationship between OCB and four dimensions of OJ. The results show that distributive justice has a statistically significant and positive impact on OCB (Beta=0.105, $p<0.01$), which supports our hypothesis 1. Procedural justice has a statistically significant and positive impact on OCB (Beta=0.172, $p<0.01$), which supports our hypothesis 2 and is in line with Fathuroni (2021) and Maria et al. (2020). Interpersonal justice has a statistically significant and positive impact on OCB (Beta=0.16, $p<0.01$), which supports hypothesis 3 and is in line with H. Chen and Jin (2014), and Dhawan (2021). Informational justice has a statistically significant and positive effect on OCB (Beta=0.185, $p<0.01$), which supports hypothesis 4 and is in line with Dhawan (2021). Therefore, it can be interpreted that four dimensions of OJ positively affect OCB. When informational justice is enhanced, OCB will be more likely performed. Specifically, among the four of OJ, informational justice has the most significant impact on OCB (Beta=0.185, $p<0.01$), followed by procedural justice (Beta=0.172, $p<0.01$), interpersonal justice (Beta=0.16, $p<0.01$), and distributive justice (Beta=0.105, $p<0.01$).

Insert Table 3 about here

Table 4 shows the linear regression relationship between TI and four dimensions of OJ. The effect of distributive justice on TI is statistically significant and negative (Beta=-0.20, $p<0.05$), which supports our hypothesis 5, and is in line with Rusbadrol et al. (2021). However, procedural justice has no statistically significant relationship with TI (Beta=-0.19, $p=0.14$), which rejects hypothesis 6, is consistent with Taofiq (2021) and is in contrast with Gharbi et al. (2022).

Besides, interpersonal justice has no statistically significant impact on TI (Beta=-0.02, p=0.81), which rejects our hypothesis 7, and is consistent with Rai (2013) and Khan et al. (2017). Hypothesis 8 is also rejected because informational justice has no statistically significant effect on TI (Beta=-0.17, p=0.09), which is in line with Akinrinlola et al. (2021). Therefore, only distributive justice (Beta=-0.20, p<0.05) has a statistically significant and negative effect on TI, which is similar to the findings by Addai et al. (2018). Consequently, we suggest that TI cannot be directly and effectively decreased by just enhancing OJ.

Insert Table 4 about here

Meanwhile, we noticed that some research proves a mediator role of OCB between OJ and TI (Saoula et al., 2019). Therefore, we conducted a mediation analysis to explore whether OJ can influence TI with OCB as a mediator. The results in Table 4 and Table 5 show that OCB also has a statistically significant impact on TI (Beta=-0.777, p<0.01); OCB can mediate the relationship between distributive justice and TI (from Beta=-0.16 to -0.12), between procedural justice and TI (from Beta=-0.19 to -0.06), between interpersonal justice and TI (from Beta=-0.02 to 0.11), and between informational justice and TI (from Beta=-0.17 to -0.03). Therefore, it can be concluded that OCB can mediate the relationship between OJ and TI.

Insert Table 5 about here

DISCUSSION

Based on social exchange theory and previous research investigating the relationship among OJ, OCB, and TI, this paper proposes a conceptual model that OJ will significantly influence OCB and TI. We found that four dimensions of OJ positively affect OCB, but only distributive justice has a statistically significant and negative impact on TI. Therefore, we suggest that OJ could significantly positively impact OCB and partially impacts TI. Furthermore, we found that OCB could be a mediator influencing the relationship between OJ and TI.

Theoretical Implications

This paper makes some contributions to literature as follows: Firstly, we study the relationship between OJ and OCB, OJ and TI by providing a Chinese context perspective because most previous research study OJ and OCB, OJ and TI were in the western context (Saoula et al.,

2019). Based on social exchange theory and previous literature regarding OJ, OCB, and TI, Saoula et al. (2019) developed a conceptual framework in the Malaysian context that explain OJ influences TI with OCB as a mediator. However, the study by Saoula et al. (2019) lacks a framework test by collecting and analysing data, which limits their study on the theoretical level. Therefore, our study provides empirical evidence to enrich their conceptual framework by collecting and testing the framework in the real world. Besides, our results strengthen the evidence that OJ has significant positive impacts on OCB, which is in line with the studies by Dolan et al. (2005), Iqbal et al. (2012), Asadullah et al. (2017), and Paramaartha et al. (2019). Secondly, our results show that OJ only partially impacts TI. Especially, only distributive justice significantly impacts TI, which is not consistent with previous studies that prove that procedural justice and informational justice also have significant impacts on TI (Hussain & Khan, 2018). Thus, this controversy provides a breakthrough for further researchers to verify whether OJ significantly impacts TI in Chinese or a different context. Thirdly, we found the mediator role of OCB that can influence the relationship between OJ and TI, which also enriches the current literature and provide a breakthrough for future researchers to investigate and verify the mechanism of how OCB mediate the relationship between OJ and TI.

Practical Implications

This paper also provides empirical insights for Chinese enterprises to understand the relationship between OJ and OCB, OJ and TI from a Chinese perspective. Our research implicates that companies in China can decrease TI and promote OCB by enhancing employee perception of the four dimensions of OJ. For example, enhancing distributive justice by ensuring employees' outcomes such as pay, rewards, promotions, and job safety are consistent with their actual performance. Enhancing procedural justice by ensuring the procedures are ethical and factual, considering employee opinions, promoting employee involvement, giving some permission of process control to the employees, and allowing employees to appeal through these procedures (Saunders & Thornhill, 2003). Finally, enhancing interpersonal and informational justice by ensuring effective communication between employees and supervisors (Kernan & Hanges, 2002). Moreover, based on our results, the companies in China can promote OCB by

enhancing all four dimensions of OJ and further lower TI since OCB could mediator OJ and TI.

Limitations and future research directions

This paper has some limitations. Firstly, this study applies convenience sampling, which may lead to lower accuracy of results because our sample is limited to represent the population. Secondly, our study did not account for variables such as gender, nation, age, education, type and size of companies. For example, our gender distribution is not balanced, and we did not control the nation of participants. Besides, we collected data from those who worked in China during the data collection, but participants may have different cultural backgrounds. People with different cultural backgrounds may also be a variable that influences OJ, OCB, and TI. Therefore, we could not rule out the impacts of other variables on our hypotheses in the Chinese context.

Additionally, this study does not examine other potential variables that may influence TI, such as workplace violence, organisational commitment, and job satisfaction (Alkahtani, 2015; Heponiemi, Kouvonen, Virtanen, Vänskä, & Elovainio, 2014). Thus, we could not exclude other factors leading to the finding that OJ had a limited effect on TI in a Chinese environment. Thirdly, although we found that OCB can be a mediator in the relationship between OJ and TI, we did not further investigate the mechanism of OCB's mediator role to strengthen the impact of OJ on TI. Finally, we did not account for some variables that can also mediate the relationship between OJ and TI, such as work engagement (Rahman & Karim, 2022), organisational commitment (Bakri & Ali, 2015), employee motivation (Batool & Shah, 2017), organisational identification, and psychological contract fulfilment (Ekmekcioglu & Aydogan, 2019).

In conclusion, it is recommended that further researchers who study OJ and OCB, OJ and TI would account for other variables that may also affect TI, such as burnout, workplace violence, organisational commitment, job satisfaction, and perceived organisational support. When examining how to lower TI in China, future research could consider investigating other potential variables such as organisational commitment, employee motivation, organisational identification, and psychological contract fulfilment, which may act as mediators to strengthen the impact of OJ on TI. Moreover, it is also advised to do cross-cultural studies with controlling some demographic variables to enhance the evidence of the relationship between OJ and OCB, OJ and TI.

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Figure 1. Conceptual model of organisational justice and organisational citizenship behaviour, organisational justice and turnover intention

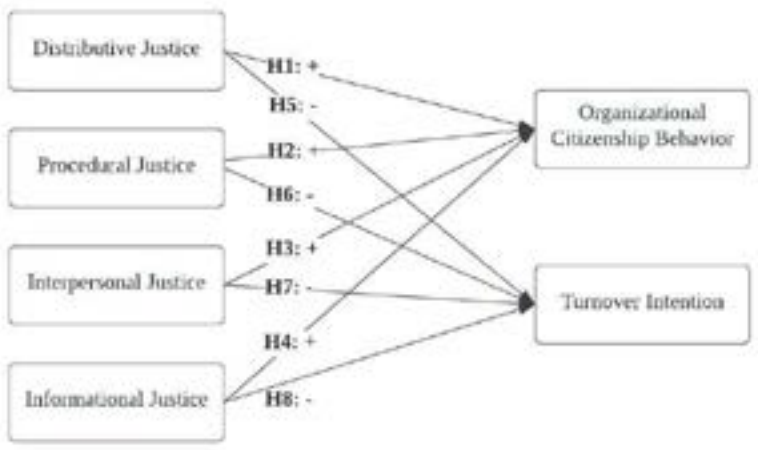

Table 1. Reliability of the scale of OJ, OCB, and TI

Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
OJ	0.89	0.90	13
OCB	0.85	0.89	14
Turnover Intention	0.90	0.91	3

Note: N =211.
Abbreviations: OJ= organisational justice; OCB= organisational citizenship behaviour; TI=turnover intention

Table 2. Means, standard deviations, and correlations among variables

Variables	Mean	SD	1	2	3	4	5	6
1. Distributive justice	3.70	-	-					
2. Procedural justice	3.48	0.62	0.58**	-				
3. Interpersonal justice	3.85	0.80	0.47**	0.44**	-			
4. Informational justice	3.60	0.78	0.59**	0.60**	0.68**	-		
5. OCB	4.15	0.53	0.20**	0.20**	0.24**	0.27**	-	
6. Turnover intention	2.25	1.15	-0.17*	-0.10	-0.02	-0.12	-0.36**	-

Note: N =211.
Abbreviations: OCB= organisational citizenship behaviour; SD= standard deviation
*p<.05; **p<.01 (Two-tailed test)

Table 3. Linear Regression analysis for OCB and OJ

Variables	Beta	t	Significance
Distributive justice	0.11	2.91	0.00
Procedural justice	0.17	2.97	0.00
Interpersonal justice	0.16	3.58	0.00
Informational justice	0.19	4.10	0.00

Note: N =211. Dependent variable: organisational citizenship behaviour

Table 4. Linear Regression Analysis for TI and OJ

Variables	Beta	t	Significance
Distributive justice	-0.20	-2.48	0.01
Procedural justice	-0.19	-1.48	0.14
Interpersonal justice	-0.02	-0.24	0.81
Informational justice	-0.17	-1.70	0.09

Note: N =211. Dependent variable: turnover intention

Table 5. Linear Regression Results of OCB, four dimensions of OJ, and TI

	Dependent variable: turnover intension									
	Model 1		Model 2		Model 3		Model 4		Model 5	
Variables	Beta	SE	Beta	SE	Beta	SE	Beta	SE	Beta	SE
OCB	-0.78**	0.14	-0.73**	0.14	-0.76**	0.14	-0.82**	0.15	-0.76**	0.15
Distributive justice			-0.12	0.08						
Procedural justice					-0.06	0.12				
Interpersonal justice							0.11	0.10		
Informational justice									-0.03	0.10

Note: N =211.
Abbreviations: OCB= organisational citizenship behaviour; TI=turnover Intention; SE= standard error
* p < .05.
** p < .01.

Stream 8. Business Processes, Innovation and Supply Chain

Understanding Intra-personal Algorithm Aversion: A Construal Level Theory of Psychological Distance

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Stream 8. Business Processes, Innovation and Supply Chain

Understanding Intra-personal Algorithm Aversion: A Construal Level Theory of Psychological Distance

ABSTRACT: *This paper examines under what conditions people are more or less averse to relying on algorithm that helps decision-making. Drawing on the construal level theory of psychological distance, this article proposes that on a task level, the relationship between psychological distance in tasks and algorithm aversion is mediated by emotional engagement to the task. An experiment was conducted to verify the proposed cross level mediation model. This research intends to contribute to the theoretical discussion on algorithm aversion in business context to embrace innovation in algorithmic decision making.*

Keywords: Artificial Intelligence (AI), Algorithm aversion, Decision-making, Psychological distance, Emotional engagement

This paper intends to study how the levels of algorithm aversion change within a person at different situations. Algorithms are applications empowered by Artificial Intelligence that assist decision-making (Dietvorst, Simmons, & Massey, 2015; Smith, 2019). Artificial Intelligence (AI) portrays a new generation of technologies that aim to simulate intelligence similar to the human brain (Glikson & Woolley, 2020). Algorithms are intangible products of AI, in which we are increasingly handing over the decision to them. Recent developments in (AI) have given rise to the algorithms with intellectual abilities to self-learn, change, adapt and grow based on the new data (Faraj, Pachidi, & Sayegh, 2018) to help people make a better decision. The algorithmic output is based on a set of mathematical functions that entails supreme rationality following statistical rules, which is associated with the intelligence component of the system (Castelo, Bos, & Lehmann, 2019; Glikson & Woolley, 2020; Logg, Minson, & Moore, 2019; Smith, 2019).

The rise of algorithms implies that people are now presented with a novel choice: should they rely more on the advice of an algorithm or humans when they are making a decision? While the algorithmic outputs often outperform human efforts, most psychological research has indicated a general distrust toward the algorithm known as algorithm aversion (e.g., Castelo et al., 2019; Glikson & Woolley, 2020). Algorithm aversion refers to the distrust in algorithm and a preference towards

human (e.g., Castelo et al., 2019; Dietvorst et al., 2015; Dietvorst, Simmons, & Massey, 2018; Glikson & Woolley, 2020).

This paper has five sections. First, a literature review is discussed. Second, research gaps are identified. Third, a new theoretical explanation for human interaction with algorithmic decision making through the construal level theory of psychological distance is proposed. Then, through this theoretical explanation, algorithm aversion could be explained via two major categories of psychologically distant or psychologically proximal tasks, which will provide new insights on the antecedents of algorithm aversion. Fourth, empirical studies are discussed. Finally, the contributions of this study will be debated.

LITERATURE REVIEW

Before providing insights on reviewed papers, it is worth answering the question of is the algorithm just another technology adoption like automation? According to the literature, there are unique qualities connected to the artificial intelligent algorithm that differentiates it from previously recognised and widely studied technology adoption of automation (Glikson & Woolley, 2020). Automation, which sometimes is wrongly considered to be similar to AI agents, is providing different types of tasks and duties without autonomy. Automation is following a repetitive and monotonic task without defined learning processes.

To understand more about algorithm aversion, we conducted an initial review on algorithm aversion. We used the keywords of "algorithm aversion", or "algorithm appreciation", or "trust in algorithm" or "distrust in algorithm" in Scopus database and Google Scholar. We then followed the cross-reference technique to find the relevant articles. This research revealed a total number of approximately 100 published journal articles that contained the keywords in title or abstract limited to subject areas of business, management and accounting, decision sciences or psychology. To keep consistency throughout the paper, we use "algorithm aversion" to denote distrust of algorithmic output and functionality, which implies the preference to not to use an algorithm. Similarly, "algorithm appreciation" is referred to people's preference and trust in using an algorithm.

This paper is focusing on Micro-level studies of algorithm. A key finding of current research is algorithm aversion behaviour among people: people prefer humans over an algorithm (e.g., Burton,

Stein, and Jensen (2019); Castelo et al. (2019); Dietvorst et al. (2015, 2018); Prahl and Van Swol (2017) for an exception see Banker and Khetani (2019) and Logg et al. (2019)). The algorithm aversion has been discussed mainly through the human's perception of the algorithm and the types of tasks provided by the algorithm (Burton et al., 2019).

There are two significant themes discussed in the reviewed section to address human interaction with the algorithm. The first argument is drawing on the concept of fragile and resilient trust. The second significant point stands around cognitive and affective trust, which is taking the primary explanation of the reviewed literature. The following sections will discuss each theme.

Algorithm Aversion: A Discussion on Fragile Trust. People are averse to algorithmic forecasters, especially after seeing an error, even when the algorithm outperforms the human (Dietvorst et al., 2015). There is low intolerance of algorithm failure, as the trust between human and algorithm is fragile (Prahl & Van Swol, 2017). When the trust is once broken in a fragile relationship, it cannot be repaired quickly. Generally, people feel more commonality with a human advisor and show resilience, even when they make a mistake. Therefore, due to the fragile trust between algorithms and humans, people are more aversive toward algorithm recommendations compared to humans.

Algorithm Aversion: A Discussion on Affective Trust. Algorithms are perceived to be less fair and trustworthy and evoke more negative emotions among people. Individuals are averse to self-driving cars (Awad et al., 2018), autonomous legal systems (Ireland, 2019), artificially intelligent medical advice (Longoni, Bonezzi, & Morewedge, 2019) and military decisions, as they think the algorithmic function behind these systems cannot fully feel like a human and neglect unique circumstances (Bigman & Gray, 2018; Longoni et al., 2019). People are also aversive to chatbots, compared to a human, in the context of purchase recommendations, as chatbots are perceived to have less knowledge and empathy, while they are statistically more efficient (Luo, Tong, Fang, & Qu, 2019). When it comes to professional advice, teachers tend to follow and request advice from a human expert for student evaluation compared to algorithmic consultation (Kaufmann & Budescu, 2019). Also, for less critical tasks, like a joke recommendation, people prefer to receive and recommend jokes between humans instead of using an algorithm, as they believe the algorithm lacks

understanding (Yeomans, Shah, Mullainathan, & Kleinberg, 2019). It is argued that regardless of the accuracy of the algorithmic function, the algorithm is harder to be trusted (Yeomans et al., 2019).

For all cases discussed above, the low level of affective trust has been used to explain algorithm aversion. Building on mind perception theory, which has been used in the literature persistently, people perceive the mind along two dimensions of agency and experience, which refers to the intelligence-related process and emotionally related mechanism, respectively (H. M. Gray, Gray, & Wegner, 2007). Building on this rationale, the general aversion toward algorithm is mainly due to a fundamental lack of experience, and most probably not the agency (Bigman & Gray, 2018; K. Gray & Wegner, 2012). Therefore, even if it is perceived that the algorithm provides the optimal recommendation, perceived high in agency, people still persistently hesitate to rely on the algorithm due to perceiving a low level of experience (Feng & Gao, 2020). Following this theoretical justification, algorithm aversion is due to a low level of affective trust, correspondingly referring to the perception of a low level of emotional experience (Castelo et al., 2019). Following this argument, one study suggests that algorithmic tasks that are perceived as objective (compared to subjective ones) are associated with cognitive trust, and people are less aversive to them (Castelo et al., 2019).

Research gap. Based on the review, we have identified some research gaps that could inform the research questions. First, the misfocus of theoretical explanation on algorithm aversion has directed the research to focus on similarities between the algorithm and the human brain. This imprecise approach has limited the factors that could explain algorithm aversion. If we relax the assumption that algorithmic function is similar to the human brain, we would be able to study issues beyond what has been studied so far. For example, finding the answer on when, where, to whom, under what conditions and for what types of tasks people would become more aversive or appreciative of an algorithm could provide a broader understanding of human interaction with an algorithm. In other words, how a person might behave differently for using the same algorithm in different contexts of decision making. An improved categorisation of different contexts of decision-making drawing on a theoretical anchor could better explain the algorithm aversion. So, there is a gap in understanding the within-person changes in algorithm aversion. Building on the gap discussed, the first research question could be asked: Under what conditions people are more or less aversive toward

the algorithm?

THEORETICAL DEVELOPMENT AND HYPOTHESES

Building on research gaps identified, one important research questions could be asked: 1. How can we explain algorithm aversion at the intrapersonal level?

Drawing on the construal-level theory of psychological distance (Trope & Liberman, 2010), we propose a theoretical explanation and develop hypotheses on human behaviour in the context of using an algorithm. By applying this theory, human interaction with the algorithm could be explained more comprehensively in different timing, location, social distance, and the level of hypotheticality of tasks provided by the algorithm.

Construal level theory proposes that people are only directly experiencing the here and now situation, which is considered as the reference point (Liberman & Trope, 2008). For everything beyond this point, such as things that belong to the future or past, spatially remote locations, or other people instead of self, or hypothetical events, the reality cannot be experienced directly (Liberman, Trope, & Stephan, 2007). Therefore, people subjectively experience things by making a mindset of events or objects through the expansion of the mental model horizon in four dimensions of psychological distance; temporal, spatial, social and hypothetical (Trope & Liberman, 2010). Transcending the egocentric reference point, here and now, requires mental perception. The farther an object or event is from the reference point, the higher the level of construal would be, meaning higher abstract processing of information exists regarding that object. We mentally traverse the temporal distance, when an event happens, spatial distance, where it happens, and social distance, to whom it occurs, along with hypotheticality, which is associated with the likelihood of an incident to happen (Liberman & Trope, 2008; Trope & Liberman, 2010).

According to construal theory, forming a high-level construal of an object carries abstract information of that object, which fosters greater psychologically distant perception (Bar-Anan, Liberman, & Trope, 2006). High-level construal tends to be simpler, decontextualised, more coherent, and broader compared to low-level construal, which has concrete representation with an emphasis on details. The abstraction process, moving from low-level construal to high-level construal, entails a loss of unique information along with attribution of a new connotation construed from concrete

information and categorisation of those details into abstract and structured representation (Trope & Liberman, 2010).

Through the construal level theory of psychological distance, people's perception of algorithmic tasks and their associated reliance could be explained more systematically. The categorisation of psychologically distant and proximal tasks could overcome the previous theoretical constraint of algorithm aversion behaviour. This novel approach would propose a different perspective of human interaction with algorithmic task and answer the research gap. We will adopt the construal level theory of psychological distance to examine condition-dependent algorithm aversion in this paper. New hypotheses using psychological distance were developed to predict algorithm aversion behaviour.

Consistent with previous studies, we perceive the algorithmic function to be high in intelligence (Bigman & Gray, 2018), which indicates our perception of the algorithm to be formal and abstract. On the other hand, according to construal level theory, deciding for a psychologically distant task, people would collect more information before making a decision (Halamish & Liberman, 2017). Also, advising socially distant others comes with more abstract thinking and placing more weight on the essential attributes of the decision on hand (Kray, 2000; Trope & Liberman, 2010). For example, when the decision is made for other people (e.g., Logg et al. (2019) experiments), compared to oneself (e.g., Castelo et al. (2019) experiments), the appreciation and reliance on the algorithm are higher, as people feel socially distant to the object and act and collect data abstractly and more coherently compared to deciding for themselves (Halamish & Liberman, 2017). Consequently, we would argue that people would be less aversive to using an algorithm for psychologically distant tasks provided by the algorithm. The reason is that the algorithm is construed with abstract representation, and therefore, psychologically distant tasks are more aligned with algorithmic suggestions. Following this line of reasoning, we hypothesise that:

H1: Psychological distance in tasks is negatively correlated with algorithm aversion.

The mediating role of emotional engagement. It has been suggested that in situations where emotional engagement is high, statistical evidence is less influential (Freling, Yang, Saini, Itani, & Abualsamh, 2020). Consequently, people follow the more rational recommendation and would

probably rely more on algorithmic advice, compared to human advice, when it comes to psychologically distant objects. Without denying the uniqueness of each dimension of psychological distance; temporal, spatial, social and hypothetical, they all entail transcending the here and now situation by construing a mental model of what is not experienced directly (Liberman, Trope, & Wakslak, 2007; Stephan, Liberman, & Trope, 2010; Trope & Liberman, 2010). The farther the distance in each dimension, the higher the mental construal level of that task. When the level of construal is high, the perception would be abstract, schematic and decontextualised (Liberman & Trope, 2008). Therefore, the relationship between psychological distance in tasks and algorithm aversion could be explained through a mechanism. When psychological distance in a task is perceived to be high, the emotional engagement through decontextualisation decreases and therefore, statistical evidence becomes more influential (Freling et al., 2020). It is perceived that algorithmic advice is associated with statistical and rational decision-making. Consequently, we would hypothesise:

H2: The negative relationship between psychological distance in tasks and algorithm aversion is mediated by emotional engagement.

METHOD

Overall design. As within-subject data is required for answering the research question, a multilevel experimental design would be appropriate. A within-subject experiment would address the two hypotheses (direct effect and mediation) by manipulating the psychological distance in the context of the algorithmic decision aid.

Sample size. Two hundred twenty-eight participants have been invited to participate in the study (considering 80% response rate due to significant missing data).

Experimental procedure. This experiment was administered as an online survey. Participants were recruited from Amazon's Mechanical Turk (MTurk). Due to ease of access to respondents and the quality of the responses, MTurk has become increasingly popular in experimental studies (Ireland, 2019). Respondents compensated following the MTurk procedure at $5 for their time (roughly 30 minutes online). Participants who failed the attention test were excluded from the data analysis.

Experimental manipulation. Respondents read six experimental scenarios with three different tasks to indicate their preference for the algorithmic decision-making suggestions. In each scenario,

psychological distance in tasks is manipulated to be either high or low (2) for all the dimensions of psychological distance (temporal, spatial, social, and hypothetical). Overall, this process provided six data points from each participant.

Dependent variable. Participants are asked to indicate their preference to rely on the algorithm or a qualified human for each task (on a 0 to 100 scale, with 0 labelled as the relevant qualified human, 50 labelled as no preference, and 100 labelled as algorithm) (Castelo et al., 2019).

Mediator: Emotional engagement was measured through three dimensions: threat severity, personal relevance and nature of the issues in terms of health-related tasks (Freling et al., 2020).

Other variables. There are some variables that have shown to be relevant in the study of algorithm aversion at individual level, such as need for cognition, which has shown to be relevant in people's decision-making on using AI or not. These variables are measured throughout the study to be controlled in the analysis if needed. Also, level of education, gender and other demographic information will be asked from participants to avoid spurious association.

RESULT

The data is hierarchically structured and nested in two levels, within-person and between-person. Independent variables, mediator and dependent variable are nested at level one, while there might be some between-person variability among participants. While MSEM model might provide all random inercepts and random slopes, such model add unnecessary complication to our model; therefore we would use MLM approach (Preacher, Zyphur, & Zhang, 2010). Therefore, we are interested in random-coefficient regression, which examines the within-person variability effect on the outcome variable. Hierarchical Linear Modelling (HLM) software was used to analyse the proposed study.

Result. In total, we had 230 responses, but participants had to pass two criteria: 1. They had to spend more than at least 5 minutes on the assignment (27 participants failed). 2. They had to pass a simple attention test (14 participants failed) (three participants failed on both criteria). Consequently, we have 192 reliable data for analysis. (Response rate = 192/230 = 83.48%).

Manipulation check. Multilevel models are increasingly used for repeated measures data (Kenny, Korchmaros, & Bolger, 2003). In this study, we are asking each induvial to answer six

scenarios. To check if data are nested into two-level, we need to check if ICC (Interclass Correlation Coefficient) is 0 or not. So we prepared data for level 1 and level 2, while predictors (psychological distance and emotional engagement) are considered intra-personal differences at level 1, and need for cognition is considered individual differences at level two, since research has shown that individual differences influence decision performance (Phillips, Fletcher, Marks, & Hine, 2016).

Random Effect ANOVA. Partitioning variability into between-person and within-person differences to check if data is actually nested in two levels.

L1: $Y_{ij} = \pi_{0j} + e_{ij}$
L2: $\pi_{0j} = \beta_{00} + r_j$

Combined (mixed) model:
$Y_{ij} = \beta_{00} + r_j + e_{ij}$
$r_j \sim N(0, \tau)$ and $e_{ij} \sim N(0, \sigma 2)$

$\beta_{00} = 50.13$, $p<0.001$ (the average level of algorithm aversion across people is 50.13 and is significantly different from zero). $\sigma 2 = 543.24$, and $\tau = 605.63$, ICC = 52.72%. Therefore, 52.72% of variability of algorithm aversion occurs between participants and 47.28% of variability in algorithm aversion within participant, meaning the individual differences and also the condition both affect algorithm aversion. We used HLM (Hierarchical Linear Modelling) to address our question.

Plausible value for mean level of algorithm aversion is equal to $\beta_{00} \pm 1.96 * \sqrt{\tau} = 1.96$ to 98.36 reliability estimate = 0.87.

Our model is nested at level 1, as we are examining the effect of level 1 predictors (both psychological distance and emotional engagement are at level 1) on level 1 outcome (algorithm aversion).

Random Coefficient Regression fits to answer our model.

Level 1 model:
$Y_{ij} = \pi_{0j} + \pi_{1j}W_{ij} + e_{ij}$, where W_{ij} is group-mean centered.

Level 2 model:
$\pi_{0j} = \beta_{00} + r_{0j}$
$\pi_{1j} = \beta_{10} + r_{1j}$

Combined (mixed) model:
$Y_{ij} = \beta_{00} + \beta_{10}W_{ij} + r_{0j} + r_{1j}W_{ij} + e_{ij}$
$Var(r_{0j}) = \tau_{00}$, $Var(r_{1j}) = \tau_{11}$, $Cov(r_{0j}, r_{1j}) = \tau_{01}$ and $e_{ij} \sim N(0, \sigma 2)$

Testing the effect of psychological distance on algorithm aversion (H1):

$\beta_{00} = 50.14$, $p<0.001$; $\beta_{10} = -4.5$, $p<0.001$. a one unit within-person increase in condition (from proximal to distant) is on average associated with a -4.5 unit decrease in algorithm aversion. So, our first hypothesis (H1: Psychological distance in tasks is negatively correlated with algorithm aversion ✓) is supported.

Testing the effect of emotional engagement on our model (H2). Three-step mediating test has been used to analyse the data (Kenny et al., 2003) A) psychological distance on algorithm aversion controlling for emotional engagement (first step: x→y) B) psychological distance on emotional engagement and (second step: x→m) C) psychological distance on algorithm aversion controlling for emotional engagement (third step: m→y).

A) psychological distance on algorithm aversion (1st step: x→y). $\beta 00 = 50.14$, $p<0.001$; $\beta 10 = -4.5$, $p<0.001$).

B) psychological distance on emotional engagement (2nd step: x→m). $\beta 00 = 56.41$, $p<0.001$; $\beta 10 = -16.54$, $p<0.001$. a one unit within person increase in condition (from proximal to distant) is on average associated with a -16.54 unit decrease in emotional engagement.

C) The effect of emotional engagement on algorithm aversion controlling for psychological distance (3rd step: m→y). $\beta 00 = 50.13$, $p<0.001$; $\beta 10 = 0.17$, $p<0.001$; $\beta 20 = -1.8$, NS; one unit within-person increase in emotional engagement to the task is on average associated with a 0.17 unit increase in algorithm aversion. As the effect of psychological distance on algorithm aversion controlling for emotional engagement is not significant anymore, we would argue that we have a full mediation according to Bauer, Preacher, and Gil (2006).

Now we use Sobel's test to check whether the indirect effect of condition (psychological distance) on algorithm aversion via emotional engagement is significantly different from zero.

$Z = (ab)/ \sqrt{(a^2sa^2+b^2sb^2+sa^2sb^2)}$

$Z = -4.22$, $SE = 0.7$, $p < 0.001$; Goodman test: $Z = -4.2$, $SE = 0.57$, $P < 0.001$; $ab = -16.56 * 0.18 = -2.98$. $c-c' = -4.5+1.8 = -2.7$ (ab would be exactly equal to c-c' if we had single level data.)

In conclusion, our second hypothesis is also supported (H2: The negative relationship between psychological distance in tasks and algorithm aversion is mediated by emotional engagement ✓).

DISCUSSION

Despite the fact that management studies usually focus on well-established phenomena, the significant impact of the rising algorithm in the decision-making process, which is transforming the future of organisations (Jarrahi, 2018; Lindebaum, Vesa, & den Hond, 2020), needs more attention.

Through this study, we intend to provide some needed perspective to join the emerging multidisciplinary discussion on algorithm aversion in management literature.

As algorithm applications will be increasingly widespread in business (Ferràs-Hernández, 2018), the study of algorithm aversion, which refers to preference on not to rely on an algorithm when making a decision (Glikson & Woolley, 2020), will become fundamental to key managerial issues. It is crucial to understand algorithm aversion at different levels of individuals and then organisations. This article aimed to contribute to understanding algorithm aversion by providing a novel theoretical explanation for condition-dependent algorithm aversion.

Theoretical contributions. First, this paper proposes a new perspective on algorithm aversion. Previous theories in algorithm aversion literature, namely mind perception theory, could not explicate relevant aspects related to algorithm aversion variation within a person. Mind perception theory has been applied to explain algorithm aversion by assuming that the algorithm is perceived as similar to the human brain. However, algorithm makes decisions by only following statistical rules without considering the contextual situation, which is very different to how human being thinks and makes a decision (Smith, 2019). This assumption has limited other factors related to algorithm aversion literature. Through a new lens of the construal level theory of psychological distance, we would be able to bring in a new perspective on algorithm aversion. Construal level theory of psychological distance would explain how psychological distance in tasks would relate to algorithm aversion. Specifically, we would argue that people are less aversive toward the algorithm for tasks associated with psychologically distant tasks. When psychological distance is perceived to be high, emotional engagement with the task would be lower, which in turn leads to less algorithm aversion. This process indicates that through less emotional engagement, people become more evidence-based and incorporate statistically more robust suggestions using algorithmic advice. Therefore, through the construal level theory of psychological distance, we would have a better understanding of contextual effect on algorithm aversion.

Building on the theoretical assumptions uncovered throughout the study, a better explanation of algorithm aversion and human trust in algorithm would be clarified. A new theoretical explanation will enable organisations to be able to perceive how employees would react and interact when the

adoption of an algorithm occurs. Organisations could be able to adopt an algorithm more effective when employees are not aversive toward the algorithm. When algorithm aversion contextually reduces among employees, they would be more willing to collaborate with the algorithm. This strategy would enhance the effectiveness of algorithmification, as the augmentative relationship between algorithm and employee would improve (Burton et al., 2019).

Overall, this paper aims to improve the theoretical explanation of algorithm aversion through the construal level theory of psychological distance. A better theoretical explanation at the individual level would lead the research on effective algorithmification at the organisational level.

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Stream 1: Human Resource Management

Exploring the challenges of a implementing a four-day work week: an Australian manufacturing case study

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Exploring the challenges of a implementing a four-day work week: an Australian manufacturing case study

ABSTRACT

This paper uses a qualitative case study methodology to examine challenges associated with implementing a four-day work week strategy in a mid-sized manufacturing organisation. Interview and focus group feedback from 55 employees about effectively moving to an alternative work arrangement was obtained. A content analysis was conducted using Leximancer. Three main themes emerged. These were related to the ability of the team to adapt to a reduced work week or other alternative work arrangements, internal inefficiencies, communication barriers and concerns on how the workers would manage the same work in less time. Recommendations including a bottom-up approach to job crafting, exploring micro-efficiencies at the area level and to ensure there is quality over quantity in work design are described.

Keywords: four-day work week; flexible work practices; work-life balance; employee wellbeing.

INTRODUCTION

The move from a five-day to four-day work week, where employees work less hours for the same pay, has gained significant coverage in the media in recent times. This is largely driven by an increased interest from business, unions, governments, and workers (Delaney & Casey, 2022) and the enticement of a panacea of associated benefits. The four-day work week is espoused as a win for all involved and is argued to bring improvements in motivation, collaboration, workplace creativity, employee resilience and communication practices (Delaney, 2022). Further, the reduced hour work weeks "can spur innovation to enhance productivity", which provides additional evidence that makes the four-day work week a viable strategy (IPPR Scotland, 2021, p. 15).

The four-day work week strategy has been championed in the European Union, where workers have a legislated right to request reduced work hours (De Spiegelaere & Piasna, 2017). A compressed work hours four-day work week policy has been legislated for in Belgium (Bateman, 2022), and in Iceland, more than 86% of workers have exercised their right to move to shorter weekly work hours on the same pay (Veal, 2022; Stronge, 2021). In the UK, pilot programs have been implemented across more than 30 sectors (www.4dayworkweek.co.uk) and twenty Organisations from Australia and New Zealand are participating in a related pilot program that commenced in May 2022. This program involves participating organisations implementing a four-day work week model without reducing the salary of staff. However, it is also a foundation of these interventions that employees must be committed to retain at least 100% of their

productivity in the workplace (https://www.hcamag.com/au/specialisation/employment-law/australian-companies-gearing-up-for-4-day-work-week-pilot/409569). In other words, do the same work in less time, this is theorised to occur through employees being committed to find efficiency gains through better collaboration and a desire to be at work for less time.

However, there is a large gap in the related literature which addresses the implications and challenges associated with delivering the same levels of productivity in less time. Delaney and Casey (2022) raise concerns about the management led decision making that drives implementation of reduced work hour strategies, and the need for increased employee involvement for its sustained success. It is also somewhat presumptuous to assume working one-less day a week for the same levels of productivity is a simple and stress-free transition.

The specific challenges triggered by the change to a four-day work week are largely unknown. Preliminary insights have been identified by Haar (2022) and Delaney (2022) in their work with the Perpetual Guardian in New Zealand. These included the need for clarity around workforce participation and associated expectation and the need for additional support to negotiate the new working week (Delaney, 2022). Other problems involved coordinating skills and tasks required to complete work, particularly in terms of workflow (Haar, 2022).

Our research involves a case organisation, Factory1[1]. Factory1 is a mid-sized manufacturing organisation (approximately 80 employees), located in regional Australia, that produces primary products for the construction industry. The organisation was exploring the efficacy of moving towards a four-day work week with a primary objective to provide a better work-life balance for employees while maintaining current levels of productivity and profitability. The possibility of productivity gains was also an ambition of the project, but it was a directive of the CEO that this should not be at the expense of the employee's wellbeing and work life balance.

This study reports on the feedback received through focus groups and interviews with staff and

[1] This pseudonym is used to provide anonymity to the organisation is this study

management about the changes that are needed to ensure that the project objectives are met. In the next section some background research is provided, and the case example is described in additional detail. The research design is then explained, and the findings from the qualitative data are then discussed. Implications and recommendations for research and practice are provided.

RESEARCH BACKGROUND

The four-day work week (FDWW) is a flexible work practices (FWP) strategy that is a Human resource management intervention argued to enhance work life balance, employee wellbeing and support a more diverse workforce (Ferdous, Ali & French, 2021). In addition, FWP are suggested to bring organisational benefits such as reduced employee turnover (Ferdous, Ali & French, 2021) and enhanced productivity. It is also thought that these approaches are now necessary for many orgsnations to function (Avgoustaki & Bessa, 2019).

The FDWW model appears to have relatively limited empirical support of sustained benefits. In the popular media the strategy gains attention as a win for employees and a bold move from the organisations involved. The organisations involved are often seen as “forward thinkers” and “employee-centric” with authentic motivations of improving employee well-being that will bring reciprocal benefits of higher engagement, loyalty and at least maintain productivity.

The benefits of flexibility and more broadly flexible work practices have been well established (Ab Wahab, & Tatoglu, 2020; Iii, Clifton & Kruse1996). Flexibility is thought to be good for workers and as an important ingredient in a healthy workplace culture. However, the FDWW may not fit neatly into the FWPS literature. The FDWW model may have the potential to increase employee wellbeing by providing more time away from work. There are many case examples that indicate a FDWW is associated with increased productivity, an increase in job applicants and has positive effects on well-being (Laker, 2022). However, the long-term implications are largely unknown, and information associated with the organisational pre-conditions for successful implementation is relatively scant.

There is relatively limited literature indicating the prerequisites required for successful implementation of a FDWW strategy. However, to be effective the organisation requires workers who have the willingness,

ability, and autonomy to collaborate and apply job crafting in their specific areas. This is consistent with the literature around engagement and job crafting that focusses on co-workers deciding and designing together to improve their work and workplaces during change (Demerouti, Soyer, Vakola, & Xanthopoulou 2021). In other words, a bottom-up, rather than top-down, problem solving approach is required for successful implementation. Related to this, Chakraborty, Bhatnagar, Biswas and Dash (2022) found that involving workers in strategic planning at work had significant effect on the performance of employees practicing a FDWW. Other research also highlights the need to maintain a strong person-environment fit (Kristof, 1996) to support employees who must adjust to altered work conditions (Carnevale & Hatak, 2020). However, limited academic inquiry and robust research evidence suggests that for this to become a reliable strategy for organisations, it requires further exploration. Delaney and Casey (2022) also suggest that entrenched managerialist practices of performance measurement, monitoring and productivity pressures were intensified and suggest the need for greater scrutiny of the advantageous business case for the strategy.

Understanding the pre-conditions for the successful implementation of a FDWW strategy are critically important. They are needed to guide management decisions and currently there is limited information available that provides these insights. It could be considered irresponsible of management to implement a FDWW strategy if the organisation is not well-positioned for such a move. The move to a FDWW in the wrong environment may create unforeseen consequences of increased stress and pressure on employees, reduced performance, and other detrimental outcomes. In addition, without the appropriate systems in place a reduced-hours strategy may have the unintended effect of decreasing morale and increasing burnout risk among workers (Whiteoak, 2020).

In this study we attempt to provide suggestions that can support an organisation strategically to prepare for reduced hours interventions and increasing the likelihood of reaping the appropriate yield. Hence, this research explored the following research question:

RQ1: What are the organisational pre-conditions and potential challenges associated with the implementation of a four-day work week?

RESEARCH DESIGN

An exploratory single case-study research design was employed for this research. Exploratory case studies are inductive, designed to generate theory through exploration of previously unexamined phenomena (Gammelgaard, 2017; Flyvbjerg, 2006) and to provide insight into specific and complex contexts from the perspectives of different stakeholders (Flyvbjerg, 2006). The deep exploration of a single case organisation has enabled a critical, context rich insight into the real-world challenges of implementing a four-day work week.

The case organisation is a mid-sized manufacturing organisation that supplies products to the construction industry throughout Australia. The CEO of the organisation self-referred to the researchers and requested support in exploring the implementation of a FDWW. This regional Queensland organisation employed 84 people (at the time of the study) and has a primary manufacturing plant, warehouse and operations area, retail sales outlet and function, as well as staff employed in traditional administration, Senior Management, IT, and People and Culture roles. A challenge confronting this case organisation was to explore implementing a FDWW equitably across the different business functions. In addition, the application of a FDWW in a highly structured manufacturing environment was considered problematic.

The qualitative data for this exploratory case study was collected between March and April 2022. A qualitative design according to Zikmund et al. (2012), is useful when smaller sample sizes are involved, and the researcher needs to go more in-depth with everyone in the study cohort. In this case study, focus groups and interviews were conducted with staff from all areas of the organisation. After scoping the project with the CEO and Organisational Founder, preliminary interviews were conducted with staff in management roles. This included a total of nine interview with managers and supervisors in sales, IT, P&C, administration, operations, and manufacturing. Each interview lasted approximately 30 mins.

Focus groups were then conducted with most staff and were operationally structured. Ten semi-structure focus groups were conducted with 46 frontline workers. Each focus groups session lasted approximately 60- minutes and were attended by between 3 and 6 participants. To support anonymity, no demographic data was collected. In total 55 staff were involved in the interviews and focus groups which suggests approximately 65% of the staffed employed Factory1.

A single experienced facilitator generated the discussion in the interviews and focus groups. The sessions were prefaced by explaining the context involved of exploring alternative work arrangements in their work areas and included reference to the possibility of a four-day work week outcome. The participants were informed that we were seeking input from them, and we were attempting to identify barriers, strategies, and opportunities associated with any changes to the current work arrangements. In addition, to specifically investigating perceptions about challenges and benefits of different work arrangements, the open-ended questions were derived from a socio-technical systems model (see Figure 1) that explored the effectiveness and efficiency of the interactions between people, systems, tools (Whiteoak, 2020) The approach also investigates safety, satisfaction, burnout risk, morale, and the personal qualities of the workers that are found to be associated with a more engaged work force (Turato, Whiteoak & Oprescu, 2022). In response to the related literature the workplace culture, person-environment fit and levels of team cohesion in the organisation were explored.

Insert Figure 1 about here

RESULTS

To understand the potential challenges of a FDWW at Factory1, a baseline understanding of the current workplace dynamics needed to be established. This research was designed to determine workforce perceptions and experiences towards both their current workplace culture and environment as well as exploring employee perspectives in relation to flexible work. The qualitative data collected from the worker focus groups and individual interviews was analysed using content analysis through Leximancer (see Figure2).

Insert Figure 2 about here

The results obtained from the Leximancer analysis is presented in Figure 2. The results are derived from more than 8000 words of text. The Leximancer analysis is included to support the results as it provides an additional layer of rigor to the analysis. According to Harwood et al., (2015) incorporating a Leximancer analysis reduces the inclusion of possible predispositions to prior knowledge that can be gained in the data collection phases. In addition, it enables the analyst to probe for any missed avenues of theoretical exploration.

The Leximancer findings are a consequence of a consistent question protocol set that explored the culture and elements of the work environment at Factory1 that were considered important for implementing flexible work arrangements and a possible four-day work week.

The three central themes that appeared in the Leximancer content analysis that were pertinent in relation to effectively implementing a FDWW and other alternative work arrangements were broadly identified as team, communication, and time factors. Four sub areas were identified that influenced the main themes. These were highly specific to the organisation under investigation and included family, office, shift, and the lab. These content themes were then cross-coded using iterative thematic analysis coding. The final three themes that captured the issues arising in this case were: leading an efficient workforce; communication and culture and working smarter and safer.

There was enthusiasm about the idea of additional alternative work arrangements, flexibility and the FDWW from the workers. The feedback indicated the benefits were mostly associated with *"beneficial family life balance"* and *"more satisfied and happier staff"*. Others noted the benefits of having more time to decompress. This included feedback that, *"a bigger rest and a bigger time away would be great, my head is still spinning after two days, so having three would be a good to allow more time to reset"*. There were also several comments indicating that it may help reduce sick leave and that absenteeism was a major issue impacting the pressures on staff. However, participant insights revealed that although the FDWW model was a worthwhile ambition, improvements were needed before it could be implemented successfully. There was agreement that flexibility should be explored but changes associated with the FDWW should be considered cautiously.

Leading an Efficient Workforce

The most prominent theme in the data labelled "Team" related to a range of issues that were identified about the ability of the team to adapt to a reduced work week or other alternative work arrangements. A recurring issue was the challenges with managing the different areas of the business. The participants often indicated they were *"already stretched"* and there were *"a lot of problems with inefficiencies"*. Participants noted the need for *"a tailored approach"*. Other comments included concerns about resourcing and *"if a department is understaffed it will be hard to improve flexible work practices"*.

As evident in Figure 2, because of the challenges to manage flexibility and to improve efficiencies, the leadership of Factory1 was considered pivotal in driving the process associated with implementing an alternative work arrangement. This was associated with the need for more training and the ability of the workers to manage if hours are reduced. Further, conflicting team approaches also was thought to potentially hamper the outcomes. In sum, a key concern of the participants centred around the need to improve a range of processes in the workplace that would lead to the needed efficiency improvements to allow for reduced hours across the organisation. They also noted the critical importance of working as a team, finding team-level efficiencies and the need for increased engagement and continuous improvements as critical for the successful implementation of a reduced hours strategy.

Communication and Culture

Another key theme in the feedback revolved around communication. Broadly participants felt that communication needed to improve on several fronts. Some said that *"communication is terrible"*, *"there is poor feedback"* and *"there is little involvement of the frontline in decisions"* this was thought to lead to less-than-optimal outcomes. While communication breakdowns were mostly attributed to managers and internal systems.. the feedback received also highlighted that communication was problematic across work areas and that silos were leading to additional inefficiencies. The participants indicated that improving communication across the areas and teams would facilitate the likely success of the FDWW strategy.

Many participants also noted the connection between communication and morale. It was noted that communication improvements were needed, and better communication (among the workers and from the leadership team) impacted morale. It was suggested when *"morale is down communication drops within the team"*. Morale was described as *"up and down"*, *"fluctuating"* and *"mixed"*. While some thought that morale was *"pretty good"* in their area, wide agreement was that it was often impacted by lack of resources and a range of external pressures that were driven by Covid and supply problems.

The strong "family" orientation of the workplace featured in the data, and this was related to the style of communication and connected to morale. One participant stated that the organisation was *"like a family in every sense of it"* and others indicated *"it's a family here"*, and *"we are very family orientated"*. The family orientation

of the business was also considered *"a double-edged sword"* by some. The feedback suggested that it can lead to people having a high sense of entitlement around decisions and over-burdening themselves with organisational problems. One manager noted that the *"family culture is actually detrimental to change"*.

Also prevalent in this theme associated with communication was a need to change and improve systems. A lack of necessary systems was often described and many of the participants felt this needed to be improved at the team level. This was also linked back to inefficiencies and communication problems. Comments associated with this included, *"there needs to be more well-timed communication within and between departments and consultation with effected staff when management are making changes"*, *"more inter-departmental communication needed"*, and *"I believe a large part of the problem with the way each department functions is a lack of understanding of what each department does to support the business"*. All these issues were considered as barriers to change associated with implementing a FDWW. Concerns were also raised about the impact that some alternative work arrangements and the FDWW would have on the culture and what that meant for people working in the office versus working at home. Many of the participants described the supportive culture that existed among the office staff and the need to protect this.

Working Smarter and Safer

A third, and less critical element in the results was associated with time. Participants described how when they *"work at home we get more done"*. However, concerns were raised about having enough time to complete their work if they were operating on FDWW model. Safety was also regularly mentioned in the data as being connected to improved plant processes and very relevant for the different shifts within the workplace. The general view was that safety should be a key consideration in any changes to the work arrangements. This was attributed to leadership and the team. A case specific issue associated with staff capacity in the laboratory was often flagged as requiring attention. The important role of lab technician and quality control was highlighted as critical to allow for workplace efficiency gains needed to move towards alternative work arrangements and flexibility.

DISCUSSION AND RECOMENDATIONS

The three themes identified in this research suggest that employee engagement strategies are required to address the challenges of implementing a four-day work week. The Factory1 workforce has revealed the need for

improvement throughout the organisation. Our analysis indicates that increased collaboration and team decision making practices may improve workplace environment and efficiencies. Concern around the impact of flexible work practices in an environment already under pressure featured strongly in our findings. Despite this, the desire for work-life balance through flexible work was established.

We suggest that the four-day work week is a significant change exercise, and that organisational readiness needs to be addressed prior to its implementation. With this in mind, we offer the following recommendations for employee engagement strategies for both improved workforce efficiencies and in designing appropriate flexible work strategies tailored to the functional departments of Factory 1.

Engage Employees in Job Crafting

Worker concerns about efficiencies and workplace performance featured in our findings. This suggests that the workforce at Factory1 is engaged and committed to the success of the organisation. However, findings also indicate a weak employee voice, and a disgruntled attitude towards management decision making. Our research found that the workforce wanted to contribute to improving Factory 1. Job crafting, a bottom-up job redesign strategy, has been shown to "optimize and enrich work environments and promote meaning, motivation, and satisfaction" amongst employees, and promote well-being through proactive involvement in organisational decision making (Lysova et al., 2019; Sánchez-Cardona, Vera, & Marrero-Centeno, 2021, p. 782). Job crafting depends upon individual initiatives to improve their work. It involves intentional and strategic consideration of a role by the employee enacting it, and triggers change for both the role and individual by increasing job resources, reshaping job challenges and minimising job hindrances (Bakker, 2017; Lysova et al., 2019). This deep, individual level understanding of work can be harnessed to stimulate continuous micro-improvements, which has been found to be effective in small and medium sized manufacturing organisations (Sraun & Singh, 2017). Job crafting can also contribute to improved management of workflow when combined with team decision making, especially regarding workflow issues such as interchangeability of tasks and combatting absenteeism (Haar, 2022).

Consider Quality Over Quantity in Work Design

An important complication of an engaged workforce at Factory1 is an over-commitment of workers and a tendency towards over-work. When management drive production outcomes with insufficient concern for

work quality, engagement can be reduced. This can create a situation which may compromise morale and contribute to burnout risk (Whiteoak, 2020). Further, a cultural understanding of the Australian workforce is that commitment to work requires long hours, particularly for men in managerial roles (Sheridan, 2004). This has contributed to a culture of "chronic presenteeism" (Sheridan, 2004, p. 222) that may present a significant challenge to Factory1 and to similar Australian organisations seeking to implement a four-day work week. This suggests that a shift to emphasising work quality through key performance indicators, and through informal workplace feedback may be required if reduced work strategies are to be successfully implemented at Factory1 in the future. It may also indicate that flexible work strategies tailored individually to leverage work-life balance preferences (Mansour & Tremblay, 2021) that enhance work capabilities aligned with quality work are preferable to an organisation wide four-day work week policy. This is supported by recent research that found that flexible work strategies emphasising work quality had better employee wellness outcomes than a reduced hours strategy (Li & Wang, 2022).

Encourage Team-Based Decision Making

A desire for co-worker collaboration and a weak response to managerial decision making and leadership initiatives suggests that a team centred approach to decision making may be beneficial at Factory1. The new responsibility that comes with job crafting and job redesign initiatives requires workers to draw on their knowledge, skills, abilities, and needs, to make decisions. Both structural and social support (Mansour & Tremblay, 2021) is required for the Factory1 workforce to do this. This means that strategies to enable and empower teams to collaborate both while working and at scheduled, structured times, is critical. Such strategies could potentially counteract the issues identified where weak employee voice and poor collaborative policy was evident (Delaney & Casey, 2022), and maximise the benefits of inclusive approaches to decision making. A recent study in a manufacturing work environment (Guidetti et al., 2022) found employees acting individually to make workplace safety decisions had an increased risk of employee exhaustion and burnout. However, when collaborative and inclusive approaches were undertaken, with supervisor support and organisational commitment to safety, employee well-being improved (Guidetti, et al. 2022).

CONCLUSION

The insights garnered from Factory1's workforce indicate a need for better engagement to determine how and when work is done within teams and across the organisation. Work design needs to be collaboratively

considered for improved efficiencies, and is likely to have the additional benefit of increasing morale and trust amongst the workforce. While the four-day work week presented as a novel solution to providing better work life balance at Factory1, both workforce insights and extenuating circumstances triggered in the external environments have influenced how Factory1 is positioned to offer flexible work options to its staff. The evidence indicates the need for the organisation to be in a stronger position before attempting to implement a FDWW. This paper has provided some tangible strategies to support understanding the pre-conditions of a FDWW and highlighted the significance of seeking organisational insights prior to this strategic commitment.

This research has revealed that employee voice is critical in informing flexible work strategies. The notion that flexible work is desirable needs to be tempered by the characteristics of the workforce it is intended to benefit. Historically, flexible work practices have been implemented from the top down (Martin & Macdonell, 2012; Bontrager, Clinton & Tyner, 2021). Our analysis of Factory1 suggests that a more strategic approach would be an informed and consultative bottom-up strategy before implementing a four-day work week.

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FIGURES

Figure 1: A socio-technical systems theoretical model for examining burnout

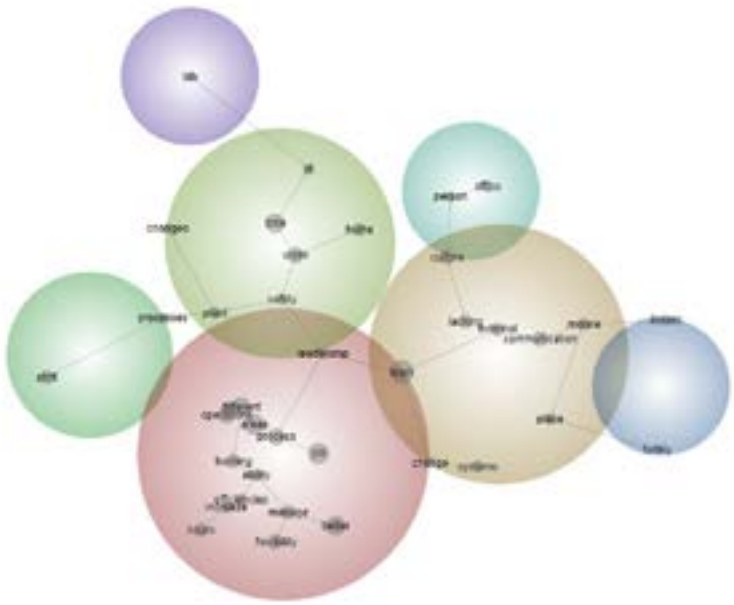

Figure 2: Leximancer Content Map of Participant Feedback

Technology-Enabled Service Delivery in Environmental Charities

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Technology-Enabled Service Delivery in Environmental Charities

ABSTRACT: *The implementation and improvement of technology use by non-profit organisations is important given the significant role technology plays in the delivery of services in communities. By examining six Australian environmental charities, this study aims to understand how non-profits adopt and adapt digital technologies when delivering services to their stakeholders, and the roles technology plays in fulfilling their mission. We examined publicly available documents of six large environmental charities in Australia, to understand how technology in many presentations supports service delivery and communication with stakeholder groups. Our findings provide insights into how non-profits align technology, stakeholders and service delivery, and build understanding of what technology enablement brings to the non-profit sector.*

Keywords: Environmental charities, technology use, non-profit organisations, information technology, information systems, digital technology

INTRODUCTION AND BACKGROUND

To fulfill their mission, environmental charities must be actively and effectively engaged with multiple stakeholder groups. Technology can play an important role in addressing issues of equity of access to services, timeliness, and cost-effectiveness of service delivery, and deepen engagement with stakeholders. The aim of this paper is to explore and identify patterns of how environmental charities use diverse technologies to enable their varying missions and service provisioning. Through case studies of six environmental charities in Australia, this paper maps the alignment between technology use, the stakeholder groups and service-delivery, with the overarching aim of mission fulfilment.

Throughout this paper, the term ‘charity’ will refer to organisations registered with the Australian Charities and Not-for-profits Commission (ACNC). To be registered with the ACNC, an organisation must be not-for-profit, have only charitable purposes that are for public benefit, and not be an individual, a political party, or a government entity. Similarly, we use the term ‘environmental’ charities in this paper, to refer to charities with a principal purpose of either (i) the protection and enhancement of the natural environment, (ii) the provision of information or education, or (iii) the carrying on of research about the natural environment. As the term ‘technology’ is very broad, this paper focuses on the use of software-enabled digital technologies (e.g., electronic tools, systems, devices, and resources) that generate, store, or communicate data and information specifically to aid charities in achieving their mission through the delivery services to relevant stakeholders. This will not include technology used to directly reduce society's impact on the environment, such as new irrigation systems that reduce water wastage on a farm or recycling systems.

Studying technology use in this context within the non-profit sector is important as organisations typically lack up-to-date technology systems when compared to the private sector, due to both funding constraints and lower levels of expertise (McNutt, Guo, Goldkind, & An, 2018). An in-depth analysis of the ways in which non-profits are using technology contributes to identify patterns of where technology is or could be effectively used within the non-profit sector.

This study focuses on large environmental charities in Australia, and is driven to answer the following questions: (1) *what are charities' main uses for technology?* and (2) *how do technologies enable service delivery by charities?* The paper contributes to practical understandings of the important work of environmental charities in Australia, focusing on their stakeholder engagement. Theoretically, we contribute to the literature around technology use for service delivery, adding the new dimension of alignment to the discourse. This progresses the field by analysing how charities differentiate and adopt diverse technologies to best meet the needs of different stakeholder groups and fit with different organisational missions and purposes.

The next section of this paper offers a brief overview of the literature on technology use in non-profit organisations. The research methods are then outlined, and our analysis is described. We next present our empirical findings, leading to a short discussion of key findings. In conclusion, we highlight our contributions to research and practice, note limitations of our study, and suggest useful directions for future research.

LITERATURE REVIEW

Academic literature on technology use for service delivery in non-profit organisations is surprisingly scant. Much of the current literature pays particular attention to social media platforms, including Twitter and Facebook (e.g., Campbell & Lambright, 2020) as well as YouTube and Instagram (Mato-Santiso, Rey-García, & Sanzo-Pérez, 2021; Waters & Jones, 2011). There is also attention paid to organisation's own websites and their content (Kim, Chun, Kwak, & Nam, 2014).

The literature on technology in non-profit organisations reveals several contrasting themes around the purposes of technology use—such as for fundraising, stakeholder engagement, and education/advocacy (McNutt et al., 2018). More recently, attention has focused on the provision of public education, both in the broadest sense about an organisation's mission, and around specific activities and projects. A

common example is providing information about the United Nation's Social Development Goals and how the non-profit organisation's work connects with the goal(s) (Yigitcanlar, 2021).

Previous studies of technology in non-profit organisations have not dealt with the challenges of aligning technology and with organisational mission. Most studies have only focused on one element of a triad – either a particular technology or platform, a particular stakeholder group, or a particular form of service delivery to fulfill an organisation's mission (Sardi, Sorano, Giovando, & Tradori, 2022). Such approaches, however, have failed to examine the ways in which non-profits and charities tailor the fit between these three elements for efficiency and effectiveness. This is the gap we explore in this paper, outlining the ways in which the six case organisations examined have used technologies to align certain stakeholder groups with certain service delivery programs, with the overarching goal of mission achievement.

There are several key peer-reviewed journal articles about technology use and non-profit organisations which inform this research. The most recently published is by Ihm and Kim (2021a), which examines the cultural values and communication strategies of Korean non-profit organisations. Interestingly, they separately considered external communication (such as with funders, beneficiaries and partners) and internal communication, noting that these are distinctive communication processes that should not be bundled together. Ihm and Kim (2021a) concluded that 'Depending on their cultural values and practices, NPOs seem to maintain complex ways of mixing and choosing diverse ICTs' (Ihm & Kim, 2021a, p. 689)

McNutt et al. (2018) provided an excellent and wide-ranging overview of the relationship between technology use and non-profit organisations over time. Looking at data from a survey of technology and non-profit organisational behaviour in the US context, they state that 'using ICT to transform service delivery, or indeed, to offer something completely new, is happening less frequently in the sector' (McNutt et al., 2018, p. 13). However, they also note funders' interest in service delivery, 'an area where non-profit leaders have not invested their ICT expenditures' (McNutt et al., 2018, p. 13)

Most relevant to this study is the work of Hackler and Saxton (2007)—which links information technology use with mission-related outcomes. Based on data from a 2001 US non-profit

survey, they identified six domains or competencies for technology use in non-profit organisations, and then looked at how each supports mission-related uses—highlighting the need to 'more directly link the acquisition and utilization of IT to the organizational mission' (Hackler & Saxton, 2007, p. 475).

Collectively, these three articles suggest that there is a relationship between the forms of technology adopted, the stakeholder groups engaged, and the services delivered against mission. This alignment is supported by two recent professional reports in the grey literature. The first is the yearly report by Infoxchange Group (2021) on digital technology in the Australian non-profit sector, which notes the highest technology priorities for the non-profit sector as being improving information security, data collection and the utilisation of websites and digital marketing. The second is a recent report by McKinsey & Company on sustaining and improving the health of the Australian non-profit sector (Dillon et al., 2021), which sets out a four-step process to increase technology uptake.

METHOD

We employed a multiple case study approach (Yin, 2014) of purposively selected environmental charities and used content analysis (Weber, 1990) of publicly available documents as the primary evidence-source. The cases were chosen from the ACNC registry based on the following criteria: (i) classified as a 'large' charity; (ii) had a goal/mission motivated by positively impacting the environment, (iii) operating out of either Queensland or New South Wales, and (iv) preliminary scanning confirmed they used technology to support/ achieve their goal/mission. Six charities that met these parameters were selected, to form 'pairs' based on similarities, as outlined in Table 1. The three by two configuration of our case organisations is particularly useful as it supports comparisons within and between pairs. We next introduce the case studies, and then discuss how the data coding and analysis took place.

Insert Table 1 about here

The Cases

The *Australian Packaging Covenant Organisation (APCO)* is based in New South Wales and works with businesses and the Australian Government to reduce the amount of packaging within the supply chain going to landfill. They aim to create a packaging value chain that 'retains the maximum value of the materials, energy and labour within the local economy'(Australian Packaging Covenant Organisation, 2020). APCO provides tools, resources, and programs that its members can utilise to design packaging that is more recyclable, resource-efficient and has a reduced environmental impact.

Container Exchange (COEX) was established in 2017 and introduced the Queensland wide scheme 'Containers for Change' on November 01, 2018. This scheme aims to 'reduce beverage container litter, increase recycling efforts and help the community to benefit through charities, community groups and not-for-profit organizations participating in the scheme' (Container Exchange, 2018). COEX does so through a container refund scheme which allows people to exchange eligible drink containers at designated return sites for a 10c refund, which they may choose to donate to charities.

Climate-KIC Australia (CKA) is a Knowledge and Innovation Community (KIC) modelled on the European Institute of Innovation and Technology (EIT). Established in 2017, and based in New South Wales, CKA's mission is for Australia to be 'climate resilient and liveable with a zero-carbon economy' (Climate-KIC Australia, 2019). To achieve this, CKA links academia, business, entrepreneurs, government, and investors to drive and participate in a range of transformational activities that enhance and develop the ecosystem.

Queensland Conservation Council (QCC) has been bringing together communities, conservationists, and organisations across Queensland to protect, conserve and sustain Queensland's natural environment since 1969. Through campaigns and advocacy, QCC has created National Parks and accelerated the government's switch to renewable energy through programs like Power-up Queensland (Queensland Conservation Council, 2020).

Desert Channels Foundation (DCF) supports the work of Desert Channels Queensland (DCQ), one of 14 natural resource management (NRM) groups within Queensland. Formed in 2009,

DCF supports work with communities, governments, and current and traditional owners of the land. DCF aims to protect Australia's biodiversity and preserves its productivity through 'funding education, awareness, research and project activities' (Desert Channels Queensland, 2021).

Terrain Natural Resource Management (Terrain NRM) was established in 2003 and is one of 54 NRM bodies in Australia. The purpose of the NRM network is to connect governments, local groups, and landholders. The peak body of the Wet Tropics in Far North Queensland, Terrain NRM aims to empower communities to solve the region's environmental challenges through using natural resources sustainably (Terrain NRM, 2020).

Data Collection and Analysis Procedures

The selected charities' annual reports for the years 2019-2021 and current website pages were downloaded and analysed. These documents provided data on each charity's technology use, evidencing specific activities and organisational actions concerning how they use technology. NVivo was used as a data management and analysis tool. Data coding took place over two rounds, with three researchers involved directly in the coding process, and data collaboration sessions held with all five researchers after each round of coding.

The coding started (*Round 1*) with the extraction of any evidence of the charities' use of technology as reported in their website and/or annual reports. Inductive coding guidelines of Glaser and Strauss (2017) were applied to the collected documents. 300+ verbatim open codes were created in this round. In *Round 2*, the coding was highly iterative, where the open codes were grouped to form coding-families, which resulted in meta themes that captured: (a) different technologies used, and (b) different technology-enabled service provisioning.

FINDINGS

Our conceptualisation of technology use within the focal environmental charities considers digital technologies (software-enabled technologies) applied specifically to facilitate the delivery of quality services and to achieve targeted organizational mission objectives. This section highlights how the six charities we examined utilised technology to facilitate serving various stakeholders. We grouped the technologies we identified from our inductive analysis into four (4) broad categories: (i) *automated machines*; (ii) *digital platforms*; (iii) *mobile applications*; and (iv) *web portals*. Table 2

describes the different categories of technologies used.

Insert Table 2 about here

Technologies within these categories were used to achieve different objectives, aligned with the varying organisation missions and how they provisioned their services. Our analysis resulted in 4 key organisational objectives that the technology enabled across the cases, namely: (i) *Advertising and Awareness*, (ii) *Education and Engagement*, (iii) *Improved service delivery*, and (iv) *Provision of Regular Performance Snapshots*. Figure 1 visually summarises how the different technologies enabled the identified core organisational objectives; while Table 3 provide a snapshot of sample cases depicting how the technologies used aligns with the organizations' service provision. We use the three core categories of environmental services as introduced in the case selection (see Table 1).

Insert Table 3 about here

Insert Figure 1 about here

The data analysis shows that technology plays significant roles in the attainment of multiple not-for-profit mission objectives. In the subsections below, we analyse the different objectives for technology use; how these targets were achieved using the featured technologies, and how each target area aligns with the core organizational service provisions.

Advertising and Awareness

Advertising and awareness refer to efforts by the focal environmental charities to promote and build public understanding of their different initiatives (using various technological capabilities). Such initiatives may include packaging recyclability (by APCO)—aimed at increasing the recycling of packaging, and renewable energy generation (by Climate-KIC)—aimed at encouraging the generation, distribution, and use of renewable energy between corporate buyers and service providers. To build awareness, environmental charities leveraged several technological capabilities. For example, *Climate-KIC's* use of an online digital platform, the *Business Renewals Centre – Australia* (BRC-A) allows members to showcase their projects. BRC-A is an online marketplace platform that provides

developers the opportunity to list their renewable energy projects and provide a range of information (e.g., minimum term and purchase volume)—thereby assisting buyers to understand the market and helping connect buyers and sellers. Similarly, the environmental charities used web portals to facilitate the uptake and sustainability of environmental initiatives. For example, APCO developed a new digital portal, the *Member Centre*, that allows members to track obligations (e.g., the status of their annual reports and action plans). Other technologies and channels used to build awareness include social media sites (e.g., Facebook, YouTube) as well as print (e.g., newspapers, newsletters) and electronic (e.g., radios, televisions) medial channels. By utilising these different technologies, environmental charities were able to record measurable progress in the uptake and delivery of their services. For example, in 2020, QCC reported that through their advertising and awareness campaigns, dozens of people signed up to volunteer through their website. In a similar vein, COEX recorded significant increase (over 200% between 2020 and 2021) in the number of people taking steps to learn about their initiatives.

Education and Engagement

A key focus of environmental charities is to educate and positively engage with different stakeholder groups regarding the uptake and ongoing use of their various environmental initiatives. Technologies that are instrumental in this regard include digital platforms, mobile applications, and web portals. Although these technologies vary in their operational context, a common theme is their ability to foster engagement and educate diverse interests. Each technology was tailored to achieve specific objective(s), sometimes using specialised channels. For example, Climate-KIC's BRC-A roadmap—an online tool hosted on the BRC-A platform—was used to educate buyers and to bring standardisation to their corporate agreement transaction process. This tool, which offers insight into customer options and contract negotiating tactics and procedures, is crucial to the actualisation of renewable energy commitment by participating companies—a cause championed by Climate-KIC. Most of the environmental charities also created web portals to facilitate engagement with different stakeholder groups. For example, in 2020, QCC held over 23 webinars for their members using Zoom and YouTube channels. These webinar series offered training sessions to upskill members and facilitated digital spaces to help keep people connected. A similar objective was achieved by

Container Exchange using the *Change.Bot* feature on their Container Exchange app, which served as a contact centre designed to improve customer engagement and to answer frequently asked question (FAQs).

Improved Service Delivery

We found that technology is a useful asset in advancing their own sustainability and improving service delivery for the environmental charities we investigated. For example, the deployment of reverse vending machines across several cities in Queensland enabled COEX to make it easier for people to recycle their containers. In April 2022, COEX reported that the introduction of the reverse vending machines—a technology designed to allow the disposition of a recyclable container in exchange for rewards—led to the record-breaking collection of over 2.2 million containers (with 217,059 collected in March 2022 alone). Similarly, with the development and launch of mobile applications, the environmental charities recorded significant improvement in service delivery. For example, the launch of the 'Fulcrum mobile app' by Desert Channels provided participating communities with a means of reporting natural resources issues as well as capturing feral animals and weed locations. These data were valuable in making on-ground decisions regarding the effective management of natural resources.

Provision of Regular Performance Snapshots

To demonstrate the value of their services and engagement to various stakeholder groups, environmental charities utilise technologies to provide regular performance snapshots both for their customers and for internal use. Performance snapshots provide access to regular and/ or real time information and feedback on initiatives. For example, the APCO annual reporting tool is an online platform that allows APCO members to complete their annual report and action plan; and the APCO packaging sustainability framework facilitates progress tracking and impact assessment. Desert Channels developed a community research portal which provides access to real time information regarding natural resource management for effective decision making. In 2021, COEX reported that its introduction of a digital reporting tool was responsible for enhanced visibility of their scheme performance—providing visibility of customer interactions and valuable insights on customer demographics—all of which were instrumental in streamlining business process to improve

information efficiency.

DISCUSSION

The results of this study demonstrate that non-profit organisations are utilising different technologies to tailor their service provision to key stakeholder groups. The variety of mechanisms and approaches adopted by the organisations are notable and suggests a degree of responsiveness and experimentation by non-profits in their service delivery to stakeholders. One of the key findings from this study is the realisation that the participating organisations actively align diverse technological capabilities to achieve unique mission objectives in Recycling / Packaging; Conservation; and Education/Advocacy—covering multiple stakeholder groups (e.g., customers, manufacturers, resource managers, etc.).

The implications and relevance of these findings relate to the allocation of resources by non-profits in the most efficient and effective ways. It is evident that technologies are providing multiple options to directly connect different stakeholder groups with services delivered by non-profits such as (1) renewable energy generation and distribution (e.g., Climate-KIC), (2) reduction in packaging and improvement of packaging design for recyclability (e.g., APCO), (3) promoting economic and environmental impact initiatives (e.g., COEX), as well as (4) monitoring and managing natural habitats (e.g., Desert Channels)— and the list here is not exhaustive.

As mentioned in the literature review, prior studies tend to focus on one aspect or element of the alignment between stakeholders, technologies, and mission. Our findings offer preliminary, exploratory evidence that non-profit organisations address all three at a strategic level, whether by initial design or by evolution through both stakeholder and internal feedback. These design and feedback mechanisms are outside the scope of this study but are worthy of future research.

The six domains of technology competencies developed by Hackler and Saxton (2007), and three mission-related uses of IT are extended through this study. Our findings regarding Advertising and Awareness; Education and Engagement, Improved Service Delivery and Provision of Regular Performance Snapshots map to the organisational mission/objective and target of technology use (see Figure 1).

We found no significant misalignment between technology use and non-profits' mission, noting instead that the use of technology is fit-for-purpose. What is unclear is how the alignment of IT at the operational level with stakeholder needs changes over time, or in response to external events and shifts. It would be remiss not to note the impact of the COVID pandemic on technology adoption and uptake as both non-profits and stakeholder groups moved rapidly to change modes of service delivery in response to uncertainty and lockdowns in many Australian states.

CONCLUSION

This study set out with the aim of assessing the uses and importance of technology in the service provisioning of environmental charities. The objective of this study was to identify what technologies were being used by six case organisations, to provide services to their key stakeholders, and thus deliver on their missions. Our findings regarding the alignment between these three elements – technologies, stakeholders, and missions – contribute to and extends the literature on technology enabled service delivery and mission fulfilment in the not-for-profit sector.

Our findings will be of interest to non-profit sector organisations and funders who seek to improve and increase the use of technologies in non-profits to enhance their sustainability. Individual organisations may also benefit from thinking about the alignment within their own work and paying greater attention to technology as a dimension of their overall strategy. Stakeholder groups can be more active voices in their non-profit partnerships, utilising technology-enabled means to do so.

We acknowledge several limitations of this small-scale, exploratory study. Our focus on large charities excluded those with less revenue, for whom technology choices are more limited. By focusing on environmental charities, we did not consider those working in other sectors, for example health or human services, where service delivery to stakeholders is arguably more complex. Further, a larger sample and correspondingly different research methods and design would improve the generalisability of future research. Such future research might address unanswered questions around the design and resourcing of technology strategies, incorporate the perspectives of external stakeholders, and consider arguments against technology adoption in non-profits. (Campbell & Lambright, 2020; Glaser & Strauss, 2017)

We recognise and pay credit to the environmental charities that work in diverse ways to

benefit to the Australian community. Beyond our interest in their technology alignment, we value and appreciate the multiple ways in which they deliver on their commitment to their environmental missions.

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TABLES AND FIGURES

Table 1. Summary overview of the six environmental charities selected

Mission focus	**Recycling / Packaging**	**Conservation**	**Education/Advocacy**
Charities	**APCO** **Container Exchange**	**Desert Channels QLD** **Terrain NRM**	**Climate-KIC Australia** **QLD Conservation Council**
Similarities	- Packaging and waste reduction. - Recycling management.	- Natural resource management - Economic & Environmental sustainability	- Harmful emissions reduction - Nature and biodiversity conservation - Collaboration towards a safe climate.

Table 2. Technologies used by the environmental charities

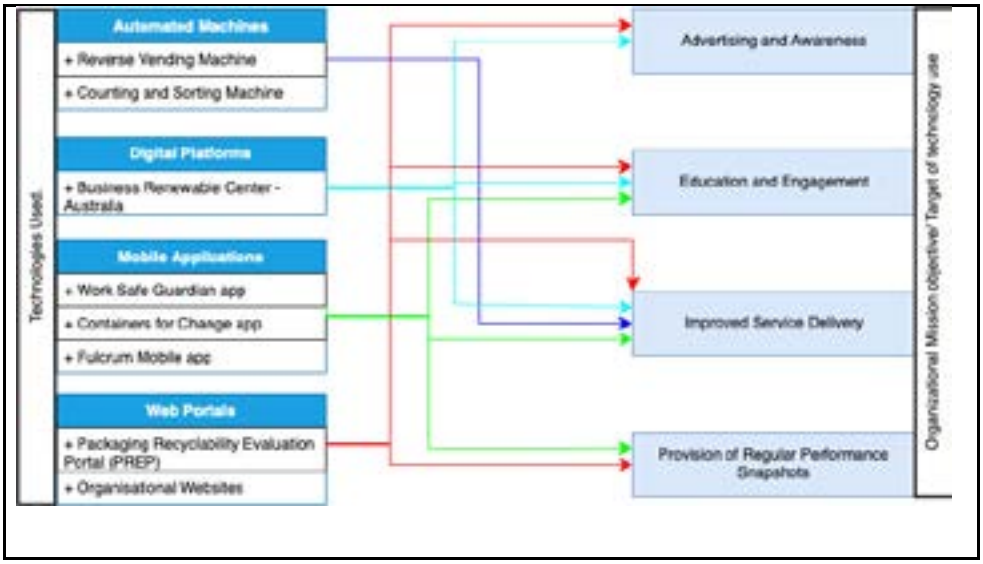
Technology	**Description**
Automated Machines	Automated solutions (e.g., reverse vending machines that use shape recognition technology to facilitate recycling and packaging).
Digital Platforms	Online marketplaces (e.g., Business renewables centre that connects service providers and corporate buyers seeking offtake regarding who can help facilitate their deals).
Mobile Application	Mobile, digital applications that facilitate customer access to packaging and recycling information and facilitate interaction between environmental charities and their diverse stakeholder groups.
Web Portals	Online tools (e.g., websites) that promote the sharing of information with different stakeholder group.

Table 3. Technology Alignment with Organizational Service Provisions

Technology Used	**Organizational Service Provisions**		
	Recycling/ Packaging case	**Conservation case**	**Education/ Advocacy case**
Automated Machines	**Reverse Vending Machines** were launched in 2020 by *COEX* to facilitate efficient and convenient container collection, and to encourage participation in recycling by locals and	Not Applicable	Not Applicable

	other stakeholder groups.		
Digital Portals	Not Applicable	Not Applicable	**Business Renewables Centre – Australia (BRC-A)—** is a member-based digital platform designed by Climate-KIC to provide buyers and professional service providers the ability to search for available projects and contact developers directly.
Mobile Applications	**The Container for Change app** was launched to facilitate customer engagement with recycling—by enabling customers to find their closest container refund points (CRPs) and scan containers to check eligibility from any location.	**The Fulcrum App** was developed by *Desert Channels* to facilitate their work on fire threat management. The app assist observers to gather data and calculate fire danger index—which helps to reduce fuel loads and future bush fires.	Not Applicable
Web Portals	**Packaging Recyclability Evaluation Portal (PREP)** is an online portal launched by APCO that allows members to assess the recyclability of their packaging in the Australia and New Zealand systems.	**Community Mapping Portals** (e.g., Barron Catchment Care) were created to facilitate data collation and dissemination regarding the whereabouts of ideal habitats, future population trends, and the potential effects of changing climates.	**Social Media Portals** (e.g., Facebook, Instagram, YouTube, etc.) were utilised by *QCC* to share, connect, collaborate, and strengthen their scheme to conserve and restore wildlife.

Figure 1. Organizational Missions and Technologies Used



Stream Number: Requested
Digital Transformation Towards Ambidextrous Learning Organization using Cloud Computing: A Systematic Literature Review

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Digital Transformation Towards Ambidextrous Learning Organization using Cloud Computing: A Systematic Literature Review

ABSTRACT: *An ambidextrous learning organization (ALO) can simultaneously engage in explorative and exploitative learning to create a continual learning environment. We argue that the development of such an environment is possible only when organizations adopt digital transformation of learning processes using cloud computing. However, learning environments are the least structured resources for most organizations. Thereby, we incorporate the theory of ambidexterity and organizational learning together to conceptualize a pathway towards an ALO. To understand these phenomena, this systematic literature review identified 33 journal articles from 2015 to 2022 and promoted that cloud computing and continual learning offer ambidextrous outcomes for organizational learning. We identified 15 enablers that support ambidextrous learning and propose a conceptual framework for developing a continual learning environment.*

Keywords: ambidextrous learning organization, cloud computing, digital transformation, organizational learning, innovation, knowledge management

INTRODUCTION

Learning is a vital element for an organization to develop and evolve. Organizations with higher learning capacity will be able to respond to environmental challenges faster and better than other organizations (Hadji, Gholizadeh, & Naghavi, 2022). The concept of a learning organization (LO) arose from the notion that continual learning should be encouraged, where every employee transforms into a learning unit and learning becomes a core organizational strategy (Senge, 1990). LO is an entity that makes efforts to converge the process of learning into its own system, to let it be repetitively practiced and continuously improved (M. Kumar, Paul, Misra, & Romanello, 2021).The ultimate aim of LO is to develop new knowledge and to share it among co-workers for the benefit of the organization. However, for an organization to become an LO, a learning environment must be created. Advances in digital technologies, such as artificial intelligence, big data analytics, cloud computing, and Internet of Things, afford tremendous opportunities to generate learning environment in an organization using Information Systems (IS). Organizational learning and LO are two different aspects, but many times scholars have used them interchangeably (M. Kumar et al., 2021). Organizational learning is a phenomenon or an activity that facilitates learning in any organization and learning occurs either from routine experiences of the employees or by acquiring knowledge from outside the boundaries of the firm (Alonazi, 2021).

In this study, we consider a learning environment as a cloud computing service that supports organizational members' coordination by acquiring knowledge and allowing them to complete their tasks more efficiently (Hwang, Wang, & Lai, 2021). Furthermore, in order to incorporate effective learning inside the organization, one can take the lens of *ambidextrous learning* which is defined as the simultaneous

pursuit of exploratory learning and exploitative learning (March, 1991). Exploration entails innovation, experimentation, search, and discovery whereas exploitation, in contrast, is linked with efficiency, selection, refinement and implementation activities (Tushman & O'Reilly, 1996). Exploration and exploitation, therefore, essentially require different strategies, organization structures and contexts. However, simultaneously executing these processes generate knowledge for efficient learning to meet the requirements of the firm. Digital transformation has occurred in organizations at a rapid pace but most organizations have not utilized the full benefits of digital transformation. Prior studies support that digital transformation improves ambidextrous learning in an organization (Scuotto, Arrigo, Candelo, & Nicotra, 2019) as the prevalence of digital infrastructure has enabled worldwide access to open knowledge in a more convenient and accessible environment that facilitates explorative and exploitative learning simultaneously, thereby achieving ambidextrous learning.

In the process of creating a learning environment, an organization should rely on a broad and diverse knowledge base and embrace digital transformation. Today, an incredible amount of information is generated by every digitally enabled entity that can be combined with the organization's existing resources to lead an organization towards an LO (Bhimani & Willcocks, 2014). However, in most organizations, employees refer to the internal knowledge available in the organization and have less consideration for exploring external knowledge using digital technologies (Rupčić, 2018), despite the fact that the majority of knowledge is outside the boundaries of the organizations (Lee & Kim, 2019). Moreover, many organizations focus on nurturing exploitative learning while inhibiting explorative learning (Lam, 2019; March, 1991). This limits the learning capacity of the organizations because a strong learning orientation relies on the internal mindset of employees. Therefore, becoming a LO is a challenging feat if organizations don't embark on digital transformation of the organizational learning processes and such transformation requires the support of a digital learning infrastructure. Digital transformation is concerned with the digitalization of the whole organization and business processes (Lu, 2017). In this study we focus on the supporting factors for digital transformation towards the learning processes in the organization.

To address these chronic challenges faced by organizations, they must consider being digitally transformed into *ambidextrous learning organizations (ALO)*. Incorporating the concepts of ambidextrous learning and LO, we define an ambidextrous learning organization (ALO) as "*the ability of an organization members to simultaneously engage in explorative learning and exploitative learning processes to create a*

continual learning environment." To develop an ALO, we follow the studies of (Argyris & Schön, 1978; Lam, 2019; March, 1991) who emphasize that ambidextrous learning (explorative and exploitative learning) are essential learning factors in an organization. Ambidextrous learning is a prolusion to develop a continual learning environment for organizations and the simultaneous execution of explorative and exploitative learning is a central theme for an organization to create a continual learning environment that is a precursor to ALO. To create a continual learning platform that incorporates explorative and exploitative learning processes, we consider cloud computing technology in this study. Various applications hosted on cloud platforms, called cloud services, act as tools for meeting the IT needs of people (Lin & Chen, 2012). Prior studies have emphasized that cloud-based learning services deliver learning as a service, allowing organizations to access various learning resources on-demand without investing heavily in setting up the IT infrastructure (Lal, 2015). Cloud technologies have been embraced by large organizations as a way to integrate and share knowledge to facilitate learning across the firm (Ratten, 2012). There are cloud services that play critical role in employee learning as they offer a self-learning mechanism thereby inducing dynamic adjustment and improved decision making (Kaur, Gupta, Singh, & Perano, 2019). Since cloud services support exploring knowledge from various sources including Big Data (Depeige & Doyencourt, 2015), it can result in inter-organizational learning which facilities gaining advantages of internal knowledge resources, production capabilities and exploits external resources of knowledge, skills, and production for organizational upliftment (Taghavifard & Majidian, 2022). Therefore, organizations need to consider cloud computing as a strategically allocated resource for ambidextrous learning.

However, there are limited studies that explain the impact of cloud computing in ambidextrous learning. Thus, this study aims to propose a pathway to creation of an ALO with the support of ambidextrous learning processes and cloud computing to build a continual learning environment. This leads to our research question.

RQ: How can cloud computing enable creation of an ambidextrous learning organization?

In order to completely understand the concept of *creating ALO*, the existing literature has to be analysed and key enablers, i.e., key performance indicators (KPIs) for ALOs, should be considered to build ambidextrous learning capabilities using cloud computing.

To this end, this study systematically reviews existing research on ambidextrous learning and cloud computing to create an ALO. The following sections describes the methods used to conduct this

review, findings related to research question, followed by the development of the conceptual framework for ALO incorporating organizational capabilities along with the support of cloud computing.

METHODOLOGY

This study follows a systematic literature review (SLR) to understand the impact of ambidextrous learning and cloud computing in creating *ambidextrous learning organization* based on the *knowledge* perspective. An SLR is a rigorous review of prior research and its results (Kitchenham, 2004). For conducting the SLR, we follow the process mentioned in the study of Charband and Jafari Navimipour (2016)) who detailed the three basic stages for an SLR, viz. *Stage 1*: Automated search based on keywords; *Stage 2:* selection based on abstract and title and finally, *Stage 3*: selection based on inclusion criteria and full text analysis. The SLR stages followed in this research is presented in Figure 1.

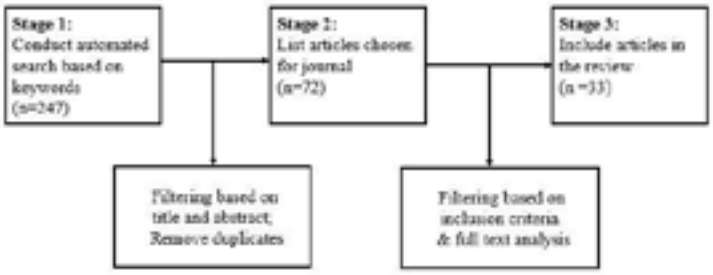

Figure 1: SLR stages followed in this research

We selected three significant scholarly databases to search for research articles: ScienceDirect, Emerald Insight and Scopus. Since we are analysing the topic of creating ambidextrous learning organization, the keywords used for automated searching are ("ambidextrous" OR "ambidexterity") *AND* "learning*" AND "cloud computing"*. We selected the date range from the previous decade (2010-2022) filter for the journal articles to review the latest developments in the ALO literature. First, this process led to 247 targeted journal articles. We reviewed the title as well as the abstract according to the search criteria and removed duplicate journal articles. The total number of articles identified after filtering was 72. Finally, we applied three inclusion criteria: a) articles with discussion of *ambidextrous learning* AND *cloud computing*; b) articles in the knowledge domain; and c) articles only in English. After applying the inclusion criteria and a thorough full text analysis of the selected journal articles, a final list of 33 journal articles was shortlisted for further analysis.

Data Analysis

To answer the research questions, we carefully read and categorized the 33 articles according to the relevant ambidextrous learning and cloud computing concepts presented. The majority of the articles are from the Scopus database (n=14) followed by Emerald Insight (n=11). The list of selected studies is illustrated in Table 1.

Article ID	List of Journal Articles	Article ID	List of Journal Articles
1	(Hadji et al., 2022)	18	(Cheng, Xu, Li, & Zhang, 2022)
2	(Sultan, Alfaiza, & Riyadh, 2021)	19	(Sollander & Engström, 2021)
3	(Asif, 2020)	20	(Yang et al., 2021)
4	(Sohani & Singh, 2017)	21	(Bratianu, Prelipcean, & Bejinaru, 2020)
5	(Ouyang, Cao, Wang, & Zhang, 2020)	22	(Iyengar, Sweeney, & Montealegre, 2021)
6	(Pellegrini, Ciampi, Marzi, & Orlando, 2020)	23	(Alonazi, 2021)
7	(Pratono, 2021)	24	(Atkins, Yurova, Gudi, & Ruppel, 2022)
8	(Ferreira, Coelho, & Moutinho, 2020)	25	(Alerasoul, Afeltra, Hakala, Minelli, & Strozzi, 2021)
9	(Reilly & Scott, 2016)	26	(Yuan, Xue, & He, 2021)
10	(Engström, Käkelä, & Wikner, 2021)	27	(Ghasemaghaei & Calic, 2019)
11	(Mishra & Pani, 2020)	28	(Xie, Wu, & Devece, 2022)
12	(Prieto-Pastor & Martin-Perez, 2015)	29	(Konopik, Jahn, Schuster, Hoßbach, & Pflaum, 2022)
13	(Wu, Chen, Shao, & Lu, 2021)	30	(Diaz-Fernandez, Pasamar-Reyes, & Valle-Cabrera, 2017)
14	(Enkel, Heil, Hengstler, & Wirth, 2017)	31	(Mahmood & Mubarik, 2020)
15	(Zhao, Zong, & Zhang, 2020)	32	(Kaur et al., 2019)
16	(Shao, Li, & Wang, 2021)	33	(Xie, Wu, Palacios-Marqués, & Ribeiro-Navarrete, 2022)
17	(Escandon-Barbosa, Salas-Paramo, & Rialp-Criado, 2021)		

Table 1: List of selected studies

Most articles included discussions of at least one of the ambidextrous learning processes. Only (n=3) articles have studied both ambidextrous learning and cloud computing – suggesting that cloud computing and ambidextrous learning are not well-studied within the ALO research. Regarding the number of studies conducted in a year, the majority of studies were reported in 2021 (n=12), followed by 2020 (n=8), which shows a surge in studies considering ambidextrous learning and cloud computing from 2018. The distribution of studies per year is illustrated in Figure 2.

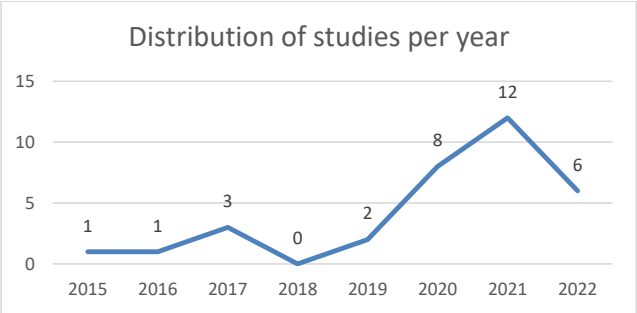

Figure 2: Year of publication of the studies

A wide scale of methodologies was adopted in different studies. However, most studies come under the category of quantitative surveys (n=20) followed by case study approach (n=6). There is only one study which followed mixed methodology approach. Further details are shown in Figure 3. We found

a lack of studies on action research and design science research that demonstrate a shortage of cloud computing or other technology adoption research towards ambidextrous learning in organizations.

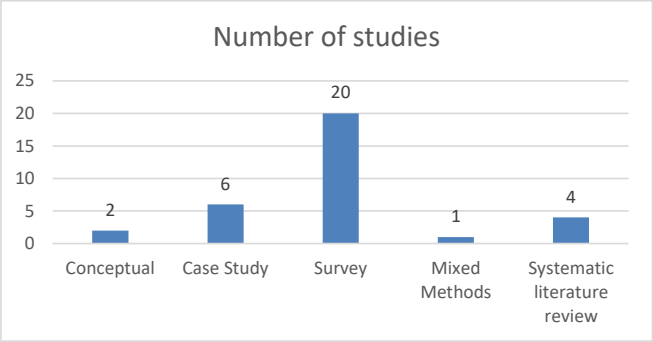

Figure 3: Methodologies used in the selected studies

Next, we discuss the findings from this study identifying the key enablers and mapping them into the five key organizational capabilities that relate to ALO. We then propose a conceptual framework based on the key enablers identified as a part of this study.

Findings

Organizational capabilities is defined as a firm's ability to deploy available resources to achieve a desired result (Börjesson & Elmquist, 2012) and enablers are defined as the factors that support enhancement of organizational capabilities (in this context: ambidextrous learning) (Bojesson & Fundin, 2020). The analysis of the literature led us to identify five organizational capabilities that were consider as major capabilities for ambidextrous learning that supported the transformation of an ALO. The five capabilities included: organizational learning, ambidextrous learning, knowledge & KM, innovation, and individual learning. From the literature, we also identified enablers that were essential for supporting enhancement of organizational capabilities in the fields of ambidextrous learning and cloud computing. We compiled the 15 enablers that directly support ambidextrous learning capabilities and coded them as illustrated in Table 2.

Identified enablers	Code	Identified enablers	Code
Skill enhancement	SE	High involvement work systems	HWS
Leadership support	LS	Team learning	TL
Innovative behavior/thinking	IBT	Networked learning	NL
Product Design	PD	Continual Learning	CL
Shared Vision	SV	Collective knowledge building	CKB
Digital technologies	DT	Knowledge sharing	KSh
Knowledge creation	KC	Knowledge utilization	KU
Knowledge storage	KS		

Table 2: List of enablers with its codes

Following from the coding exercise, we mapped the enablers to each organizational capability as per their dominant role in enhancing organizational capability as identified in each selected article. The final mapping is listed in Table 3.

Article ID	Organizational learning	Ambidextrous learning	Knowledge & KM	Innovation	Individual learning
1				IBT	
2			KShr	IBT	
3	LS		KS		LS
4	SE	DT	DT	IBT	
5		DT	DT	IBT	
6	LS		KC, KShr, KU		LS
7	LS	DT	DT	PD	LS
8			KC, KShr	IBT, PD	
11		DT	DT	PD	
12	SE, LS	HWS		IBT	LS
13	LS			IBT	LS
14			KShr		
15		TL, CKB			TL, CKB
16		HWS, DT	DT		
17		NL		IBT, PD	
18		NL		IBT	
19	SE, LS	TL			TL, LS
20		NL		IBT	
21	SV	CKB, CL	KC, KS, KShr, KU		CL, CKB
22		HWS, TL, DT, CKB	KS, DT		TL, CKB
23		TL, CL			TL, CL
25	SV	CKB	KC, KShr	IBT	CKB
26		HWS, DT	DT	IBT	
27		DT	DT	IBT	
28	SV			IBT	
29	LS	DT	DT	IBT	LS
31		DT	DT	IBT	
32		DT	DT		
33		NL, DT	DT		

Table 3: Mapping of enablers under each organizational capability

Under the **organization learning** capability, the most frequently supporting enabler was leadership support (LS) [n=7], followed by skill enhancement (SE) and shared vision (SV) [n=3]. For LS, the mapping acknowledged that leader support is critical to set strategic direction and allocate resources to determine the balance between explorative and exploitative learning (Asif, 2020). Strong leadership is needed to encourage and remind the employees in the organization to take small steps to learn through work (Sollander & Engström, 2021). This makes the leadership support critical in establishing ALO. However, the literature on ambidextrous learning generally ignores the relative importance of leadership-based antecedents (Wu, Chen, Shao, & Lu, 2021). In terms of SE, our review found that knowledge is a necessary but not sufficient resource for skills enhancement of employees. In this context, ambidextrous learning can support skills to be enhanced (Escandon-Barbosa, Salas-Paramo, & Rialp-Criado, 2021). With the evolution of AI and cognitive computing, the skill enhancement has been promoted via different

dimensions (Kaur et al., 2019) with the support of cloud computing. In terms of SV, it can facilitate ambidextrous learning when coupled with organizational structure by lowering the barriers to knowledge sharing (Xie, Wu, & Devece, 2022). Cloud services support efficient knowledge sharing by creating private workspace for inter and intra-employee collaboration facilitating ambidextrous learning (Dessì, Milia, Pascariello, & Pes, 2016). However, the relationship between employees' skill enhancement, shared vision and ambidextrous learning using cloud computing is not evident in the literature.

For **ambidextrous learning** capabilities, we contend that digital technologies (DT) is the most frequently supported enabler [n=12] followed by team learning (TL), networked learning (NL), collective knowledge building (CKB), and high-involvement work systems (HWS) [n=4]. The least supported enabler is continual learning (CL) [n=2]. As DT is the most frequently supported enabler, this supports the emphasis of cloud computing in ambidextrous learning towards ALO. Cloud services enable firms to quickly explore and share large amount of heterogeneous data to create an environment for explorative and exploitative learning (Ghasemaghaei & Calic, 2019; Yuan, Xue, & He, 2021). Cloud computing has led to more robust, autonomous, automated and intelligent (Mahmood & Mubarik, 2020) business processes and systems (Xie, Wu, Palacios-Marqués, & Ribeiro-Navarrete, 2022) supporting effective learning inside the organization.

Organizations can adopt cloud services as part of their digital transformation initiatives. However, very few studies [n=3] explored how cloud computing facilitates ambidextrous learning, with most studies discussing cloud computing just as an individual learning technology. Cloud services also assist organizations to automate the explorative and exploitative learning process by facilitating efficient ambidextrous learning. *Continual learning (CL)* was found to strongly relate to an ambidextrous learning organization culture (Alonazi, 2021), however, it is surprisingly the least supported enabler. The major feature of CL is the extraction of useful knowledge from the new sources or previous tasks and use/reusing it for future learning (Bratianu, Prelipcean, & Bejinaru, 2020). In ambidextrous learning, CL is the most critical aspect as it increases explorative and exploitative learning (Lam, 2019). In order to implement CL, organizations require a learning infrastructure to promote a culture of engagement of employees to share new knowledge across the organization. In this scenario, cloud services are an appropriate and creative solution that enables a learning infrastructure promoting CL. However, a CL mindset has not been effectively utilized based on prior studies, thereby diminishing the role of cloud computing in ALO.

Knowledge & Knowledge Management (KM) are considered as complementary capabilities for any organization as they help to boost both tangible and intangible resources of an organization (Bratianu et al., 2020). Under knowledge & KM capabilities, digital technology is the most frequently supported enabler [n=12] followed by knowledge sharing processes (KShr) [n=6], knowledge creation process (KC) [n=4], knowledge storage (KS) [n=3] with the least studied KM process represented by the knowledge utilization process (KU) [n=2]. Prior studies have emphasized that KM will help the organization in terms of promoting the process of ambidextrous learning to be more effective with the support of cloud services (Sultan, Alfaiza, & Riyadh, 2021) as cloud services directly support explorative learning and facilitate knowledge for explorative learning (Gonzalez, 2019). However, DT and KShr are the two most supported enablers. Hence, it can be argued that organizations should continue to invest in a broad range of DTs that support sharing knowledge assets (Iyengar, Sweeney, & Montealegre, 2021).

As part of **innovation** capabilities, *Innovation behaviour/thinking* (IBT) is the most supported enabler [n=16] followed by product design (PD) [n=4]. IBT assists organizations to recognize external environmental changes by enhancing perceptions of opportunities and threats by making the best use of new knowledge, and tools (Wu et al., 2021). Moreover, IBT refers to organizational capabilities that enable the emergence of innovation from acquiring knowledge from inside or outside the organization through explorative learning (Konopik, Jahn, Schuster, Hoßbach, & Pflaum, 2022). The innovation behaviour enables firms to apply the knowledge gained from explorative learning by developing new products that meet market needs and by helping to eliminate competitive threats that modify current products with exploitative learning. However, we contend that a lack of IBT will result in a less shared understanding by organizational members as they will have more limited exploitative learning opportunities (Sultan et al., 2021). It is also important that explorative and exploitative learning should occur within a common cooperative environment that promotes IBT. For PD, new knowledge or modified existing knowledge for creating new designs and to develop innovative products are key aspects of ambidextrous learning. More specifically, our review suggests that ambidextrous learning culture will help to enable an innovative PD mindset even while the relationships between IBT and PD is the least supported enabler under innovation capabilities.

Employees' learning from work is defined as individual learning capability (Lau, Park, & McLean, 2020). Individual learning entails employees looking for opportunities to acquire new skills and

knowledge. LS support was the most supported enabler [n=7] followed by TL or team learning and CKB [n=4]. The least supported enabler is CL [n=2]. To adapt to a changing environment, it is essential that employees identify and share their knowledge and skills. In this scenario, TL, CKB and CL can facilitate ambidextrous learning for employees. Explorative learning is essential for acquiring new knowledge, and exploitative learning is required to refine existing knowledge. However, without a common learning platform using cloud computing, employees face knowledge loss that inhibit efficient and swift engagement to produce higher learning outcomes with increased satisfaction and competence (V. Kumar & Sharma, 2021). With a number of embedded features, cloud computing can offer technology-based platforms that deliver convenient and flexible learning environment to compliment the traditional learning approaches (V. Kumar & Sharma, 2021). Our review has found that individual learning could be impoverished since DT may not be evident or readily available in most organizations for learning.

To summarize, this study has analysed 15 supporting enablers to improve the effectiveness of ambidextrous learning inside the organization that can facilitate ALO. However, the lack of usage of cloud computing limits the effectiveness of a continual learning environment inside the organization. This also inhibits the effective utilization of the enablers that potentially leverage organizational capabilities including ambidextrous learning for digital transformation towards ALO.

DISCUSSION

This aim of this systematic literature review was to propose a pathway that organizations may follow as part of their digital transformation journey to become ALO. We argue this is possible but only with the support of ambidextrous learning processes and cloud computing through a process of continual learning. Here, we highlighted how cloud computing helps to enable the transformation of the learning process of an organization to make it ambidextrous in its learning approach. Even while ambidextrous learning and cloud computing are the key construct for creating an ALO, extant research largely ignore how cloud computing can facilitate and enable ambidextrous learning outcomes. There is little doubt that the prerequisite for building an ALO is the creation of a continual learning environment inside the organization (Bratianu et al., 2020; Engström, Käkelä, & Wikner, 2021). Prior studies have described that applications in robotics and autonomous learning environment will promote continual learning (Irfan, Jiangbin, Iqbal, Masood, & Arif, 2022). However, the benefits of utilizing cloud computing services for creating a learning infrastructure has been largely ignored by prior studies pointing to the importance of this research.

In order to understand digital transformation to build ALOs, this SLR identified 33 journal articles sourced from three major scholarly databases. We identified 15 supporting enablers for organizations that were essential for building five organizational capabilities with the support of cloud computing. The mapping of the exhaustive list of 15 enablers to the five organizational capabilities present a digital transformation roadmap that organizations may follow to become an ALO. However, we accept that our research question RQ was still inadequately answered from our review: ***How can cloud computing enable creation of an ambidextrous learning organization?***

To further explain the answer to RQ, we analysed the literature and created a conceptual framework (Figure 4) that embeds the ambidextrous learning capability artefacts consisting of the 15 enablers within a cloud computing context. This framework also demonstrates how a continual learning environment is a central requirement for building an ALO. To this point, we can then argue that such an environment can be built using cloud computing, thereby answering our RQ.

Figure 4: A conceptual framework for creating ALO

Learning processes can be defined and understood by focusing on organizational learning (Iyengar et al., 2021; M. Kumar et al., 2021), therefore, we consider **organizational learning** as the first organizational capability in our conceptual framework. Organizational learning is a continuous, irreversible and path-dependent process to encode learning into a guiding framework for the organization (Levinthal & March, 1993; Mishra & Pani, 2020). An organizational learning process shows the potential to change the behaviour of employees and improve overall organizational capability (Alonazi, 2021). This implies organizational learning is exclusively dependent on individuals than digital technologies.

Nevertheless, when an organizational learning capability is established, we also require an **ambidextrous learning** component to support the learning process (Escandon-Barbosa et al., 2021), and this is where cloud computing can offer a significant support. It is important to consider the human perspective for ambidextrous learning concerning how knowledge is developed and used for different purposes by individuals or groups of individuals (Enkel, Heil, Hengstler, & Wirth, 2017). However, we need to recognize that cloud computing can directly support explorative learning and generates new knowledge from a variety of knowledge sources (including Big Data applications). Cloud computing has demonstrated to facilitate knowledge for exploitative learning that modifies existing knowledge for known and stable contexts (Shrestha & Chandra, 2020).

Ambidextrous learning activities can generate a variety of knowledge artefacts for the organization with the support of a cloud-based KMS, which is a proven IS tool for managing knowledge. This enables the generated knowledge artefacts to be stored, shared, and later utilized in the firm whenever required. This implies that knowledge and knowledge management are the outputs of ambidextrous learning and cloud computing can play a major role in KM. Therefore, **Knowledge & KM** are considered as the third organizational capability in the framework, and they are fully supported by cloud computing oin organisations.

The fourth organizational capability illustrated in Figure 4 is **innovation**, as knowledge is the key to innovative activities (Enkel et al., 2017). The innovation is nourished by the infusion of new knowledge (Cabeza-Pullés, Fernández-Pérez, & Roldán-Bravo, 2020). Therefore, we can argue that the knowledge generated from ambidextrous learning activities using cloud computing are forwarded towards innovation activities in the organization (Guo, Guo, Zhou, & Wu, 2020). In short, cloud computing acts as a facilitator of knowledge for innovation. This illustrates the contingent role of knowledge in shaping the relationship between ambidextrous learning and innovation.

Finally, as innovation involves the integration and generation of new information and knowledge (Ghasemaghaei & Calic, 2019), it loops back to **individual learning** among employees in the organization, which is the fifth organizational capability of the framework. Individual learning is also part of organizational learning, thereby leading to a cyclic pathway for learning, hence we refer this to a continual learning environment (Murray, 2002; Murray & Donegan, 2003). From our work, we can argue that organizations should utilize cloud computing as part of digital transformation initiatives to augment the

ambidextrous learning opportunities. The KM processes are useful here since they facilitate a continuous flow of knowledge for creating a continual learning environment required to build an ALO.

This systematic literature review illustrates that much extant research supports stand-alone approaches related to organizational learning capability, ambidextrous learning, KM capability, innovation capability, and digital technology. Existing research explores these organizational capabilities independently without recognizing the potential of a continuous learning approach. In this context, cloud computing may offer an IS-driven lens to build the autonomous process of ambidextrous learning and KM processes. We promote that using this linkage, we can create a continual learning environment that provides a continuous flow of knowledge that can be effectively managed (Saratchandra & Shrestha, 2022). Since many organisations are embarking on their digital transformation journeys that has been expedited by the recent COVID-19 pandemic, our conceptual framework offers an opportunity for organizations to use cloud computing to promote ambidextrous learning outcomes for their KM, sustainability and growth, with an ultimate vision to become an ALO.

Research Contributions and Limitations

From a theoretical lens, this research extends the IS literature by positioning the role of cloud computing to support an ambidextrous learning organization. First, the current findings from this SLR extend scholarly understanding about how to create a continual learning environment for creating ALOs using cloud technology and organizational capabilities. To this extent, this systematic review show how organizational learning, ambidextrous learning, knowledge & KM, innovation, and individual learning capabilities become important and relevant when cloud services are applied for transforming learning process of an organization. The contribution of the adoption of cloud computing technology makes the five organizational capabilities support a cyclic pattern of continual learning that promotes a learning feedback loop. Second, the development of a conceptual framework to demonstrate how organizational capabilities are linked using cloud computing is grounded on past work from the broader Organizational Learning literature since there is limited IS research on the role of digital transformation to support the organizational learning processes and innovation. Finally, this study identified 15 enablers that support the organizational capabilities as the building blocks to ALO.

From the practitioners' point of view, our findings can help employees and managers to identify the enablers and organizational capabilities and explains how cloud computing can better suit their learning

needs to deliver ambidextrous outcomes. This review provides a framework describing organizational capabilities, enablers and technology intervention to create a continual learning environment facilitating ALO. This can become particularly useful in light of the increasing adoption of cloud computing for making learning process autonomous in the organization. Organizations focused on continual learning and implementing those practices can adopt cloud computing as part of their digital transformation initiatives and leverage their organizational capabilities.

This review is not without limitations. Only three specific databases were used to select the articles which may not provide a holistic review of all articles on ambidextrous learning and cloud computing. The selection of the search criteria and time frame is based on our assessment and informed choice that may have influenced our findings. However, we have included the rationale towards relevant contributions and justified the inclusion of studies related to ambidextrous learning and cloud computing that is motivate future research in understanding the role of IS towards ambidextrous learning organization.

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Developing a Muscle for Organizational Resilience: A Psychosocial Perspective

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Developing a Muscle for Organizational Resilience: A Psychosocial Perspective

ABSTRACT: *High levels of environmental complexities have made resilience a prerequisite for organizational survival and sustenance. The extant literature on organizational resilience extensively supports the relevance of tangible assets such as financial reserves, viable business model for organizational resilience. However, the literature catering to the micro-foundational components of organizational resilience is limited. The proposed multi-level model argues that organizational resilience can be achieved by developing psycho-social resources of organizational actors. Fostering psychological capital, social capital, and emotional intelligence moderated by leaders' strategic tools such as organizational identity and positive framing on micro-level can help in creating resilient organizations that are better prepared for the future.*

Keywords: Organizational resilience, psychosocial resources, psychological capital, emotional intelligence, social capital

"Tomorrow belongs to those who can hear it coming." - David Bowie

The advent of pandemic not only catalyzed the digitization of workplaces and opened the paradigm of fluid organizations for the majority but it also confirmed the VUCA worldview of contemporary business environment. Be it climate change, geopolitical threats, cyber attacks, or even change for good such as technology advancement and innovation, we are constantly reminded that the contemporary organizations survive in a peculiar environment distinguished by its volatility, uncertainty, complexity, and ambiguity (Veldsman, Benade, and, Rossouw, 2019). In such a fast-moving ecosystem, employees endure stress induced from personal career catastrophes; difficult people at workplace to managing organizational level changes (Ovans, 2015). This high level of environmental complexity has made resilience a prerequisite for organizational survival and sustenance. Resilience, the ability to rebound and become strengthened while facing challenging scenarios thus plays a critical role when it comes to organizational success and

flourishing in a dynamic digital age (Sutcliffe & Vogus, 2003). Scholars have pinpointed that the elements of organizational resilience such as situation awareness, adaptive capacity, vulnerability management during crisis and even when business is usual are similar to the features that exhibit competitive excellence making resilience a source of competitiveness and flourishing beyond adversity (Lee, Vargo, & Seville, 2013a).

The extant literature on organizational resilience extensively supports the relevance of tangible assets such as financial reserves, viable business model, resource availability, and their contribution in improving organizational planning and adaptive capacity (Gittell, Cameron, Lim, & Rivas, 2006; Pal, Torstensson, & Mattila, 2014). Scholars also argued that organizational resilience is embedded in organizational processes, practices, habits, routines, and interactions (Gover & Duxbury, 2018; Lengnick-Hall, Beck, & Lengnick-Hall, 2011). However, the literature catering to the micro-foundational components of organizational resilience is limited (Yang, 2019). This conceptual paper addresses this gap emphasizing the role of the micro-foundational psycho-social resources in fostering organizational resilience.

The proposed model examines organizational and team resilience as outcomes and argues that organizational resilience can be achieved by focusing on psycho-social resources of organizational actors. First, the paper discusses the concept of organizational resilience and its evolution in detail, the rationale for supporting a process-capacity view on organizational resilience is provided. Second, relevant psycho-social resources that may foster organizational resilience are described. Third, a multi-level model of organizational resilience is proposed. The paper incorporates insights from upper echelon perspective, broaden & build theory, communicative theories on resilience, framing theory, and social-identity theory.

ORGANIZATIONAL RESILIENCE: A PROCESS-CAPACITY VIEW

The term resilience is derived from a Latin verb resilire which means to recoil or rebound. In 1818, Tredgold first used it in academic context to describe the unbreakable attribute of timber wood. Organizational resilience is defined as a capacity, process, capability, meta-capability, strategy, behavior,

outcome, positive development-trajectory, and characteristic or a combination of all of these that helps to survive and thrive in challenging times (Bhamra, Dani, & Burnard, 2011; Sullivan-Taylor & Wilson, 2009; Sutcliffe & Vogus, 2003). The ontological, epistemological, and methodological differences in the multiple disciplines that examines resilience has resulted in this multitude of definitions, conceptual diversity, and rich perspectives(Hillmann, 2020).

Essentially, there are three perspectives on organizational resilience. The classical, rebound-oriented perspective, originating from natural systems, emphasizes the passive and reactive attributes of organizational resilience. In physical sciences, resilience is used to denote the property of a material to absorb strain and retain its original shape without breakage (Caza & Milton, 2012). Analogous to a super material that can absorb shocks, organizational resilience is interpreted as the ability of an organization to bounce back from adversity denoting its elasticity (Munoz & Ambrosini, 2022). The development-oriented perspective of organizational resilience supports the premise of living system theory and moves one step ahead by stating that a resilient organization is not limited to "doing okay" but aims for " doing better than okay." It views resilience as a ' dynamic process of adjustments (Wieczorek-kosmala, 2022, p. 2).' The developmental perspective on resilience is more inclusive as it does not limit resilience to just extreme adversities and bouncing back but strengthening in the process of enduring difficulties by activation of latent resources.

The recent perspective on organizational resilience influenced by the strategy domain looks at organizational resilience as a competitive advantage. This forward-looking perspective on organizational resilience includes the component of anticipation to the existing components of organizational resilience - planning and adaptive capacity(Lee, Vargo, & Seville, 2013b). Resilient organizations transform challenges into opportunities and changes as per the need of the business before the need to change becomes obvious and reflect greater sustenance, growth, and survival (Wildavksy, 1991). Forward looking perspective captures the proactive attribute of organizational resilience; situation awareness, sensemaking, and anticipatory innovation are a few unique aspects of this perspective. Propagating forward-looking perspective on resilience, Storz et al. (2018) advocate that organizational survival is a

static goal, in the current turbulent times organizations aim for continued resilience, they engage in creative destruction, unlearning-relearning cycles and reinventing themselves.

The forward-looking, process-capacity purview on organizational resilience is wholesome and captures the key ideas that analogous to personal resilience, organizational resilience is also ordinary magic embedded in organizational routines, habits, practices, people, and processes, which can be nurtured(Masten, 2001). We define organizational resilience as the ability of an organization to make sense, anticipate, plan, and adapt to challenging circumstances such that the organization rebound, survive, renew, or thrive in its environment. Following, Lengnick-Hall et al. (2011), our definition is as per the recommendation on defining a collective construct encompassing the functions and outcomes of organizational resilience(Morgeson & Hofmann, 1999). In an input process output framework, the word "challenging circumstances" captures the whole continuum of adversities, from wild cards that are unique, improbable, high impact, threatening events to daily hassles that lead to chronic stress and organizational strain when accumulated(Czakon, Hajdas, & Radomska, 2022; Fisher, Ragsdale, & Fisher, 2019). Organizations engage in process of sensing, anticipating, planning and adapting with an aim to cope with these challenges. The positive adaptation that is considered as a sign of organizational resilience is depicted as survival, renewal, rebounding, and thriving. Figure 1 represents a diagrammatic presentation of the process-capacity view on organizational resilience.

Insert Figure 1: About here

PSYCHO-SOCIAL RESOURCES: MICRO-FOUNDATIONAL COMPONENTS OF ORGANIZATIONAL RESILIENCE

Sutcliffe and Vogus (2003) argued that studies on organizing in difficult times are focused on maladaptive processes, failures, and other negative aspects such as pathological behaviors; they pointed at the need to look at change and crisis management with the lens of positive psychology. An organization depends on the collective actions of its people while responding to adverse events (Horne and Orr, 1998). Manuti and Palma (2014) argued that organizational resilience is not limited to employability skills of the

individuals but it also depends on the ability of the individuals to appraise and rethink change, make sense of the reality, and adapt by gaining knowledge, skills relevant for facing the situation. The existing literature suggests that the attributes of organizational actors facilitate positive adjustment by ensuring easy access or improvisation of resources when organizations deal with adversity-instigated stress process (Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017). In the next section we discuss individual-level attributes that we postulate act as micro-foundation of resilience at workplace.

Psychological Capital

Psychological capital is a state-like, developable, second-order construct that depicts an individual's positive psychological state of development (Luthans & Youssef, 2007). From an organizational point of view, the collective psychological capital of an organization is a hard to imitate, unique ,intangible asset of the organization that can be a source of competitive advantage(Luthans & Youssef-Morgan, 2017). The four-facet constructs of PsyCap are known by the acronym HERO are Hope, Self-efficacy, Resilience, and Optimism. PsyCap leads to intrinsic motivation that has a greater influence on goal achievement and performance (Luthans, Avey, Avolio, Norman, & Combs, 2006). It has been demonstrated to be significant for task performance at individual as well as group levels of analyses (Peterson, Luthans, Avolio, Walumbwa, & Zhang, 2011).

Emotional Intelligence

Emotional intelligence is "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and actions(Salovey & John D. Mayer, 1990, p. 189)." An individual uses emotional intelligence, an array of non-cognitive capabilities to cope with the constant environmental demands and pressure (Martinez-Pons, 1997). Huy (1999) theorized a multilevel model of emotional intelligence at individual level, and emotional capability at organizational level in context of radical change management. He explored that the micro-dynamics of emotions influence the change dynamics of receptivity, mobilization, and learning. Emotional states such as empathy, sympathy, and love on an

individual level are analogous to experiencing, reconciliation, and identification on organizational level impact the receptivity i.e. the willingness to accept change. Employees are non-receptive to a change if its consequence is evaluated as harmful and evokes negative emotions on the other hand they are committed to action plan if the end result is interpreted as an opportunity arousing positive emotions (Lazarus, 1993).

Social Capital

The extant literature suggests that social capital promotes organizational and individual resilience during catastrophic events (James, 2008; Cameron & Lavine, 2006; Peterson & Zimmerman, 2004). The concept of social capital has gained interest from multiple disciplines based on the premise that the support and friendly attitude, which Adler and Kwon (2002) termed as "goodwill available to individuals and group" is a valuable resource. In the context of organizational resilience, two fundamental forms of positive social capital in organizations namely- high-quality connections and reciprocity are relevant. High-quality connections involves relational coordination for task integration such as shared goals, shared knowledge, and mutual respect, this fosters psychological safety that enables learning from failures (Carmeli & Gittell, 2009).High quality connections have lasting impact on people and organization as they enhance work engagement, enable coordination of interdependent people and units, strengthen organizational attachment, promote individual resilience and project performance (Gittell et al., 2006; Leana, van Buren, & Iii, 1999; Losada & Heaphy, 2004).Reciprocity is a form of cooperation that can be seen as short-term altruism for long-term self-interest. The exchange of resources is not legally abiding and expectations of repayment are not explicit. In large systems, generalized reciprocity exist which expands organizational resources and capabilities. Thus, it enables a culture of trust, productivity, and business performance(Baker & Dutton, 2018).

Leader's Strategic Tools

Organization's leadership is identified as one of the pillars for resilience (Seville, 2018). Leaders recognize signs of crisis from environmental cues, the responsibility of sense making, framing situations, and facilitating reflective processes lies on their shoulder(Williams et al., 2017). Leaders create a lucid

shared vision and encourage future-oriented discussions to foster organizational sensitivity and willingness to innovate (Barasa, Mbau, & Gilson, 2018; Teixeira & Werther, 2013). Leaders rely on organizational identity and positive framing as tools to manage these uncertainties.

Organizational identity is constructed by founders and leaders of the organization; a guideline on core values and beliefs is fostered to direct organization's behavior(Lievens, Van Hoye, & Anseel, 2007). Koronis and Ponis (2018) postulated perceived organizational identity as one of the factors that foster a culture of resilience. When the quest is about "who we are?" organization too rely on its identity to position itself in context of its environment and create a sense for its internal and external stakeholders (Albert et al., 2000). The collective understanding of organizational members' of characteristics that are core, enduring, and distinctive of an organization is defined as its organizational identity. Under threatening conditions, an organization aims at maintaining and preserving this identity. A major disagreement on organizational identity amidst organizations' leaders can impact its performance negatively as it leads to mixed signals and fuzzy identification for the people working with those leaders, decreasing employee's sense of belonging and meaning at work (Voss, Cable, & Voss, 2006).

Leaders use frames, "schemeta of interpretation" to understand and make meaning of their organizational environments (Snow, Rochford, Worden, & Benford, 1986). Leaders engage in the process of sensemaking and sensegiving and implement these schemas to influence and shape the perception of other organizational members(Klein & Eckhaus, 2017).The use of positive language i.e. positive framing by CEO enhances employee ownership (Li, Shi, & Dasborough, 2021). It is used as a tool to drive strategic change for organizational reorientation on a cognitive level (Fiss & Zajac, 2006).

THEORETICAL UNDERPINNING

In organizational context the notion of Schneider (1987) is critical as he postulated that "environments are a function of persons behaving in them (1987:p.438)." In organizations, an attraction-selection-attrition (ASA) cycle continues that creates a pool of talent that chooses its own situation. This

implies that people make a choice to stick with an organization system and create a sub-system that influences the organization by its collective thoughts, actions, and emotions. Reviewing the studies on organizational resilience in the domain of Positive Psychology and Organizational Development, Hillmann points, "an organization can only be as resilient as their teams and employees (2020: p. 24)." Managers and employees create resilient organizations by fostering positive relationships, sensemaking, ensuring psychological safety of employees(Gittell et al., 2006; Gover & Duxbury, 2018; Ishak & Williams, 2018; Stewart & O'Donnell, 2007; Witmer & Mellinger, 2016). The proposed model incorporates insights from upper echelon perspective, identity theory, framing theory, and broadens and builds theory to postulate how psychosocial reserves of the organization contribute in developing organizational resilience.

MULTI-LEVEL MODEL FOR ORGANIZATIONAL RESILIENCE

Failure is the most common trauma; an inevitable aspect of work life thus what matters for organizational success is our perception and reaction to these failures. Organizations that recruit and retain resilient and optimistic employees succeed by turning hard times into catalysts for post-traumatic growth. These individuals are immune to learned helplessness as they perceive challenges as temporary, controllable, and changeable (Seligman, 2011). In turbulent times, an organization has to make choices of strategic and operational relevance. At this stage, a number of organizational processes such as environmental scanning, risk forecasting, preparedness and planning, sensemaking, and sensegiving come into action (Barasa et al., 2018; Tisch & Galbreath, 2018; Weick, 2019; Weick & Roberts, 1993). An element of subjectivity is added to this meaning making as organizational actors function within the limits of their bounded rationality thus strategic choice is seen as a function of demographic and psychological composition of organizational actors (Hodgkinson & Healey, 2008).

Adversity also activates stress process. Several studies point out that employees rely on their personal resilience while adapting with workplace adversities, these resilient employees are open to new experiences, exhibit a readiness for change, and emotionally stable in adverse times (Hall et al., 2018;

Tugade & Fredrickson, 2004). Psychological capital of owners and managers promotes hope and optimism in employees preparing them for future actions (Pathak & Joshi, 2020). Jalil et al. (2021) identified that the psychological capital of the firm owners plays a critical role in enhancing the coping strategies of the owners which then contributes to fostering organizational resilience and rehabilitation of the Tourism SMEs.

Connecting these dots, based on upper echelons perspective, we arrive at our first proposition that the collective PsyCap of TMTs and organizational resilience have a positive association due to the combined motivational impact and psychological strength of each individual member in the TMT in managing failures during critical times (Hambrick, Mason, & Mason, 1984). Thus, the first proposition states -

P1 - Organizations with TMTs and Team Leaders with higher summated Psychological Capital will be more resilient than organizations with TMTs and Team Leaders scoring less on summated Psychological Capital.

Organizations are incubators of emotions that cannot be overlooked in stress process. Adversity triggers the stress process, an adaptation encounter happens between individual and his environment where an individual assesses the situation to derive personal meaning (Lazarus, 1993). Based on the appraisal of the situation, positive or negative emotion is aroused; this emotion is associated with specific action tendencies directed towards the stimuli. Fredrickson's (1998) broaden and build model of positive emotions postulates that positive emotions not only contribute to an individual's optimal functioning but they instigate the psychological mechanism of broadening the thought-action repertoires. For example, joy creates an urge to play which aids the process of brain development in children and builds lasting social bonds and attachments in adults. The incidental effect of such emotions is broadened mindsets that foster individuals' personal resources. Positive emotions such as joy, interest, and contentment result in an upward spiral of superlative functioning leading to enhanced creativity, self-expansion, novel perspectives, and help individuals to thrive.

Emotions transform organizations. Organization provides social context and reliable contacts as

emotions are contagious, one individual's emotions resonate with other organizational members. Positive emotions not only benefit the people, who experience them but even create emotion of elevation in the onlooker (Hatfield & Rapson, 2010). Emotionally intelligent individuals are capable of recognizing, labeling, and regulating their own emotions as well as emotions of others(Lyons & Schneider, 2005). Higher emotional intelligence facilitates lower threat appraisal and contribute to stress resilience (Schneider, Lyons, & Khazon, 2013).They rely on their emotional self awareness, emotional expression, emotional management and emotional self-control to negate negative life-event induced distress (Armstrong, Galligan, & Critchley, 2011).Thus on the basis of broaden and build theory of positive emotions and social contagion theory, the above arguments bring us to our second proposition that-

P2 - Organizations with TMTs and Team Leaders that exhibit higher collective emotional intelligence will be more resilient than organizations with TMTs and Team leaders that score less on collective emotional intelligence.

In organizational resilience literature, relational reserves are acknowledged as a resource determining resilience (Gittell et al., 2006). These relational capabilities play a critical role in crisis management by facilitating decision-making and quick actions by enabling resource access and information exchange. They provide an elemental context that facilitates activation of behavioral, cognitive, and emotional capabilities (Gittell et al., 2006; Williams et al., 2017). Weick (1993) pointed that in High-reliability organizations (HROs) such as firefighting crew, airline cockpit crew, team members rely on each other as partners. A partner is a source of information and aids in independent decision making in a critical situation. If the formal system collapses, such teams with strong bonds of trust and honesty based on respectful interaction provide an alternative system to look out for solutions. Weick and Roberts (1993) endorsed that individuals connect with their organizations by recognizing how their actions are connected with the larger goals. Thus, proposition 3 states –

P.3 - Organizations with higher positive social capital will have robust relational and emotional resources and gain maximum leverage from them and therefore exhibit greater organizational resilience.

Organizational environment is socially constructed and actors use their belief system to interpret and sculpt reality, sensemaking is collective cognition (Kudesia, 2017). From the environmental cues, people notice and selectively pick information to develop tentative interpretations, which later become the base of their actions. Thus organizational actors develop a deep understanding of their environment and create a sense of order using thoughtful actions (Weick, Sutcliffe, & Obstfeld, 2005). Advocating a development-oriented perspective of resilience, Hamel and Valikangas (2004) described resilience as a capacity for continuous reconstruction. Pointing at turnaround as a case of delayed transformation, they hinted that strategic resilience is the ability to manage and instigate change before the need for such transformation becomes obvious. Organizational leadership and top management play a critical role in envisioning and driving such strategic changes using the processes of sensemaking and sensegiving (Gioia & Chittipeddi, 1991).

In context of adversity, leadership is seen as a sense giving process. A reintegration from disruption is done by using effective communication that fosters resilience by crafting normalcy, affirming identity actors, effectively using communication networks, providing alternative logics, and legitimizing negative feelings but encouraging positive action(Buzzanell, 2010). How leaders or policy-makers frame messages to individuals has significant implications on individual behavior (Graham, Ziegert, & Capitano, 2015). A leader can influence risk choice, goal attainment of its followers by using a positive frame, or gain language, they highlight the opportunity aspect of the adversity and successful organizational outcomes (Levin, Schneider, & Gaeth, 1998).

As Gioia, Schultz, and Corley (2000) put it – "given the preference for order and stability in light of the need for change, one might thus reason that organizations must learn to change and yet somehow stay the same" (p. 64). This sense of stability despite continual change is derived from organizational identity. Buzzanell (2010) argues that in times of crisis, organizations assert their core identity, mission, and brand by affirming to identity anchors. Buzzanell defined, "identity anchor as a relatively enduring cluster of identity discourses upon which individuals and their familial, collegial, and/or community members rely when explaining who they are for themselves and in relation to each other" (2010: p.4).

Haslam, Postems, and Ellemers (2003) argued that organizational identity is an important tool for leaders that can be used to structure and harness collective energies of organizational members. Integrating insights from communicative theorizing of resilience, framing message, and social identity theory, the fourth proposition states -

P.4 – Use of Positive framing and organizational identity by Organizational Leaders moderate the relationships between organizational resilience and psycho-social resources of the organization.

The multi-level significance of resilience is evident from the extant literature but it also makes it clear that resilience at organizational and team is not a simple additive composite of individuals' resilience. As we move to higher level of analysis, the complexity increases. Scholars have pinpointed that organizational resilience is impacted by a number of tangible and external factors such as financial reserves, material resources, and resourcefulness, stakeholder engagement, political and legal constraints(Gittell et al., 2006; Karman, 2020; Pal et al., 2014; Sajko, Boone, & Buyl, 2020). Organizations with greater organizational resilience potential manifested in their intangible assets may fail to transform it into actual resilience in the absence of material resources. However, at the group level of analysis, this complexity is reduced. There is strong evidence that psychological characteristics of team members impact group dynamics and performance. Thus we postulate -

P.5 – The positive impact of psycho-social resources of organizational actors on Team Resilience moderated by Team Identity should be evident at team level of analysis.

Figure 2 and Figure 3 depicts these postulates in the form of a conceptual model.

Insert Figure 2 about here

Insert Figure 3 about here

CONCLUSION

The proposed model is a small contribution to advocate that one cannot deny the significance of viable business model, strategic action, innovation, and knowledge and information management in

creating a resilient organization but behind all these sub-systems, processes, routines, practices there are people who stand at the face of adversity to execute plans, commit to actions, and manage the situation. Thus, their psychological and social strengths matters. Much like the artist David Bowie, renowned for his perceived clairvoyance, organizations too need a forward-looking, anticipatory vision to be better prepared for the future. To accomplish this notion of Schneider (1987) which is smothered in the existing organizational resilience literature is to be acknowledged as Human capital is critical in organizational resilience frameworks.

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Figure1: A process-capacity view on organizational resilience

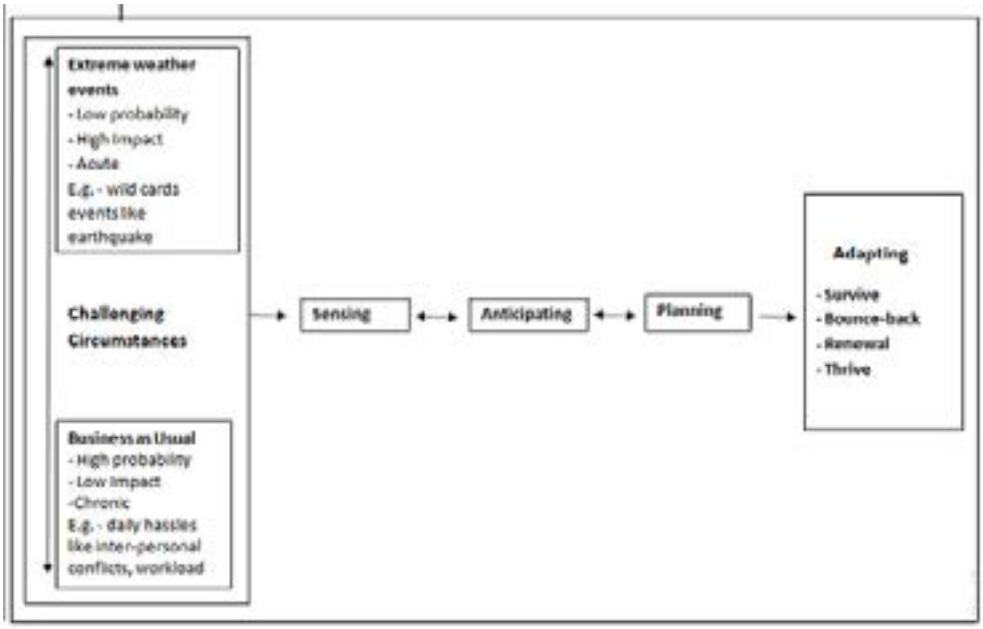


Figure 2: A pictorial representation of proposition 1, 2, and 3

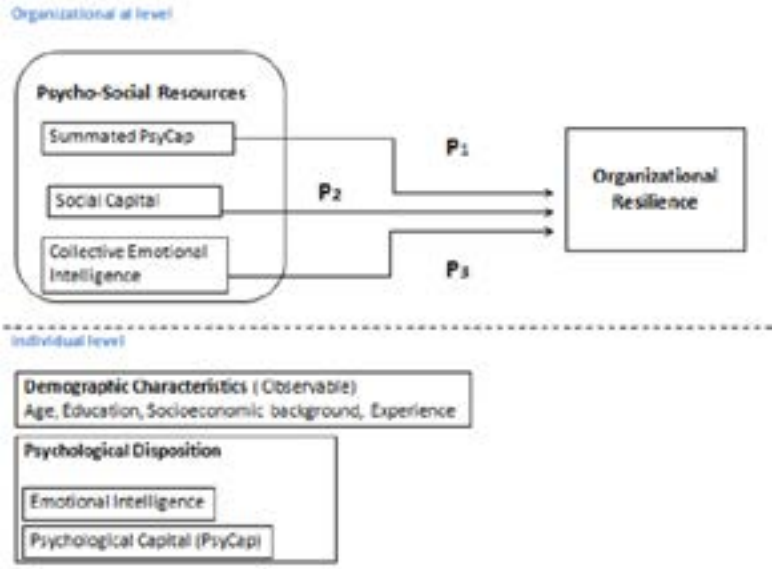
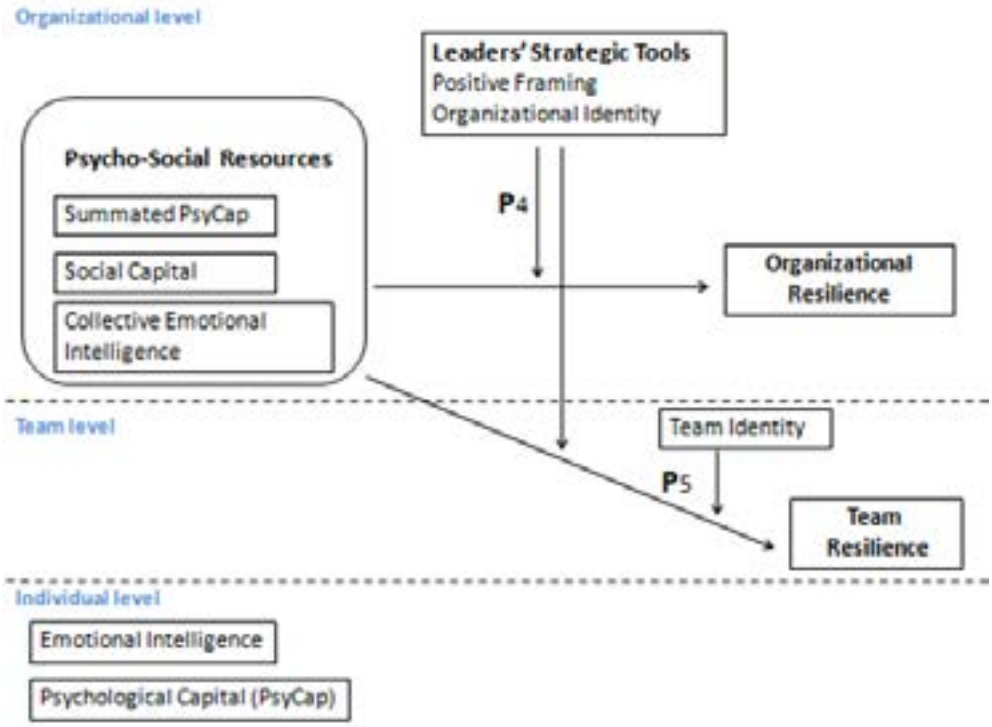


Figure 3: A pictorial representation of proposition 4 and 5



8. Stakeholder Interface Analysis in Cross-border Logistics

Stakeholder Interface Analysis in Cross-border Logistics

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Stakeholder Interface Analysis in Cross-border Logistics

ABSTRACT: *There is significant potential for supply chain performance and functioning to be affected by numerous interfacing problems. Interfacing activities can often be a drain on organizational resources and therefore are prime candidates for investigation when focusing on improving the performance of logistics systems. This paper explores the intricacies of how interfaces operate at organisational boundaries and their potential failure modes through an empirical investigation of cross-border logistics processes. The findings shed some light on interfaces with regulatory organizations, which are rather unique due to their inherent power imbalance. While providing insights into some important parameters of interfaces, the study also presents a classification of interfaces which provides clarity to interface management efforts.*

Keywords: Interfaces, interface management, cross-border logistics, stakeholder interactions

INTRODUCTION

Contemporary supply chains consist of highly specialised organisations undertaking a limited set of operations, which reinforces the interdependencies among the multiple stakeholders involved in developing and delivering products and services. In the context of supply networks, such inter-dependencies mean, information, goods and in some instances, people must seamlessly flow through interfaces at organizational boundaries.

Wren (1967, p. 1) has defined an organizational interface as 'the contact point between relatively autonomous organizations which are interdependent and interacting as they seek to cooperate to achieve some larger system objective'. Despite agreeing on common system objectives to be achieved through joint efforts, working collaboratively across interfaces pose significant challenges. Due to the autonomy and diversity of the organizations involved, as well as the influence of environmental factors, such interactions may 'result more from self-adjustment and emergence than from any formal design' (Harvey, 2016, p. 6). As with any phenomenon that emerges from a need rather than design, the resultant organizational interfaces may suffer from inherent problems that impact system performance. Rice and Cooper (2010) observed that relative autonomy of organizational divisions leads not only to sub-optimization of their interactions but also reduces the opportunity for learning by attenuating the feedback mechanisms. Interactions demand additional activities known as interfacing activities which may include compiling, formatting, transferring, receiving, acknowledging and validating information and other artefacts before they can be processed by another stakeholder (Samson & Bevington, 2012, p. 218). Such 'interfacing activities' add little to the value creation processes while consuming significant resources as they are required to comply to norms on either side of the organizational boundary

raising the potential for errors, omissions, distortions and rework. Therefore, the presence of interfacing activities in supply networks indicates opportunities for performance improvements.

Building upon the definitions used in the literature (de Blok, Meijboom, Luijkx, Schols, & Schroeder, 2014) this study adopts the view of 'an organizational interface' as the shared boundary between two interacting organizations, through which various flows occur, inclusive of the standards, protocols, rules and technologies used in such flows. Deliberate actions to enhance smooth and swift flows through interfaces while reducing non-value-adding activities are taken as interface management.

The extant literature has emphasized the significance of interface management and the benefits it can bring in different areas of operations and supply networks. However, most studies appear to discuss interfaces at the macro level with little attention paid to the mechanics of their operations. A more detailed analysis of interfaces is essential to enhance their functioning and improve the associated system performance. The study reported in this paper aims to fill this gap by analyzing organizational interfaces through addressing the following research questions.

RQ1 What are the modes of failure and what parameters need to be managed at organisational interfaces to ensure their smooth operation?

RQ2 How can the interfaces be classified in an insightful manner that would aid their management?

This paper proposes to answer these questions through a study of container-based cross-border logistics processes. The next section of this paper explores the literature on interfaces in cross-border logistics, their management and state-of-the-art interface management in other related disciplines. The section on the methodological approach details the overall approach, the data collection methods and the analysis approach employed in the study. The analysis and results section details the failure modes, the classification of interfaces and potential avenues for improving the interfaces. Discussion and conclusions follow next.

LITERATURE REVIEW

Container-based logistics was designed to be modular from its inception, with the standardization of containers and handling and transportation equipment with matching interfaces enabling dramatic efficiency gains at ports, increased utilization of vessels and seamless inter-modal

transportations (Levinson, 2016). Exploiting the resultant economies of scale, container ships have become larger over time (Hayashi & Nemoto, 2012). However, other interfaces in the container-based Cross Border Logistics (CBL) system have not always caught up with this expansion.

A defining characteristic of CBL is the significant number of stakeholders involved in moving cargo from its origin to the final destination. Ocean transporters, domestic transporters, intermodal transfer facilities, regulators, banks and logistics service providers are some of the key stakeholders involved. Some studies suggest that 25 to 30 stakeholders could be involved in an end-to-end CBL operation (Hintsa & Hameri, 2009) making it an ideal domain to study interfaces. While some interfaces between stakeholders are similar, there are also distinctively different interfaces providing many opportunities for comparison. In addition to the customer-supplier relationships that are frequently discussed in supply chain management, regulator-customer relationships are also prominent in CBL. The transaction costs arising due to friction among these stakeholders which negatively impact CBL operations have been well-documented in the literature (Grainger & Morini, 2019).

The significance of interface management in CBL is immediately apparent through some salient features in the industry. For example, on the one hand, due to the difficulty of interfacing with a large number of stakeholders, consignees and shippers resort to freight forwarders as service aggregators so that they only have to manage a single interface. On the other hand, customs organizations worldwide encourage or mandate the use of Customs House Agents (CHA), also known as customs brokers, who are trained and knowledgeable in customs affairs as their interface rather than dealing with shippers and consignees directly (Medin, 2021). However, the usage of these additional stakeholders further increases the number of interfaces in CBL creating multiple potential failure points.

The most pertinent solution to the burden of managing a large number of interfaces in CBL has been the introduction of centralized inter-organizational information systems such as National Single Windows (Niculescu & Minea, 2016) and Port Community Systems (Baalen, Zuidwijk, & Nunen, 2009), which aim to reduce the number of dyadic relationships among stakeholders. However, the implementation and adoption of such systems have been fraught with difficulty due to the hurdle of achieving consensus among diverse stakeholders (Tsen, 2011). In the absence of such multilateral systems, prominent stakeholders, usually customs and port authorities, have

resorted to the implementation of their own information systems mandating others to connect to them (Almotairi, Flodén, Stefansson, & Woxenius, 2011; Keceli, 2011). While this may reduce the burden of interface management of the system implementer, it has the potential to increase interfacing activities for other stakeholders in terms of data conversion and the development of matching client interfaces. As such, there is a need to address interfacing issues at a more fundamental level resolving their root causes, which are lacking in CBL literature. Therefore, insights have to be drawn from other related disciplines.

Interfaces and interfacing activities have been studied in project management literature, especially in construction project management where a number of stakeholders need to work collaboratively to achieve a common project objective (Lin, 2013). At the macro level, systems theory has been applied to study stakeholder interests in projects going beyond the customary matrix based stakeholder analysis (Elias, 2017). For example, system dynamics (Forrester, 1994) has been used to demonstrate how stakeholder interests evolove over time through various interactions and the feedback loops to influence the project outcomes (Elias, 2012). At a micro level, interface management in projects involves communications, relationships and deliverables management. It has received significant attention to the extent of potentially becoming a sub-discipline within project management due to its potential to avoid communication and coordination problems (Shen, Choi, Lee, & Tang, 2018; Shokri, Haas, G. Haas, & Lee, 2016). Adopting automated workflow technology, having dedicated interface management personnel and integrating interface management with other project management practices are some of the concepts discussed in project interface management (Shokri et al., 2016). More recent studies (Shen et al., 2021) have advocated formal governance of project interfaces, which include the adoption of formal principles, standardized procedures and management tools to enhance performance across interfaces.

In new product development, the detailed specifications of interfaces ensure that sub-assemblies and components seamlessly integrate even when developed by multiple teams that may be geographically dispersed (Baldwin & Clark, 1997; Kapurch, 2010). Araujo, Dubois and Gaddle (1999) have explored supplier interfaces and classified them into four categories ranging from standard to interactive interfaces. Whereas off-the-shelf components are sourced through a standard interface with an arm's length relationship with the supplier, joint product developments

call for interactive interfaces which require closer collaborations and open-ended exchanges (Araujo et al., 1999). The need for diverse interface types for different supplier relationships has been corroborated by other more recent studies, as well (Andersen & Gadde, 2019).

Service composition in marketing is another area where the management of interfaces has received some attention. In marketing parlance, the customer contact points are defined as interfaces, where the need to enhance the customer experience and the brand image through each interface is emphasized (Rayport, Jaworski, & Kyung, 2005). Modular service architectures have also been discussed by several authors highlighting the flexibility it brings to service composition through the ability to switch service providers (Voss & Hsuan, 2009). Through the study of healthcare service delivery, several authors (de Blok et al., 2014; Peters et al., 2020) have also proposed a classification of interfaces based on artefacts flowing through interfaces (i.e. patients or information) and the aim of the interface (variety or coherence).

Interfaces in construction projects continue for the duration of the project. In new product development, the interfaces develop during the new product development and continue over the product life cycle albeit in a different mode and intensity. The interfaces discussed in the services domain are of a transactional nature. Insights from all these related areas can be leveraged in the analysis and improvement of interfaces in CBL where such insights are lacking in the literature.

METHODOLOGICAL APPROACH

Process models are a useful tool to identify interfaces among stakeholders in an operation. Modern process modelling notations use swim lanes to identify roles and organizations responsible for activities (Weske, 2012) and interfaces are found where activity flows across the swim lanes. While at the aggregate level, interfaces may not be visible or will only be shown as a single interaction across boundaries, at more granular levels, multiple interactions can be observed for the accomplishment of a single transaction. As such, this study uses process models of varying granularity to identify and analyse the interfaces in CBL. The methodological approach used in this study is depicted in Figure 1.

Insert Figure 1 about here

Following a case study approach (Meredith, 1998) a comprehensive set of process maps was developed for container-based CBL operations through the Port of Colombo, one of the leading

ports in South Asia in terms of the container volumes handled (Dappe & Suárez-Alemán, 2016). The process models were developed through an interview process with multiple stakeholders with several iterations to refine and validate them. Detailed analysis of the documents used, as well as on-site observations, also played a major role in the development of process models. Additionally, partial temporal information was obtained from the available information systems and related reports.

Capturing a process in a manner amenable to the proposed analysis methodology calls for the selection of an appropriate modelling paradigm. After a systematic evaluation of a multitude of available modelling notations, a Role Activity Diagram (RAD) based approach was selected as the preferred modelling formalism. The RAD diagrams were further augmented with graphical representations of physical process flows to enhance their comprehensibility. Temporal dimensions were also added to aid subsequent analysis. While being intuitive and simple to use, a key feature of RAD compared to other notations is the ability to capture interactions within a single diagram along with other key perspectives (Bandaranayake, Kiridena, & Kulatunga, 2022).

The first step of analysis involved identifying the different types of interfaces based on the artefacts crossing the interfaces in the aggregate level diagrams. Subsequently, the process models were analysed at granular levels to identify the recurring patterns of behaviour across the interfaces. Thereafter, selected interfaces were explored in-depth to elicit the activity patterns and potential modes of failure that may occur with a view to improving the performance of the system. Finally, a classification scheme for interfaces was derived through the analysis.

ANALYSIS AND RESULTS

The set of comprehensive process models developed included 87 process models at three levels of granularity. At the aggregate level, two types of interfaces can be identified in CBL; the informational interfaces through which information flows and the physical interfaces through which goods flow. While financial flows are often separately identified in supply chains, the classification adopted here groups them under informational flows as financial transactions are mostly accomplished through the submission and acquisition of information. Figure 2 shows the export process model at the aggregate level identifying informational and physical interfaces.

Insert Figure 2 about here

Informational Interfaces

Figure 3 shows three informational interfaces at a finer granularity. Each interface comprises three-to-four distinct functional activities; preparation of information for submission, the submission of information, assessment of the submission and the dissemination of any decisions or outcomes to the relevant stakeholders.

Insert Figure 3 about here

Physical Interfaces

Figure 4 depicts a few process segments of physical interfaces. Analogous to informational interfaces several patterns of activities can be found in physical interfaces as well. Acquisition of information from physical objects, comparison of acquired information to those available in an information system or on paper, the physical movement and updating the outcome on the information system or on the paper are those steps.

Insert Figure 4 about here

Through the analysis of many interfaces in the process models and observations made during data gathering, a number of failure modes that may occur at interfaces have been identified. These failures and sub-optimizations can be attributed to the differences in the two interacting stakeholders in terms of organizational traits, processes adopted, technology embraced and physical characteristics. This list of identified potential failure modes and their impacts are shown in Table 1 and is used as a frame of reference for in-depth analysis of two informational interfaces and one physical interface encountered in the export processes.

Insert Table 1 about here

Obtaining Phytosanitary Certification

Exporters of plants or plant-based products need to obtain a phytosanitary certificate from the National Plant Quarantine Service (NPQS). This certification process is aimed at limiting plant pests, invasive species and plant pathogens from crossing national borders (Eschen et al., 2015). This process is ecompassed within 'EX06 obtain government agency approvals' in Figure 2. This interface is selected for analysis due its lenthgy and variable processing time which may take days or weeks which is substantial compared to other process steps.

The certification can be based on an inspection at the exit point, an inspection of exporters' growing/processing facilities, chemical treatment of the shipments or a combination of all these depending on the commodity and the requirements of the destination country. Therefore, the

interface between the NPQS and the exporter potentially has several interactions.

Submission of the request for certification to NPQS, a paper-based process, is usually preceded by clarifications from the agency, especially for a first-time shipper. Such clarifications take the form of visits to the office, telephone calls or emails which are subject to organizational parameter alignments such as working hours, culture and domain knowledge. Activities preceding the submission would involve seeking clarifications from the consignee and agencies in the destination country regarding certification requirements, resulting in additional interfaces and interfacing activities. If the agencies in destination countries do not provide this information in an easily accessible manner, delays can be expected. The request for certification is based on a generic format provided by NPQS on its website. Due to the diversity of combinations, its possible that more or less than the requisite information for processing is provided, culminating in duplicated activities, non-value-added activities, and delays. The preparation of information may require external expertise, such as the botanical names of plants, creating additional activities and interfaces for the shipper. Papers can be lost in transit or routed to the wrong party, rquiring shipper to follow up with NPQS to confirm the receipt and the sufficiency of information. Further follow-up activities, which do not necessarily add value, may be necessary as the approximate processing times or real-time progress are not indicated. The lab staff of NPQS may not be attuned to the urgencies involved in logistics, creating a cultural misalignment between the organizations, as well.

Submission of the Customs Declaration

Submission of the export customs declaration shown as 'EX07 File export CUSDEC' in Figure 2 is also an information submission. This process is selected for analysis since it contrasts well with the analogous process of obtaining the phytosanitary certificate.

A web-based interface of the customs information system is used for the submission of customs declarations. The declaration is filed by a trained CHA staff member taking only a few minutes 'once the required information is gathered'. Even though the declaration is lengthy with 54 fields, in addition to the training, there is ample guidance provided by customs on their website, as well. However, some of the fields are classified as 'not mandatory' creating ambiguity and the potential for over or under provision of information. Some data fields are validated upon capture with selections from drop-down menus and the acceptance of only certain restricted data types. For oline submissions, operating hour differences are irrelevant, the routing of the form is automatic and the

feedback on the receipt is immediate. The relative efficiency of this interface compared to the one previously discussed comes through the use of technology but at the cost of adding an interface between the customs and the shipper.

The use of technology at the interface introduces risks of system outages at the server, the client or the network level. The subsequent declaration approval process however, is an in-person process which negates some of the gains of the online submission process, but not discussed further in this analysis. It is also worth observing that incentives provided to organizations may harm the smooth functioning of the interface. For instance, customs officers are provided with incentives for detecting irregularities, which means if all declarations are accurate there would be no payout for customs. This could encourage later detections rather than corrections at the inception.

Picking up Empty Containers from Container Depots

Container depots temporarily store empty containers on behalf of shipping lines. Consignees return the containers after stripping them of their cargo and shippers pick up empty containers for exports. The shipping line may transport containers in and out of the depot if there is a shortage or an excess. The shipper is required to make a reservation with the shipping line for their shipment and is issued a Release Order (RO) to pick up the container from a particular depot. The RO is handed over to the trucking company which is subsequently presented to the container depot.

Organizational parameter alignments such as working times can be a problem in physical interfaces, since container depots only operate during certain hours requiring trucking companies need to plan the journey to match this window. Acquisition of physical information at the entry point involves reading the truck and trailer numbers and driver identification documents. Faded or illegible numbers/documents are a typical interfacing problem at this point. Interface problems can occur if the required documents are not carried or presented by the driver or due to errors on papers or the information system at the depot. Picking up a selected container may involve shuffling other containers by cranes/loaders introducing non-value-adding activities and delays since there is no visisbility into the sequence of pick up of containers.

Classification of Interfaces

Figure 5 summarizes the interfaces encountered in CBL in terms of the duration of the relationships and the depth of the interactions.

Insert Figure 5 about here

The interface between CHA and customs shown in the upper left quadrant is explored first. The interface has multiple interactions for a single shipment and requires specialized knowledge on the part of CHA but the relationship cannot be intimate due to the regulatory nature. Therefore, the interface must be standardized with strict specifications. To ensure the accuracy of the interaction, which carries legal ramifications and due to the rigid nature of customs organizations, training is required for the CHAs.

The interface between the shipper and the freight forwarder or the CHA who provides specialized services would be a close relationship as shown in the upper right quadrant. Few instances of standardized interactions would not suffice since many data points need to be shared. Not being of a regulatory nature these relationships could be more intimate with regular communications through multiple channels. Internal logistics departments with freight forwarding and CHA functions could be seen as an evolution of these close relationships. These long-term relationships take time and investments of both parties to build up and as such are more enduring (Hakansson & Snehota, 1995).

Considering the interface between the shipper and NPQS, if the shipper repeatedly exports similar plant-based products, the organization would become more familiar with the processes, and NPQS officers become familiar with the shipper's operations, as well. This would evolve into a more efficient interface with fewer exchanges for clarifications and fewer erroneous submissions. Driven by the needs of the shipper to satisfy the requirements of the destination country, this relationship can be seen as less formal than the CHA-customs relationship. An intermediary role similar to CHA's could be envisaged for the interface and there is evidence that some specialized CHAs are offering to interface with NPQS, as well. Introducing technology to this interface, in the form of more comprehensive online information, including export country requirements, and online submission portals could make the interface more efficient.

Most of the physical interfaces such as those between trucking and container depot or trucking and port/terminal are standard in nature and are short-term. When the trucker arrives with the appropriate documentation and approvals, the container could be picked up, dropped off or could be passed through a gate. These standardized interfaces are shown in the lower left quadrant of Figure 5. Automatic reading of truck and container numbers and bio-metric-based acquisition of driver details could speed up these interfaces. Clear instructions could also be provided regarding

what documents need to be presented for smooth transactions.

As shown in the lower right quadrant, interfaces between trucking companies and shippers or freight forwarders can be long-term relationships based on contracted terms and rates (Fransoo & Lee, 2013). While more communication would be required at the time of contracting, regular interfaces can be as simple as providing the locations for pick-up and drop-off along with the appropriate documentation. Other similar interfaces can be envisaged between the freight forwarder and shipping line with contracted rates for frequent destinations and favourable negotiated rates for other destinations. However, research has shown that only the volume of a few large consignees/shippers interests shipping companies that carry thousands of containers per vessel for long-term partnerships. In such instances, the shipper or the consignee would negotiate the shipping rates directly with the ocean carrier and enter into contracts leveraging their volumes (Carbone & Martino, 2003; Lam & Van De Voorde, 2011; Saldanha, 2006) whereas the vast majority of shippers and consignees would have no direct relationship with the shipping companies.

This section analysed the different types of interfaces in CBL, their potential failure modes and a scheme for classifying such interfaces. According to the classification, clear differences in depth and duration of interaction flows through interfaces can be identified among different stakeholders

DISCUSSION AND CONCLUSION

It has been shown that parts of a system which are performing optimally by themselves will not result in optimal system performance (Ackoff, 1994), which highlights the need for optimal interfaces that link the parts. Therefore, improving the performance and reducing transaction costs at interfaces require significant attention. This study has derived a set of failure modes at stakeholder interfaces through the analyse of CBL processes. The classification of interfaces presented can also be used to improve the understanding and management of different types of interfaces.

A relatively simple activity could spawn multiple interfacing activities due to an error in a document, which would divert resources from value-adding activities to rectification activities. Information technology can play a major role in making interfaces more robust by specifying exact information requirements, validating the data immediately and providing instantaneous feedback. For example, cascading interfacing issues due to a mis-spelt name in a document could be reduced through direct data entry of submitter compared to a third pary typing it in. Information systems

can be more effective when the interactions among stakeholders are clearly defined.

Multifaceted and longer-term interfaces between a service provider and a customer may be fuzzy during initial encounters. Over time, once protocols and standards have been understood by stakeholders on either side of the dyad, the interface can be more clearly defined. When interfaces become more mature, it is worth investing to make the interface more robust. This may range from establishing dedicated points of contact on either side to implementing purpose-built information systems.

Some interfaces however would remain open-ended and multi-channel even in the long term, analogous to what may happen during a customer and supplier during a collaborated new product development, even if they have a long-term relationship with regard to other products.

Even though Aaujo et. al. (1999, p. 10) observes that 'designing interfaces is never a one-sided affair, no matter how powerful the focal customer or supplier is', considering interfaces in CBL which involve regulators, the regulator may well decide how to set up the interface. In such instances, the customer is left with no option but to modify their end of the interface for compatibility.

Providing training to those working at interfaces, standardizing activities at the interfaces, building relationships among actors across interfaces and strengthening contractual conditions are all considerations for different types of interfaces among stakeholders depending upon the duration and depth of interactions.

The analysis presented in this paper is confined to CBL. More research could be conducted on other service encounters especially those concerning government agencies to improve the understanding in the domain. Most of the discussion of interfaces in this paper has been confined to a snapshot in time. How the interfaces evolve over time has not been considered empirically, which could be an area for future research. Dynamic modelling of interfaces, similar to system dynamics could be explored in this regard. The methodology adopted focuses on interfaces at a micro level and its applicability/relationship to macro level studies could be a subject for further research. The single case study approach used in the study may limit the external validity of the study which can be overcome by replicating the study at other analogous instances.

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Figure 1 Methodological Approach

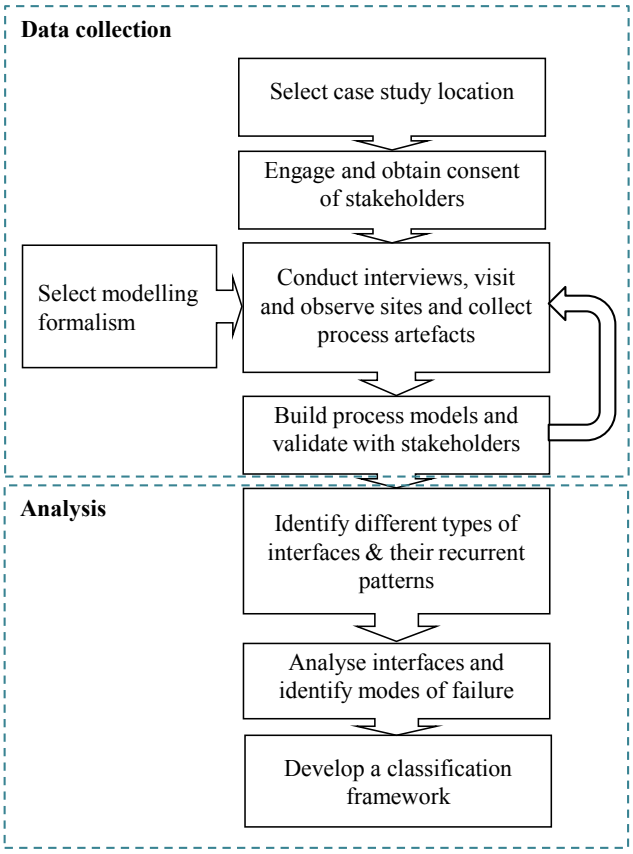


Figure 2 Export Process Map at Aggregate Level

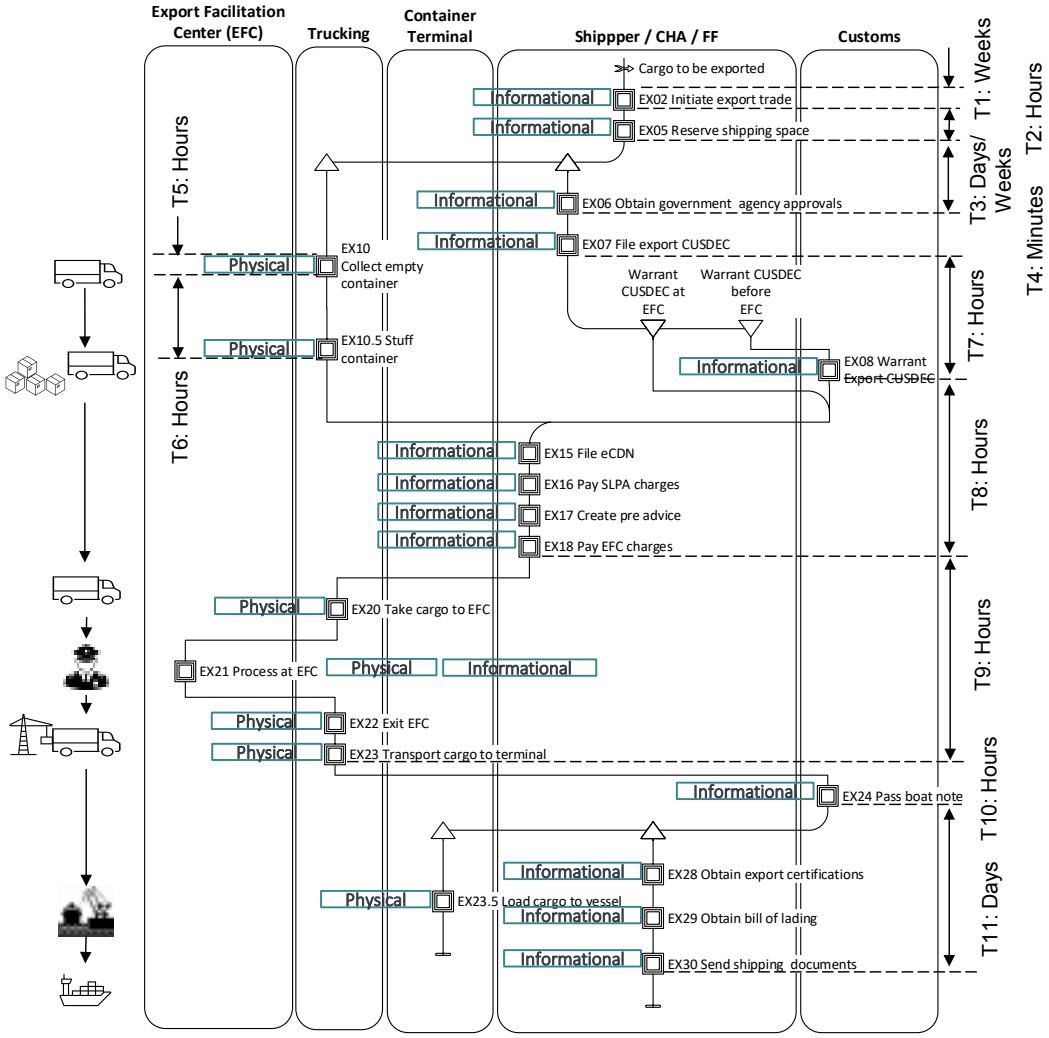


Figure 3 Informational Interfaces at Granular Level

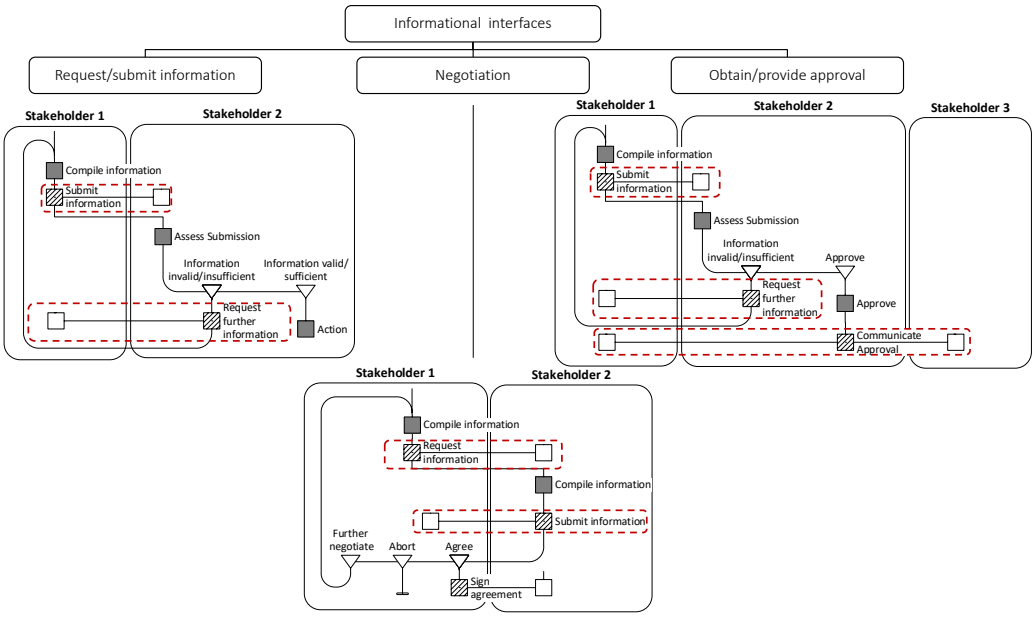


Figure 4 Physical Interfaces at Granular Level

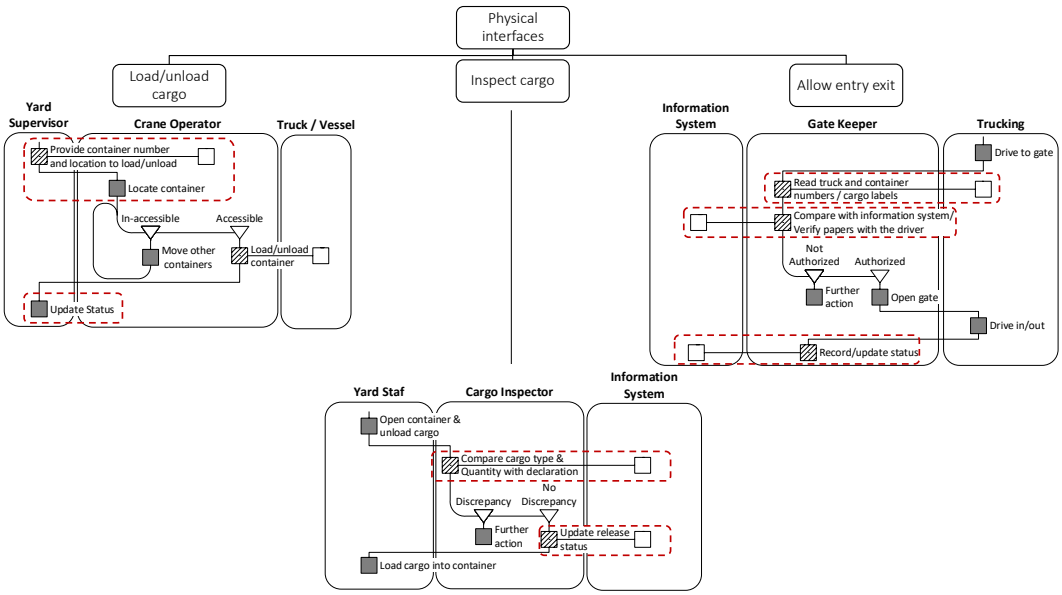
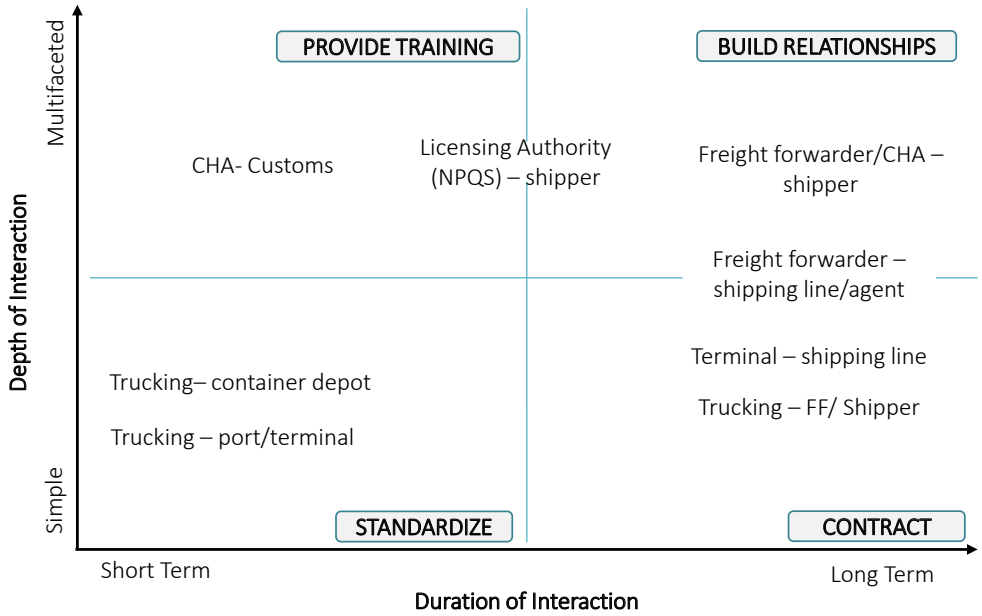


Table 1 Potential Failure Modes at the Interface

Category	Failure Mode	Impact
Organizational	Mismatch in working hours	Unavailability of resources: waiting times
	Differences in domain/culture	Mis-interpreted information: wrong decisions
	Historical mistrust	Additional tasks for validation
	Mis-matched significance/priority	Delays
Process related	Ambiguous information requirements	Additional low-value activities for clarifications
	Unclear communication channels	Wrong channel usage: rework/delays
	Unclear organizational actors	Information routed to the wrong person: rework/delays
	Requirement of technical expertise	Additional stakeholders: higher cost
	Excessive information requirements	Additional activities
	Information receipt not confirmed	Additional activities to follow-up
	Information sufficiency not confirmed	Additional activities to follow-up
	Lead time for processing not specified	Additional activities to follow-up
	Progress of processing not communicated	Additional activities to follow-up
	Outcome of processing not communicated	Additional activities to follow-up
	Insufficient information	Delays
	Incorrect / contradicting information	Delays
	Restricted communication channels	Additional activities for channel conversion
Physical	Geographical distance among stakeholders	Additional activities/travelling/delays
	Limited capacity of the interface	Bottlenecks and delays
	In-accessible cargo/containers	Delays/ additional movements
Technological	Information system unavailability	Delays/additional workaround activities
	Information system not user friendly	Additional activities

8. Stakeholder Interface Analysis in Cross-border Logistics

Figure 5 Interface Classification in CBL



Stream 1

Human Resource Management

High Performance Work Systems and Employee Retention in Chinese Organisations: The Mediating Effect of Employee Wellbeing

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Stream 1

Human Resource Management

High Performance Work Systems and Employee Retention in Chinese Organisations: The Mediating Effect of Employee Wellbeing

ABSTRACT: *This paper puts forward a plan for researching the field of human resource management in doctoral studies. It illustrates the justification for a study investigating the relationship between high performance work systems (HPWS) and employee retention and tests for any mediating role of employee wellbeing in Chinese organisations. The study will use quantitative methods to test hypotheses based on statistical analysis and theoretical identification. The minimum sample size is 800. Data will be collected from employees working in different organisations and industries in China's first-tier cities to obtain information about employee perceptions of HPWS implementation, employee wellbeing, and employee retention.*

Keywords: high performance work systems, employee wellbeing and employee retention

Stream 1

Human Resource Management

1. PROJECT SUMMARY

This paper puts forward a plan for researching the field of human resource management in doctoral studies. It illustrates the justification for a study investigating the relationship between high performance work systems (HPWS) and employee retention and tests for any mediating role of employee wellbeing in Chinese organisations. Examining employee wellbeing as a possible mediating variable will contribute to knowledge of how HPWS affect employee retention, especially in the current dynamic business environment. Mainstream HPWS research has taken Western companies as research samples; for example, Edgar, Zhang, and Blaker (2021, p 398) have argued that HPWS can exert a positive impact on employee performance. Employee performance is regarded as one key factor contributing to organisational performance. Positive employee performance can enhance organisational performance, which is deemed as the goal of HPWS. As is discussed below, from the HRM philosophy, retaining key human capital directly affects the competitive advantage of organisations, and thus, employee retention becomes a critical indicator for organisational performance. Nevertheless, there have been relatively few studies on HPWS in the context of Eastern countries and thereby whether HPWS have the same impact on employee retention in organisations based in a Chinese culture country requires further research. Hence, this research aims to examine whether employee wellbeing is a mediating variable in the impact of HPWS on employee retention in the Chinese context. Also, quantitative research methods will be applied to conduct and analyse a survey of Chinese employees' perceptions of their organisations' HPWS, their wellbeing and their intentions to stay (or not) with their current employers.

This research aims to extend prior research by examining the relationship between HPWS and employee retention, after allowing for a possible mediating role of employee wellbeing. The relevant theoretical relationships (or hypotheses) are illustrated in Figure 1. The relationships in the figure will be examined based on employee perceptions of HPWS, employee wellbeing and employee retention. Employee retention is regarded as the ultimate dependent variable, as it has been found to determine the long-term development and success of the organisation (Das & Baruah, 2013).

The research objective is:

To examine whether employee wellbeing mediates the impact of HPWS on employee retention'.

The research question is:

Does employee wellbeing mediate the impact of HPWS on employee retention, and if so how?

2. LITERATURE REVIEW

This section introduces the concepts of HPWS and its evolution from HRM. Also, it reviews key components of HPWS, which have been found to have many advantages for organisations, but there are criticisms as well. Among the advantages of HPWS is the claim that the application of HPWS can increase measures of employee wellbeing and employee retention. These concepts will also be reviewed in the following sections, as well as control factors that may be conductive to manifesting the relationships between components of HPWS, employee wellbeing and employee retention.

2.1 High Performance Work Systems (HPWS)

Although the concept of High Performance Work Systems (HPWS) has a relatively short history, it has been widely discussed. The term 'HPWS' originated in the United States and drew much attention as the competitiveness of the US manufacturing industry declined (Boxall, 2012). Over the past two decades, increased competition in the world and domestic markets has forced US enterprises to undertake major transformations to improve their performance on a range of efficiency and quality indicators (Appelbaum & Batt, 1993). Although Huselid (1995) is often considered the first person to describe HPWS, Boxall (2012) highlighted that the concept of HPWS can be traced back to an influential report published by the Commission on the Skills of the American Workforce in the 1980s: *America's Choice: High Skills or Low Wages!* (Cappelli & Neumark, 2001). This report mainly illustrated the development of employment in the US manufacturing industry, criticised the old work organisation model for lack of motivation, and argued that organisations should invest in HPWS and develop higher technical skills (Boxall, 2012). Nevertheless, the key factor that is said to have stimulated the rise of HPWS was the development of lean production systems in Japan in the 1970s and

1980s (Boxall, 2012). Lean production systems focused on the use of quality cycles, timely inventory and team production techniques, and are found to significantly improve quality, control costs, increase flexibility and help deliver products promptly (Boxall, 2012; Womack, Jones, & Roos, 1990). Reflecting the historical and social context, although HPWS are a relatively new concept in HRM, it has gradually begun to be investigated and applied by organisations.

In a study by Posthuma, Campion, Masimova, and Campion (2013), HPWS were defined as a bundle of human resource management (HRM) practices that could improve employee skills, commitment, and productivity. Also, Posthuma et al. (2013) also summarised many previous studies revealing that organisations implementing HPWS can achieve more positive operational and financial performance. That enhancement of performance is often not direct but HPWS are said to improve financial performance by enhancing intermediate variables, such as improving employee satisfaction, increasing productivity, or reducing employee turnover (Cappelli & Neumark, 2001). In response to those and similar findings, Yang et al. (2019) argued that HPWS are a key mechanism to achieve decent work and employee wellbeing and in turn, can thus play a significant role in promoting higher levels of employee engagement. These types of research results manifest the effectiveness and importance of implementing HPWS in organisations.

2.2 Employee Wellbeing (EW)

To understand the employee perceptions of wellbeing, it is necessary to first understand the definition of wellbeing itself. Employee wellbeing generally refers to the overall quality of an employee's experience and functioning at work (Grant, Christianson, & Price, 2007; Van De Voorde, Paauwe, & Van Veldhoven, 2012; Warr, 1987). Theoretical and empirical research in HRM has revealed that employee wellbeing is a multi-dimension term referring to happiness (Appelbaum, Bailey, Berg, Kalleberg, & Bailey, 2001; Gould-Williams, 2003; Whitener, 2001), health (Appelbaum et al., 2001; Orlitzky & Frenkel, 2005; Ramsay, Scholarios, & Harley, 2000) and relationships (Bartel, 2004; Gelade & Ivery, 2003; Tzafrir, 2005). Specifically, Grant et al. (2007) identified three core dimensions of employee wellbeing: (a) *happiness*: psychological wellbeing, which examines employees' subjective experience and job satisfaction in the workplace, (b) *health*: physical wellbeing, focusing on the health

structure of employees, including work stress, work accident injuries, occupational health and safety in the workplace, and (c) *relationships*: social wellbeing, mainly concerned with employee relationships, organisational support, and employees' perceptions of fairness and justice. These dimensions appear to be separate as empirical evidence has manifested that there is only a small or medium correlation between them (Guerci, Hauff, & Gilardi, 2019; Keyes, 2007).

2.3 Employee Retention (ER)

The long-term health and success of any organisation depends upon the retention of key employees (Das & Baruah, 2013, p 8). Employee retention has come to be seen as a vital indicator of a healthy development in an organisation (Ismail & Warrak, 2019). The ability of an organisation to retain the best employees is said to affect organisational performance (Das & Baruah, 2013). As claimed by Irabor and Okolie (2019), employees who are happier and more satisfied with their work tend to become more dedicated to their work and are more willing to spare their effort to enhance organisational productivity and present higher retention rates. To a large extent, satisfied employees are more likely to exceed their responsibilities to meet customer needs and are more motivated to do their best (Irabor & Okolie, 2019).

3. RESEARCH METHODOLOGY

This section describes the research design and method, target population and sampling, data collection and analysis.

3.1 Research Design

The study will use quantitative methods to test hypotheses based on statistical analysis and theoretical identification. Quantitative methods are designed to use data collection and analysis to answer research questions and test established hypotheses (Saunders, Lewis, & Thornhill, 2009). Data will be collected from employees working in different organisations and industries in China's first-tier cities (Beijing, Shanghai, Guangzhou, and Shenzhen) to obtain information about employee perceptions of HPWS implementation, employee wellbeing, and employee retention. I am developing data collection and expect to obtain a panel of Chinese participants through cooperation with a Chinese research company, WJX (https://www.wjx.cn/). Based on WJX's website, on average more than 1 million members fill

out questionnaires on the WJX platform every day, and WJX will invite selected members who meet the study criteria to join the sample database (WJX, 2021).

3.2 Target Population and Minimum Sample Size

In this section, the population is defined. Meanwhile, the sample is identified along with the inclusion criteria.

Population

The target population of the study is intended to be employees from various industries in mainland China, including banking, retailing, education, internet, and other industries. Different organisational types include state-owned enterprises, private enterprises, and foreign-funded enterprises, joint venture, multinational companies, and others. Employee positions come from different levels, including general employees, grassroots management, and middle management. Additionally, participants must meet the following minimum inclusion criteria: (a) at least 18 years of age, (b) at least completed high school education, (c) the employed organisations are based in the first-tier cities in China (Beijing, Shanghai, Guangzhou, and Shenzhen), (d) at least one year work experience in mainland China, and (e) considering SMEs may not have comparable HR systems, the minimum size of employing organisations is above 500 people. Respondents also need have an electronic device so that they can access the internet to complete the questionnaire.

Sample

I expect WJX will be able to screen potential participants to meet the above discussed sample inclusion criteria. WJX will carry out recruitment activities to select potential members via its managed survey platform that provides rewards (https://www.sojiang.com/). WJX will invite eligible members to fill out the questionnaire. They come from the sample database that is managed by WJX. After providing inclusion and exclusion criteria to WJX, potential participants will be told that they are eligible to participate in the survey, be given a link which will provide appropriate ethics information and be told if they want to participate in the survey, to click on the link. Participants who complete the survey and meet the criteria will receive corresponding rewards from WJX.

Minimum sample size

There are well established rules for determining sample size. These rules can be divided into different categories, for example item-sample ratios, population-sample tables, and general rules-of-thumb to calculate the minimum sample size (Memon et al., 2020). This research will consider several easily and commonly used methods to determine the sample size.

To generalise from the total population and avoid sampling errors or biases, it is generally believed that the random sample needs to be of sufficient size (Taherdoost, 2017). In general, the larger the sample, the less likely the result will be deviation. However, it should be noted that once the sample exceeds a certain size, there will be diminishing returns. Hence, the researcher needs to balance and decide the sample size (Gill & Johnson, 2010; Taherdoost, 2017).

This research has a large population size as it will collect data from four Chinese first-tier cities (Beijing, Shanghai, Guangzhou, and Shenzhen). According to Statista (2021), in 2018 the persons employed in those cities were respectively 6.407 million, 3.193 million, 4.865 million and 3.292 million, a total of 17.757 million.

Cochran (2007) gave a sample size formula that can be used to calculate an ideal sample size for the large population:

$$n_0 = \frac{Z^2pq}{e^2}$$

Where,

n_0 = sample size;

Z^2 = the abscissa of the normal curve that cuts off an area α at the tails;

e = the desired level of precision;

p = the estimated proportion of an attribute;

q = 1-p

Assuming p = 0.5 and e = 5%, at 95% confidence level, the sample size would be:

$$n_0 = \frac{Z^2pq}{e^2} = \frac{1.96^2 * 0.5 * 0.5}{0.05^2} = 385$$

An alternative way of estimating the population size is to use a table established by Israel (1992), The table assumes that if the desired level of precision 'e' is 5%, for a population over 100,000, the minimum sample size is 400 (Israel, 1992). Following similar principles, Taherdoost (2017) cited a table from Gill and Johnson (2010) for determining a sample size with a confidence level of 95%. According to those calculations, when the population size exceeds 250,000, assuming the desired level of precision 'e' is 5%, the sample size is a minimum of 384.

However, the final sample size has also been reviewed in light of what we anticipate is the final questionnaire. That is because guidelines from Hair, Ringle, and Sarstedt (2011) recommend a minimum of 10 times completed surveys per question, in what is regarded as one of the most popular rules of thumb to estimate the minimum sample size of the PLS-SEM method.

In the current survey, since the total number of survey questions is anticipated to be 73, the minimum sample size should be 730. In order to allow for some responses being sufficiently incomplete that they need to be deleted, and late in inclusion of additional questions, we anticipate the final sample size should be 800.

3.3 Data Collection

As forementioned, data will be collected by a survey with the aim of getting 800 valid responses. VanGeest, Johnson, and Welch (2007) and Saunders et al. (2009) argued the questionnaire design is important for increasing response rate of surveys. Thus, the research will emphasise good questionnaire design to ensure clear content, that it is easy to use, with the aim of achieving a high response rate.

The survey will first be written in English, and then translated into (simplified[1]) Chinese. Back translation method will be used to verify the accuracy of the translation, which involves translating the

[1] Simplified is the written form of Chinese used in Mainland China.

questionnaire text back to the original language (here, English) and then comparing and modifying the two original language versions until they become consistent. The goal is to determine the differences between the two versions, which may be due to the actual translation (translation errors from the source language to the target language) (Behr, 2017).

Likert scale

Synthesising different authors' findings about Likert scale, the measurement items used in this research are manifested, in which the most previous researchers have applied 5-point or 7-point Likert scale. Thus, I will pay more attention to justify discussion of the 7-point scale as opposed to the 5-point scale to lay literature basis for further decision. Firstly, Joshi, Kale, Chandel, and Pal (2015) claimed that a 7-point Likert scale is a variation of a 5-point scale, so adjacent options of 7-point are less radically varied from each other. That bigger spectrum of options provides more independence to participants for choosing the exact one (they prefer most) rather than choosing many closed options. Also, Joshi et al. (2015) suggested that about responses' reliability of participants in one survey, 7-point scale can provide better choices than 5-point scale in the survey construct, which means that 7-point scale offers more options' varieties that can improve the likelihood to meet the objective reality. Consequently, 7-point scale can present more sentiment of respondents, which offer better accuracy for the findings and have more value for the researcher, as it can offer more data points to operate statistical analysis (Joshi et al., 2015). Balancing such comparisons, a 7-point Likert scale will be used in this research.

In a Chinese context, using a Likert scale is problematic (Newman, 2004), because there is not a direct translation of the English language scale, e.g., different authors have used different forms of a Likert scale (agree-disagree) in Chinese. To illustrate in terms of "agree-disagree" scales, some authors used a 5- or 7-point Likert scale in Chinese. For instance, Xiongying, Yaofei, Li, and Sen (2017)[2] applied a 5-point Likert scale in their questionnaire, in which 1 to 5 represented '非常不符合' (very nonconforming), '较不符合' (less conforming), '介于中间' (neutral), '比较符合' (slightly

[2] Translated from Chinese

conforming) and '非常符合' (very conforming). While other authors directly translated the intervals of Likert scale, for example, Xingtong (2012) translated a 7-point Likert scale, in which the 1 to 7 range gradually increased from 1 (totally disagree-完全不同意) to 7 (totally agree-完全同意), and the participants were asked to indicate their degree of agreement. Therefore, to ensure those intervals are correctly translated into Chinese, previous literature will be searched to identify appropriate Chinese language Likert scale intervals.

3.4 Measures

Measures will be chosen based on pre-existing literature and adapted if necessary for translation into Chinese.

High performance work systems (HPWS)

HPWS measures include ten components, which is developed and cover the main elements of HRM functions such as job security, selective staffing, extensive training, internal mobility, performance appraisal, compensation and rewards, employee participation, work-life balance, job design and supervisor support. HPWS will be measured following authors such as MacNeil (1994), El-Ghalayini (2016), and Kloutsiniotis and Mihail (2020), because they covered the main elements of HRM functions like recruitment, training, compensation, engagement and job security. Sample items will be agreement with statements such as 'I can keep my job at organisation for as long as I want it' (MacNeil, 1994) and 'Our compensation system is hierarchical in nature' (El-Ghalayini, 2016).

Employee wellbeing (EW)

The study will use three categories related to employee wellbeing: happiness, health and relationships from the work of Grant et al. (2007) and Guerci et al. (2019). For health wellbeing, the study is likely to include two composite items: one for physical health and another measure of psychological health. For happiness wellbeing, the study will incorporate overall work satisfaction and engagement, such as 'At my work I feel full of energy' and 'I am enthusiastic about my job' (Guerci et al., 2019). Relationships wellbeing will be measured by using questions such as whether employees

think that they are treated equally, and assessing their relationship with supervisors and colleagues.

Employee retention (ER)

The possible measurement items of employee retention will be constructed based on the literature and previous studies on intention to stay. Egan et al. (2004) and Kyndt, Dochy, Michielsen, and Moeyaert (2009) have investigated the influence of learning atmosphere and job satisfaction on employees' willingness to stay within the organisation. Participants will be asked whether they would like to continue working for their current employer, and whether they would consider working within the company when they want to change jobs or functions. These items will be based on the construction used in previous study of them. To measure the intention to stay, the researcher will use items such as 'I plan to change jobs in this company in the foreseeable future', 'I plan to find related jobs in another company in the foreseeable future' and 'I love working for this company'. Another point of interest is whether employees believe that they have prospects in the company and whether they are motivated to work. This will be measured through items such as 'If I wanted to do another job or function, I would look first at the possibilities within this company', 'If it were up to me, I will definitely be working for this company for the next five years.'

Control variables

The study will include control variables that could impact the hypothesised relationships. As revealed in Figure 1, the study will use a bunch of control variables, including age, gender, education, employment status, duration of employment, location, ownership, hukou, industry, social insurance, organisational size, COVID-19 effect and income.

3.5 Data Analysis

SEM is regarded as one of the most widely used statistical tools in different disciplines of quantitative social sciences (Cheng, 2001; Rahman, Shah, & Rasli, 2015). This technique allows simultaneous examination of the correlations between multiple variables in a model, and can provide techniques to correct measurement errors in research problems (Orlitzky & Frenkel, 2005). AMOS is a statistical package widely used in confirmation theory, due to the use of Maximum Likelihood (ML) estimation

technology in SEM analysis (Ong & Puteh, 2017). As a powerful SEM tool, AMOS supports theoretical research through the expansion of traditional multivariate analysis methods including regression, factor analysis, correlation analysis, and variance analysis (Hair, Gabriel, & Patel, 2014). The expected statistical results will reveal the relationship between HPWS, employee wellbeing and employee retention to address the research questions.

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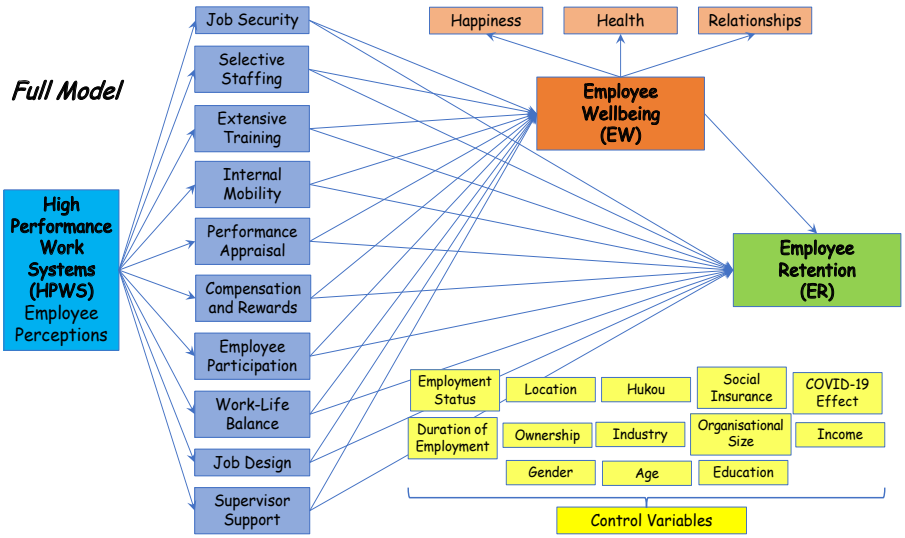
Figure 1: Research Model



Source: Created by author, 2022 (drawing from a range of literature as discussed)

0.8 Leadership and Governance

Full publication in proceedings

Director financial literacy: How do board directors measure up?

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ABSTRACT:

Over the past two decades societal scrutiny of the financial capability of directors has intensified, and regulatory reform strengthened. Legal mandates requiring individual board directors to be able to 'read and understand financial statements' (i.e., director financial literacy) have been adopted to strengthen individual and board performance. Surprisingly, despite the centrality of director financial literacy to directors' duties and financial monitoring performance, scholars and practitioners have failed to provide psychometrically robust measures to verify whether directors have this capability, instead relying on a myriad of contested proxy measures. Our paper seeks to address this weakness through mixed method research in which we directly tested the financial capability of 123 directors, evaluated 47 proxies used in prior research and triangulated our results through exploratory interviews with 14 test-takers. Our test results verified that, generally, directors lack the requisite financial literacy for financial monitoring. Unexpectedly, this finding held for experienced directors having completed director financial literacy training. We also found that proxy measures widely used in scholarly and practitioner research generally lack explanatory and predictive value.

Keywords: Accountability; Agency; Board composition; Board effectiveness; Board of directors; Director financial literacy

INTRODUCTION

As the helm of firm decision-making, the board of directors is the most direct and influential internal corporate governance mechanism (Brennan, 2006; Fama & Jensen, 1983; Misangyi & Acharya, 2014). Recognising it is not possible to specify the full range of monitoring domains applicable to each board, having at least a basic level of financial capability is generally viewed "*as universally and perennially important*" (Hambrick et al., 2015, p.331). In the wake of successive waves of economically significant financial governance failures, scrutiny and reform in many jurisdictions have established or emphasised existing legal and normative requirements for director financial literacy - DFL hereafter (Munro & Buckby, 2008; Vinnari & Näsi, 2013). For example, in Australia it is legally mandated that individual directors across all sectors, not just those serving on the boards of listed companies, be able to 'read and understand financial statements (Australian Securities and Investment Commission (ASIC), 2017; Crime and Corruption Commission, 2018; Golding, 2012; McRobert, 2014).

These reforms assume that DFL is associated with effective financial monitoring (Cohen et al., 2002; DeZoort et al., 2002; Giacomino, Akers, et al., 2009) and directors are equally capable of performing their individual duties and board responsibilities. Thus, by educating individuals identified as being director financial illiterate they can become literate and automatically insert 'financial logic' into their directorial work (Bay et al., 2014; Prevett et al., 2020; Vinnari & Näsi, 2013). Yet despite

widespread director participation in director education and training, periodical surveys of directors indicate that on average directors are perceived to lack the requisite financial capability for directorial work (Financial Reporting Council, 2012; Grant Thornton and Pro Bono Australia, 2015).

A key insight from this literature is that director cognition and contribution to governance varies by capability level. In conceptualising the varying levels of director financial capability practitioners and scholars generally turn to landmark legal and regulatory sources such as the BRC recommendations (Bay, 2014; Giacomino et al. 2009a; Rose and Rose, 2008; Vinnari and Nasi, 2013) and, in the Australian context, the *Centro* judgment as well as regulatory standards or guidance (ASX, 2010; Financial Reporting Council, 2013). Such sources categorise director financial capability into three broad levels - (1) 'financial experts' comprised of directors with qualifications and professional experience in accounting, or finance, or related areas; (2) 'director financial literates' comprised of directors who do not have qualifications or experience in finance or related areas but are able to 'read and understand financial statements' (Bay et al., 2014; McDaniel, Martin, & Maines, 2002; Vinnari & Näsi, 2013); and (3) financial illiterates, who lack the requisite ability to read and understand financial statements (Rose and Rose, 2008). These levels are nested progressions. For example, to be a financial illiterate suggests an individual has some ability, but not enough to be categorised as a financial literate. However, to be a financial expert means an individual is also financial literate.

LITERATURE REVIEW

Curiously, despite the practical significance of DFL, only a handful of isolated scholarly studies dedicated to DFL have been conducted. These studies vary markedly in their purpose, design and focus but generally suggest that DFL is desirable (McDaniel et al., 2002; Vinnari & Näsi, 2013) but lacking in practice (Coates et al., 2007; Giacomino, Wall, et al., 2009; Morse, 2004) and that this situation negatively influences performance at three levels – (1) individual director (e.g., Giacomino, Wall, et al., 2009), (2) board (e.g., Rose & Rose, 2008), and (3) firm (e.g., Coates et al., 2007; Vinnari & Näsi, 2013).

Lack of scholarly attention has been attributed to the weak conceptualisation of DFL and the consequential challenges in operationalising and measuring DFL (Abbott et al., 2002; Dionne et al., 2019; Jeanjean and Stolowy, 2009; Vinnari and Nasi, 2013). Of greater concern is the divergence in the operationalisation, and measurement of DFL, which casts doubt over the reliability and comparative value of the few extant studies (Carcello, 2011; Giacomino, Wall, et al., 2009; Ketchen et al., 2013; Martinov-Bennie, Soh and Tweedie, 2015). An issue potentially compounded by aggregating data from weakly operationalised with multi-dimensional surface-level measures (e.g., perceived ability, education, and career history) to present board level findings on how director financial capability influences governance and firm outcomes (Hambrick et al., 2015; Harrison & Klein, 2007; Kaczmarek, 2016; Ketchen et al., 2013; Turley and Zaman, 2007).

Intrigued by the apparent lack of clarity and consensus on the DFL construct and how it is measured, the research we present in this paper seeks to contribute a better understanding of DFL as an initial and necessary step in progressing research in this area. We explore DFL at the individual level of analysis within the Australian context for two key reasons: (1) this approach enables us to study DFL in an environment in which clear legal mandates require all board directors, not just those serving on the boards of listed companies, to be at least director financial literate (McRobert and Hoffman, 2010, Australian Securities and Investment Commission (ASIC), 2014); and (2) in most other jurisdictions mandates for DFL are generally limited to audit committee members and, therefore, the financial monitoring task. Studying DFL in the Australian context enables us to explore DFL in relation to board directors who contribute to the performance of multiple board roles – e.g., access to resources (Pfeffer and Salancik, 1978), strategy, and control (Johnson et al., 1996; Zahra & Pearce, 1989).

Measurement challenges

In line with upper echelons theory (Hambrick & Mason, 1984; Hambrick, 2007) constructs in most previous studies are operationalised through selected demographic attributes of the senior group (i.e., the board). Attributes such as a director's education (Giacomino, Wall, et al., 2009; Goh, 2009; Vinnari & Näsi, 2013; Wilson, 2019), and career history (DeFond et al., 2005; Martinov-Bennie et al.,

2015; Vinnari & Näsi, 2013; Wilson, 2019) are viewed as proxies to explain why specific behaviours and decisions occur. Thus, DFL is not directly assessed, rather it is inferred from proxy measures.

While the specific choice and mix of proxies varies from study to study, each assumes the presence of ability from those proxies (Carcello et al., 2011; Ketchen Jr et al., 2013). These measures are aggregated or averaged to form a board-level view of DFL (Hambrick et al., 2015). This practice, however, presents a superficial view of board level financial capability and raises concerns about measurement error, particularly construct validity (Johnson et al., 2013). For example, at the individual level a proxy for DFL is a director's education level (such as attainment of an undergraduate degree), yet this measure may represent social status or cognitive similarity as much as DFL. Further, such proxies fail to recognise that DFL may be derived from a diversity of experiences and qualifications (Abbott et al., 2004; Martinov-Bennie et al., 2015). At the group level, aggregating measures ignores the distribution of discrete attributes among individual directors (Harrison & Klein, 2007; Jensen & Zajac, 2004).

Overall, several conceptual and practical tensions are evident in scholarly studies on the relationship between DFL and effective financial monitoring. Notably flaws in the scholarly conceptualisation and operationalization of DFL have been attributed to the use of contested and inferred measures of competence (Boyd et al., 2005; Boyd et al., 2017; Carcello et al., 2011; Rose & Rose, 2008; Vinnari & Näsi, 2013), which hamper the comparability of studies (Carcello et al., 2011; DeFond, Francis, & Carcello, 2005) and insight necessary for scholarly advancement in this area. From a practical perspective, in the absence of clear guidance, individual directors and boards are left to determine what they need to know to perform their roles and duties (Bay et al., 2014; Giacomino et al., 2009), whether they have the requisite financial capability, and how they contribute to board decisions.

At a deeper level, however, this situation points to two key measurement challenges – (1) reliably, accurately, and directly verifying whether individual directors have the requisite DFL for financial monitoring; and (2) verifying whether extant proxies for DFL have explanatory and predictive value for differentiating director financial literates from illiterates. Our study seeks to address these challenges in the Australian context through the following research questions:

RQ1: Are individual directors serving boards of Australian firms director financial literate?

RQ2: What proxy measures explain and predict the presence of DFL?

In undertaking our research, we hope to contribute a richer and more nuanced understanding of board governance and more specifically insight into why apparently capable directors and boards meeting normative benchmarks of 'good governance' have, in the absence of fraudulent or other dishonest actions, failed in their financial monitoring responsibilities. Further, our research contributes empirical evidence of the importance of psychometrically robust measurement in scholarly research.

METHOD

The purpose of our research was to address the measurement challenges raised in the literature and explore director experiences in the field to gain deeper insights into the relationship between DFL and financial monitoring. Our research involved first addressing the uncertainty associated with measures applied in prior research and incorporate the measurement findings into an exploration of the use of financial capability in financial monitoring. To this end we adopted two-stage explanatory sequential mixed method study (Creswell, 2021) in which quantitative data collected and analysed through two studies in the first stage informed one qualitative study in the second stage. As construct validity is central to our research the integration of quantitative and qualitative research supports triangulation of our findings and flexibility in exploring directors' experiences in the field (Creswell, 2021; Edmondson & McManus, 2007).

Stage 1: Quantitative

The purpose of Stage 1 was to verify the current financial capability of directors and evaluate the explanatory and predictive value of extant proxy measures of director financial capability. Stage 1 comprised of two online studies, each of which were exclusively quantitative and designed to address our first two research questions. To investigate the relationship between established indirect measures and the DFLT, it is necessary to define three types of measures: (1) independent variables (i.e., the constructs and variables in the literature currently used to measure director financial capability); (2) the key dependent variable (i.e., the DFLT score) and (3) control variables (e.g., age, gender, and general financial literacy). In Study 1 we administered the psychometrically robust measure - the DFL test (DFLT) to determine whether directors are director financial literate and address RQ1. The DFLT was

developed in separate research studies producing a competency framework (Appendix 1) and the DFLT calibrated using Rasch analysis (Appendix 2)[1]. In Study 2 we used survey method to collect data on each Study 1 participant's background, experiences, and views on DFL to address RQ2. The purpose of Study 2 was to evaluate the explanatory value and predictive strength of 47 established indirect measures generally used by scholars and practitioners to determine an individual's director financial capability. For a summary see Table 1 for DFL and Table 2 for financial expert). These measures were incorporated into a survey (the DFL questionnaire – DFLQ) and covered one of five categories: (1) financial expertise, (2) board experience, (3) DFL training, (4) DFL self-efficacy, and (5) career history.

Insert Table 1 about here – DFL proxies

Insert Table 2 about here – FE proxies

In addition to the independent variable (DFLT score) and five categories of dependent variables outlined above, we included five key control variables were included in my research to detect potential demographic-based biases or variations in the data. The control variables were derived from scholarly and practitioner literature: (1) age (Beasley et al., 2009; Jeanjean & Stolowy, 2009), (2) gender (Beasley et al., 2009; Jeanjean & Stolowy, 2009), (3) general financial literacy (Agnew et al., 2013; Lusardi & Mitchell, 2011; Bay, 2014) , (4) sector-specific experience (FRC, 2012; Vinnari and Nasi, 2013), and (5) how often individuals read and used financial statements (Vinnari and Nasi, 2013).

Purposive snowball sampling (Biernacki & Waldorf, 1981) through established sources, professional associations, and online networks was used to recruit 123 directors to complete the DFLT. Upon opening the online link to the DFLT participants were screened to ensure data collected included

[1] The DFLT is a psychometrically robust direct test of DFL developed in a previous study. For an overview of the psychometric properties of the DFLT see Appendix 1 and Appendix 2 for a summary and Bettington, Bezemer & Nicholson (2014; 2015); and Bettington (2015; 2021), for further detail. To access the DFLT contact the authors or go to: https://qsurvey.qut.edu.au/jfe/form/SV_8e9DiB0A7AmTcsC

our ongoing target-test takers – board directors, including financial experts and non-financial experts. Screening questions were generally required 'yes' or 'no' responses with optional comments (Table 3).

Insert table about here – DFLT participant screening questions and categorisation

As the DFLT was designed to be context-free and limited to assessing the general threshold capability required for financial monitoring, participants were drawn from all sectors and included financial experts and nonfinancial experts (Table 4).

Insert Table about here – participants profile

One sample *t*-test was used to analyse the DFLT data in Study 1. This involved comparing the DFLT score mean of all 123 participants against the DFLT 'pass' total test score for DFL (18/23). An average total test score below the threshold score suggested that, on average, directors lack the requisite basic financial literacy for financial monitoring, and vice versa.

All 123 participants completed both the DFLT and the DFLQ. Due to the diversity of data types included in the DFLQ (continuous, ordinal, categorical, and binary coded variables) we required the use of parametric techniques (e.g., correlations, t tests, and multiple regressions) and non-parametric techniques (e.g., between-groups analysis and Mann-Whitney *U* test) for data analysis (***Table 5***).

Insert Table about here – sum data analysis

The Stage 1 sample size (n = 123) met thresholds for each of the statistical tests applied to the DFLT and DFLQ data in both Study 1 and Study 2 (***Table 6***). Sample size targets were set via established statistical guidelines for three sample sensitive statistical techniques we used to analyse my data – (1) single entry standard multiple regression, (2) hierarchical multiple regression. Our sample size exceeded the minimum level of n = 90 required for single entry multiple regression but fell just below the minimum level of n = 124 required for 3 independent variables in a hierarchical multiple regression model. The implications of this marginal shortfall in sample size were investigated and confirmed to be acceptable, provided regression assumptions were not violated (Allen & Bennett, 2012; Field, 2013; Tabachnick & Fidell, 2007), which they were not. If they had have been we would have exteded the data collection period until the requisite level was reached.

Insert Table about here – sum data analysis

For binary logistic regression the focus shifted from the number of independent variables to power, Cronbach's alpha, and estimated effect size (Field, 2013). With a widely accepted power of 0.8; standard alpha of 0.05, and an odds-ratio effect size of 3, the minimum sample size for binary logistic regression in Study 2 was n = 112 (Field, 2013; Hsieh, 1989) which with n = 123, a requirement our study exceeded.

Stage 2: Qualitative research

The purpose of Stage 2 was to triangulate Stage 1 findings and gain insights into how directors use their financial capability and the implications for financial monitoring. Given the sensitive and confidential nature of board meetings, directly accessing, and observing director interactions during meetings is challenging (Leblanc & Schwartz, 2007; Zahra & Pearce, 1989). Consequently, individual director's perceptions and experience of DFL were explored through one-on-one semi-structured interviews.

To support Stage 1 data triangulation participation in Stage 2 was limited to Stage 1 participants. We recruited fourteen self-selecting participants by way of a DFLQ question inviting participants to a follow up interview. The Stage 2 sample size (n = 14) was justified according to theoretical saturation - i.e., when no new study-relevant themes emerged from the data, indicating there was little value in continuing with data collection (Marshall & Rossman, 2011).

Four participants met the conventional criteria for director financial expert. Each participant had board experience and had completed DFL training. Collectively, the Study 2 participants served 26 different boards over 1 to 50 years, with 71.4% (n = 10) having at least eight years board experience and 50% serving 3 or more boards. While participants' current board experience was predominantly in the non-profit sector (n = 13 or 92.86%), their broader career history spanned all three major economic sectors – non-profit sector (n = 9 or 64.29%), the private sector (n = 7 or 50%), and public sector (n = 6 or 42.86%). %). It was also noted that 57% (n = 8) of the participants were male and 35.7% (n = 5) were female and participants' age ranged from 43 years to 72 years, with an average age of 57.77 years and median age of 56 years. Given the collective diversity of participant experiences, the sample size of 14 was suitable for the exploratory purpose of Stage 2.

At the discretion of participants interviews were conducted online, in-person and by phone. The duration of each interview was approximately 30 to 90 minutes. We conducted interviews using Kvale's seven stage interview process (Kvale, 1996; Kvale & Brinkmann, 2009), which is widely used for empirical research in the social sciences (Pickard, 2007). Interview data was collected using an interview protocol, which was designed to gather basic information on each interviewee's board experience and explore their views on six key areas of interest - (1) experience and impressions of completing the DFLT, (2) how confident they felt about their own director financial capability; (3) perceptions of their board peers' director financial capability; and (4) whether and how directors use their financial capability for financial monitoring. Each interview was transcribed from audio or video recordings. The resulting data was analysed using techniques adapted from established approaches to interpretive inquiry (Corbin & Strauss, 2008; Corley & Gioia, 2004) and primarily followed the "Corley & Gioia Method" - a systematic approach to designing, conducting, and reporting qualitative research (Gioia & Chittipeddi, 1991; Gioia et al., 2013). Coding was undertaken at three levels – (1) first-order coding using the terminology and phrases as expressed verbatim by interviewees; (2) second-order coding applied axial coding; and (3) categorisation into dimensions using selective coding techniques. A mix of manual tools and NVivo 12 software and a code book was used to record the development and application of codes to the interview transcripts. Triangulation of data was achieved by connecting each participant's DFLT results, responses to the DFLQ and interview response. Together, these sources formed a rich dataset.

RESULTS

Are individual directors serving boards of Australian firms director financial literate (RQ1)?

The purpose of Study 1 was to address ***RQ1: Are individual directors serving boards of Australian firms director financial literate?*** To address this research question, we ran a one sample *t* test with $p < .001$ to compare the DFLT score ($M = 14.58$, $SD = 3.37$) with the DFLT score threshold of 18. The one sample *t* test result was statistically significant, $t(122) = -10.13$, $d = .91$, 95% CI [-4.09, -2.75], with a large effect size. With $SD = 3.74$, the threshold score of 18 is just below one standard deviation (0.91 *SD*) above the sample mean ($M = 14.58$). Using a standard *z* table as reference, this suggests that 81.9% of directors would **not** meet the threshold required for DFL (Table 7).

Insert table about here – Frequencies

Based on the 95% confidence interval, these results support the **rejection** of the null hypothesis (*H_0 = Directors test scores met the DFLT score threshold for DFL)*. Therefore, at the completion of Study 1 it was concluded that, on average, individual directors lack the minimum financial capability required for financial monitoring.

Study 1 results also suggested that, while financial experts appeared to meet the requisite minimum standard to be considered director financially literate, this was not the case for non-financial experts (Table). Only 11 of the 102 nonfinancial experts who took the DFLT met the threshold of DFL – i.e., 11% of the nonfinancial experts demonstrated they were director financial literate. Overall, the one-sample *t*-test in Study 1 indicated that on average, participants scored approximately 3.3 points below the DFLT threshold for DFL.

Our Study 1 quantitative results were verified by our Study 3 interview data. While all four financial experts participating in Study 3 achieved the DFL threshold, none of the Study 3 nonfinancial experts (NFEs) achieved the threshold (***Figure 1***).

Insert figure about here

In reflecting on their test results many nonfinancial experts expressed disappointment as they expected to "*do a little bit better*" **(NFE02).** Both financial experts and non-financial experts believed their nonfinancial expert colleagues would be unlikely to pass the threshold – "*I certainly find that on some of the boards that I've been on, particularly in the not-for-profit sector, some of them wouldn't know a number if it bit them on the ass*" **(FE04)** and "*they'd struggle with the test…* [it's] *more of an indictment on that person, rather than the test… some of them would have given up"* **(NFE04).**

In reflecting on why they believed their directorial colleagues would not achieve the threshold, participants spoke of areas of difficulty ("*It's their ability and in particular around terminology*", **FE01**), ignorance about their actual ability ("*if only that they could appreciate what they don't know",* **FE03**). Several nonfinancial experts highlighted that it was their own (or their colleagues') "laziness" or "lack of commitment" that led to sub-standard performance. Some also highlighted that the group-

based nature of the board meant they could rely on "*a couple of strong players on the team*" (NFE10)(i.e., financial expert colleagues), reducing the pressure on them to acquire the skills needed to monitor the finances themselves.

Overall, our results supported the practitioner and scholarly view that directors serving boards in Australia generally lacked the DFL required to monitor the finances of the firms they serve and, therefore, addressed *RQ1*.

What proxy measures explain and predict the presence of DFL (RQ2)?

The purpose of Study 2 was to establish whether proxy measures generally applied for identifying director financial capability have explanatory and predictive value. To this end four rounds of analysis were undertaken – (1) correlations, (2) independent samples *t*-tests and Mann Whitney *U*-tests, (3) linear multiple regression analyses, and (4), binary logistic regression analysis (***Table 8***).

Insert table about here – data ana findings

The **round one** correlations analysis confirmed there were statistically significant positive relationships between 17 established indirect measurement items and director financial literacy test results. The **round two** independent samples *t* tests and Mann-Whitney *U* tests demonstrated these differences were statistically significant with a weak to huge effect size on the DFLT scores for ten items, each covering one of the established measurement categories – (1) financial expert (i.e., being a financial expert), (2) board experience (i.e., having 8 years or more board experience, or having served on an AC), (3) completing DFL training, and (4) having positive self-efficacy.

In **round three** we conducted standard and hierarchical multiple regression analyses on two models. ***Model 1*** included the four established indirect measure items above, while ***Model 2*** included only three of the four established indirect measure items (i.e., it excluded AC experience).

The results of the standard multiple regression analysis (***Model 1*** – ***Figure 2***) indicated that together the four predictors contributed a statistically significant 45.8% to the variance in the DFLT score. Within this model, however, AC experience provided a very small and statistically nonsignificant contribution to DFLT scores. The three other predictors, however, positively, and significantly

contributed to the DFLT scores. Consequently, we conducted a second standard multiple regression analysis on the three statistically significant predictors (***Model 2***) with only three predictors. Model 2 results had a very small reduction (0.2%) in the explanatory nature of the model with R^2 dropping from $R^2 = .458$ with four predictors to $R^2 = .456$ with three predictors (Table 9). It was concluded that together the three predictors contributed just under half (45.6%) of the variance in the DFLT score.

Insert figure about here – 4 regression

Insert table about here – 4 regression results

A three-step hierarchical multiple regression analysis was performed on ***Model 2*** to estimate the amount of variance in DFLT scores attributed to each of these three predictors (***Figure 3***). Being a **financial expert** accounted for the largest and statistically significant variance of 36.9% in DFLT scores. **Board experience** (≥ 8 years) accounted for a smaller and statistically significant variance of 5.9% in DFLT scores (***Table 10).*** While **DFL training** accounted for the smallest and statistically significant variance of 2.8% in DFLT scores. **These results indicated that three established indirect measurement items relating to financial expertise, board experience and DFL training explained just under half the variance in DFLT scores.**

Insert figure about here – 3 regression

Insert table about here – 4 regression results

In round four we conducted a binary logistic regression analysis to investigate which of the three statistically significant established indirect measure items were the strongest predictors of DFL. Interestingly, the completion of DFL training did not present a statistically significant effect on the odds of having the requisite minimum financial capability for financial monitoring**. The results suggested that the established indirect measurement items with the strongest predictive utility were (1)**

being a financial expert, and (2) having served as a director for at least eight years. Compared to nonfinancial experts, the odds of a financial expert being director financial literate are 61 times greater; and the odds of a director with 4.65 or more years board experience being director financial literate are 3.12 times greater when compared to a director with less experience (***Table 11***).

Insert table about here – bin log reg results

The data analysis conducted in Study 2 suggest that while established indirect measures have some merit as indicators of the presence of DFL, a robust relationship appears to be limited to directors who met normative criteria for being classified as board financial **experts**. For nonfinancial experts, however, the established indirect measurement items for DFL were found to be poor indicators of the presence of this capability. For example, while a statistically significant relationship between the completion of DFL training and the threshold were found in rounds one to three, the results of the binary logistic regression analysis in round four indicated this relationship lacked statistically significant predictive qualities.

Taken together, the results suggest that directors who were (1) financial experts with (2) at least 8 years' experience serving as a board director and (3) had completed DFL training were far more likely to meet the DFL threshold. The results also suggested that the items within these three established indirect measures explained just under half the variance in DFLT scores.

These results challenged the validity and reliability of widely accepted established measures of director financial capability, such as having CEO experience or having several years' experience serving as a board director. Surprisingly, it was found that despite most nonfinancial expert directors (1) completing DFL training, (2) gaining several years' experience serving boards, and (3) regularly reading the financial statements, they had not developed sufficient capability over time to meet the lowest threshold level necessary for financial monitoring.

Stage 1 results indicate that most directors who failed to achieve the required threshold level had (1) completed DFL training, (2) many years' experience serving boards, and (3) regularly read financial statements. We also recognise that static measures such as the DFLT results and established measures

(Boyd et al., 2011) cannot be used to measure cognition (how people think) or underlying board dynamics. Our mixed method design enabled us to address these theoretical and empirical limitations in Study 3.

The purpose of Study 3 was to triangulate our Stage 1 results and findings and explore the relationship between DFL and financial monitoring to gain insights into **why** experienced and trained directors did not meet the DFLT threshold.

While all 14 participants primarily relied on observation and experience for identifying director financial literates, 12 participants applied the criteria used in established indirect measures for assessing whether a director was a financial expert (Table 9). As discussed previously, academic, and normative literature generally uses three indirect measures for financial experts, namely: (1) completion of a tertiary qualification in accounting or other area of finance; (2) career history in accounting, finance, or an executive leadership role; and/or (3) membership of a professional accounting of financial association such as CPA Australia. Thus, financial experts were seen as those working as *"accountants and finance people*" (**NFE03**).

Insert table about here – peers' capability

In contrast, DFL was primarily assessed via direct observation of a director's behaviours in the boardroom. This in-depth approach (rarely, if ever, used in the academic literature) relied very little on conventional measures of DFL set out in ***Table 1***. These measures include: (1) business education (Giacomino et al., 2009; McDaniel et al., 2002); (2) executive leadership experience (Coates et al., 2007; Giacomino, Wall, et al., 2009; McDaniel et al., 2002); (3) board experience (Rose & Rose, 2008; Vinnari & Näsi, 2013); and/or, (4) completion of training in director financial literacy (Vinnari & Näsi, 2013). Instead, directors report assessing their colleagues' level of DFL based on three key behaviours – (1) preparation for board meetings, (2) engagement in board financial monitoring discussions, and (3) demonstrated ability to connect the financial story in the financial statements to the organisation's strategy and operations.

The *first* key behaviour differentiating director financial literates (**DFL**s) from their nondirector financial literates (**NDFL**s) colleagues was preparation or pre-work on the financials presented at a

board meeting. There was a clear view that NDFLs (perhaps quite rationally) do not appear to prepare well for the financial segment of the meeting. They can be seen "*trying to read through or flick through board papers*" (**NFE04**) perhaps because they "*don't really know what* [they're] *looking for*" (**FE03**). Instead, DFLs "*make sure that they understand what's being presented to the board rather than turn up to the board*" (**FE02**).

The *second* key behavioural distinction between DFLs and NDFLs was the level and type of engagement in the financial items during the board meeting. Whereas DFLs "*demonstrate their knowledge in the way in which they explore issues, challenge things*" (**FE01**), the NDFLs "*... are not engaged, in the sense that they would never ask a question. And you wonder whether they have enough knowledge to know what question to ask*" (**NFE07**). The distinction was not based solely on a director's level of activity during financial discussions, but rather was a combination of the level of activity with the *quality* or *nature* of the questions they asked. For example, DFLs tend to ask, "*very pertinent questions*" (**NFE08**), and "*demonstrate their knowledge in the way in which they explore issues, challenge things*" (**FE01**) such that they can "*drill down below the dollar figures presented in the reports*" (**NFE10**).

The final distinction between DFLs and NDFLs lies in the demonstrated ability to connect the finances of the organisation to its operations and strategy. Whereas NDFLs ask, "*more global* [generic] *questions*" (**NFE04**) including formal issues such as "*typographical errors and just things where the columns didn't add up correctly because the cell hadn't been dragged properly*" (**NFE10**), DFLs connect the finances to the organisational operations. Thus, DFLs can "*bring it back to some broader concepts that relate back to the purpose and vision and mission of the organisation*" (**NFE10**) by "*synthesiz*[ing] *the information* [with] *strategy, risk elements and probably, very much in our organisation ... Mission, which usually feeds into the strategy*" (**FE01**).

In summary, whereas directors report using formal measures (such as education and work experience) to determine who is a financial expert, they report using boardroom behaviours as the primary method of assessing the individual director financial literacy of their nonfinancial expert colleagues.

Overall, interviewees agreed that having at least some level of director financial capability increased the likelihood a director would actively monitor the finances, both individually and as a member of the board. One financial expert suggested that being director financial literate is "*the source from which they feel comfortable to ask the question*" (**FE01**). Where this financial capability is lacking, a director is less inclined to monitor the finances - "*a director that does not understand the finances, I would have thought you don't look at them*" (**FE03**). If they do look at the finances, it could only be a scan through the information "*because you don't really know what you're looking for, what you're looking at*" (**FE03**) or because they lacked the bandwidth required to go outside their existing domain of knowledge – "*we get the board papers about half a week beforehand… they don't have the time to read them, because they are all involved in fairly responsible positions, and they are busy people*" (**NFE08**).

Our Study 3 analysis triangulated two key insights from Stage 1 - (1) in general, directors serving boards in Australia appear to lack the basic financial capability necessary for financial monitoring (Study 1); and (2) that while established measures of board financial experts were generally strong, established measures of director financial literates are generally poor (Study 2). The interviews also extended our understanding of DFL in practice.

DISCUSSION

While it has long been assumed that DFL is associated with effective financial monitoring (Cohen et al., 2002; DeZoort et al., 2002; Giacomino, Akers, et al., 2009), empirical evidence of this association is lacking (Carcello et al., 2011). Paradoxically, despite frequent scrutiny and ongoing concern about director competence, corporate governance failures continue and, in some cases, involve boards that generally meet normative benchmarks and unaffected by fraudulent or dishonest activity (e.g., Centro). Our research is motivated by this apparent contradiction and a curiosity to understand how apparently capable and honest boards of directors seem to fail to effectively monitor their firm's finances.

Irrespective of the measures used and the research context there is general consensus in both the practitioner literature (Crime and Corruption Commission, 2018; Financial Reporting Council, 2012; Grant Thornton and Pro Bono Australia, 2015; Volpe & Woodlock, 2008) and scholarly literature

(Coates et al., 2007; Giacomino, Wall, et al., 2009; Morse, 2004; Rose & Rose, 2008; Vinnari & Näsi, 2013), that individuals who do not meet normative criteria for board financial expert lack the requisite financial capability for financial monitoring. Our research found that, on average, individual directors serving Australian boards lack the minimum level of DFL required for financial monitoring. While, on average, the DFLT results for participants meeting limited normative criteria for financial expert met the minimum threshold for DFL, individuals who did not meet these criteria (i.e., nonfinancial experts) also failed to meet the threshold for DFL. Our research, therefore, contributes direct evidence verifying that few directors serving boards in Australia have the minimum financial capability required for financial monitoring.

Removing the uncertainty as to whether directors have the minimum level of financial capability to do board work provides an evidence-based foundation for investigating how this lack of DFL affects performance at the board and firm levels. Verifying capability at the individual level is particularly important in some jurisdictions such as Australia because being at least director financial literate and actively financial monitoring is a legal obligation applicable to each board director. However, if decision-control is theoretically and legally exercised at the group-level only (i.e., the board), then it is also necessary to understand the extent of 'board financial literacy'.

The idea of measuring DFL at the group level (i.e., board financial literacy) raises deeper and more complex measurement issues. Several scholars, for example, have raised concerns about the tendency for researchers to simply aggregate the results of inferred measures at the individual unit of analysis to a 'board' measure of director financial capability (Harrison & Klein, 2007; Johnson et al., 2013). Our research has demonstrated there are psychometric weaknesses in established indirect measures of DFL. It follows, therefore, that transforming flawed measures at the individual level into a group level measure is fraught with further measurement and theoretical issues (Dalton & Dalton, 2011). Thus, to advance theory and research in director financial capability it is necessary to consider the measurement qualities of multi-level measures and how measurement practices affect the conclusions and claims made from research using such measures.

Our research has shown that reliance on demographic attributes and linear models in board research raises several measurement issues. However, it also highlighted that reliance on quantitative data, including test results cannot reveal the complex and nuanced nature of financial monitoring at multiple levels of analysis. For example, our Stage 1 research produced interesting and unexpected findings - namely the failure of experienced and trained directors who routinely read and used financial statements to demonstrate they had the most basic director financial capability for financial monitoring.

CONCLUSION

Extant scholarly literature is dominated by studies on financial experts with only a handful of isolated studies on the fundamental DFL required of each individual director, including those not meeting normative criteria for financial experts (Carcello et al., 2011; Jeanjean & Stolowy, 2009). By focusing on DFL our research extends and deepens our understanding of an important aspect of financial governance applicable to all board directors in Australia yet neglected due to measurement issues rather than research value. These insights, contribute to further research and financial governance in practice.

Given the assumed relationship between DFL and governance failures, our research establishes a basis for directly measuring the presence of individual DFL and provides insights into a critical but largely neglected component of board role performance and outcomes - DFL. The practical significance of DFL is that it has developed a direct measure, which potentially helps (i) regulators to codify and verify DFL; (ii) support director financial education and development programs; and (iii) support director recruitment and selection.

Our DFL research makes two key contributions to scholarly advancement. *Firstly*, it applies a psychometrically robust direct measure of DFL. *Secondly*, it investigates the measurement qualities of established measures used by scholars and practitioners to date. Our contributions remove significant measurement challenges in board governance research and exposes tensions in normative and legal requirements around individual director financial capability and financial monitoring practices at the individual and board levels.

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TABLES AND FIGURES

Table 1: Summary of established measures of level 2 financial expertise – DFL

Category	Constructs	Description	Examples
Financial expertise	1.1 Education	Completion of an undergraduate degree in business or management without accounting or finance major	Executive MBA program with at least one financial and one managerial accounting course (McDaniel et al., 2002) Undergraduate degree (Giacomino, Wall, et al., 2009)
	1.2 Career history	General business experience Executive management experience	Executive level role with general business experience outside of accounting (McDaniel et al., 2002) Business executive such as a CEO (Coates, 2007)
Board experience		Served as a board director	At least 8 years' experience as a board director (Vinnari & Näsi, 2013)
			Served at least 3 boards (Vinnari & Näsi, 2013)
			Served as a member of a board (Financial Reporting Council, 2012)
		Audit committee membership	Served as a member of an AC (Financial Reporting Council, 2012)
		Served as a chair	Served as board chair (Financial Reporting Council, 2012)
			Served as AC chair (Financial Reporting Council, 2012)
Training		Attended DFL training	Having participated in a short course on director financial literacy (Vinnari & Näsi, 2013) Having undertaken training on accounting/finance issues for Australian directors (Financial Reporting Council, 2012)
Self-efficacy		Confidence in ability to read and understand financial statements and financial governance requirements	Understanding of numbers and calculations (Vinnari & Näsi, 2013) Understanding of terminology (Vinnari & Näsi, 2013)
			Understanding of fundamental accounting concepts (Financial Reporting Council, 2012) Understanding of the purpose of financial statements, accounting (Financial Reporting Council, 2012)

Table 2: Summary of established measures of level 1 financial expertise – financial expert

Construct	Description	Examples
1.1 Education	Completion of degree in accounting or finance	Finance major in Bachelor degree or MBA (Giacomino, Wall, et al., 2009) Accounting or finance major in bachelor degree (Goh, 2009) MBA or equivalent (Vinnari & Näsi, 2013) Qualified accountant (ASX Corporate Governance Council, 2010)
1.2 Career history	Held accounting, auditing or financial controller roles or supervised these roles.	CFO, public accountant, auditor (Dhaliwal, et. al., 2006) Professional accountant (Coates et al., 2007) Professional accounting experience (DeFond et al., 2005; Vinnari & Näsi, 2013) 8.3 years public accounting or auditing experience and at least 6 months of general business experience (McDaniel et al., 2002) CEO (Bay et al., 2014; Sultanaa & Van der Zahn, 2013) Experience actively supervising a principal financial officer, principal accounting officer, controller, CPA, or auditor (SEC, 2003). Experience overseeing or assessing the performance of companies or public accountants in connection with preparing, auditing, or evaluating financial statements (SEC, 2003) Being or having been a CEO or other senior officer with managerial oversight responsibilities (BRC, 1999)
1.3 Professional association	Professional membership of accounting association	Certified Public Accountant (CPA) (Rose & Rose, 2008)

Table 3: DFLT participant screening questions

Participant screening question to categorise participants	**Categories**
I have completed a university degree or major in accounting, auditing or finance	Financial expert
I am or have worked as a professional auditor or accountant or other financial professional	Financial expert
I am or have been a professional member of an accounting, auditing or other financial professional association	Financial expert
I am or have been a director on a board or other governing body	Board director
I am or have been a member of a board audit committee	Board director
None of the above statements describe me (provide details, if you wish)	Depending on the explanatory text provided, may be neither a board director or financial expert

Table 4: Stage 1 Particpants' profile

Age & gender	
Age	31.15% were 50 – 59 years of age Average 52 years Range 25 – 75 years
Gender	53.7% male 44.7% female
Education and training	
Education - % completed at least a bachelor's degree	87.8%
DFL training completed	46.34%
Board experience	
Served as a board director	91.1%
Number of boards served	Average of 3.45 boards
Years' experience as a board director	Average of 12.01 years
Board or AC chair experience (%)	32.5%
Financial experts (at least a formal degree in accounting or finance)	17.1%

Table 5: Summary of the data analysis techniques to address RQ2 and RQ3

RQ	Data analysis goal	Technique	Variables
2	Compare one group with the DFLT score threshold.	• One sample *t*-test	• DFLT score • DFLT threshold total test score (≥ 18)
3	Quantify an association between established measures and the DFLT score result.	**Round 1** • Pearson correlations • Point-biserial correlations (PBCs) for binary variables	• 4 control variables • 1 dependent variable (DV) • 27 independent variables (IVs)
3	Compare the DFLT score achieved by 2 independent groups.	**Round 2** • Independent samples *t*-test or when assumptions are violated the • Mann-Whitney *U*-test	• 4 IVS and 1 DV • 6 IVs and 1 DV
3	Quantify the contribution of variables to the DFLT score.	**Round 3** • Standard multiple regression analysis • Hierarchical multiple regression analysis	• 4 IVS and 1 DV • 3 IVS and 1 DV
3	Predict values from one or more variables.	**Round 4** • Logistic binary regression analysis	• 3 IVS and 1 DV

Table 6: Sample size (n) required for multiple linear regression analysis, assuming a medium effect size (R^2 = .3).

Number of independent variables	**Standard regression**	**Hierarchical regression**
3	74	124
4	82	132
5	90	140

Table 7: Frequency distribution and descriptive statistics for DFLT results by financial expertise

Frequencies			Descriptive statistics for DFLT score Maximum DFLT score = 23. Threshold is ≥ 18			
Group	**n**	**%**	**Mean**	**Median**	**SD**	**Range**
Financial experts	21	17.07	19.57	19	1.75	17 - 23
Nonfinancial experts	102	82.93	13.55	13	3.18	6 - 21
All participants	123	100.00	14.58	14	3.75	6 - 23

Table 8: Summary of the RQ1 and RQ2 data analysis techniques and findings

RQ	Data analysis goal	Technique	Specific question	Findings
2	1. Compare one group with the DFLT score threshold	1. One sample *t*-test	• Do board directors meet the minimum threshold capability required in Australia for financial monitoring?	• No. On average directors serving boards in Australia lack the minimum financial literacy for financial monitoring.
3	2. Quantify an association between established measures and the DFLT score result	2. Pearson correlations & point-biserial correlations (PBCs) for binary variables	• What is the relationship between DFLT scores, and established indirect measure measures generally used for determining a director's financial capability?	• There are statistically significant positive relationships between 17 items drawn from the four established measures and DFLT score with an effect size of weak to strong.
3	3. Compare the DFLT score achieved by 2 independent groups	3. Independent samples t-test or 4. Mann-Whitney *U*-test	• Which established indirect measures are the strongest predictors of director financial literacy?	• Statistically significant group-based differences with a weak to huge effect size on the DFLT total scores evident for 10 items drawn from each of the four established indirect measurement categories.
3	4. Quantify the contribution of variables to the DFLT score	5. Standard regression 6. Multiple hierarchical regression	• Which established indirect measures contribute the most to director financial capability?	• Three established indirect measurement items explained just under half the variance in DFLT scores – (1) financial expertise (financial expert), (2) board experience (8 years or more) and (3) DFL training.
3	5. Predict values from one or more variables	7. Binary logistic regression	• Which established indirect measures are the strongest predictors of director financial literacy?	• Two established measures had the strongest predictive utility for director financial literacy (1) financial expertise (financial expert), and (2) board experience (8 years or more board experience).

Figure 1: Comparison of nonfinancial and financial expert performance in the DFLT

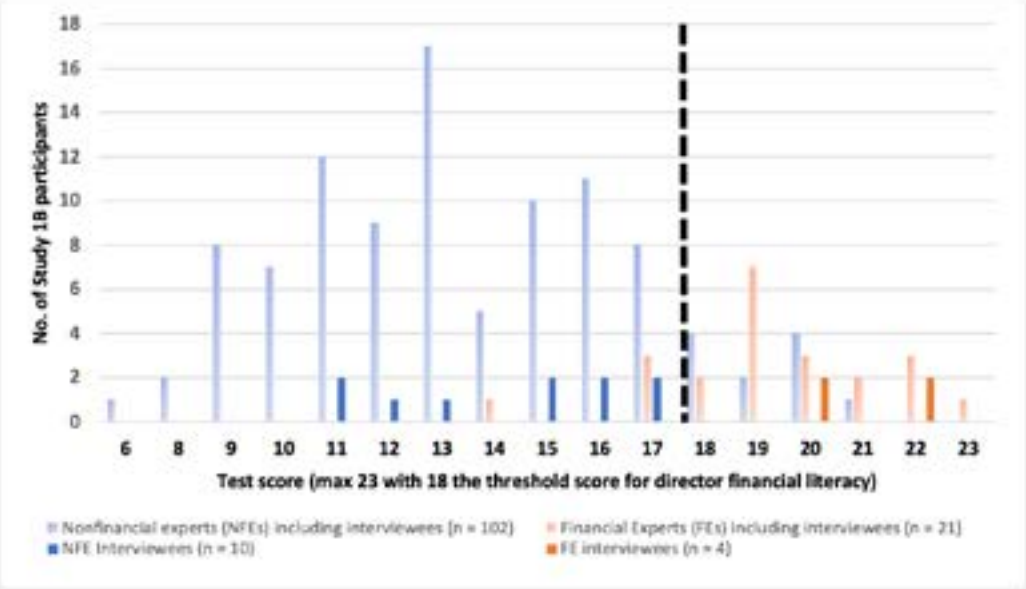
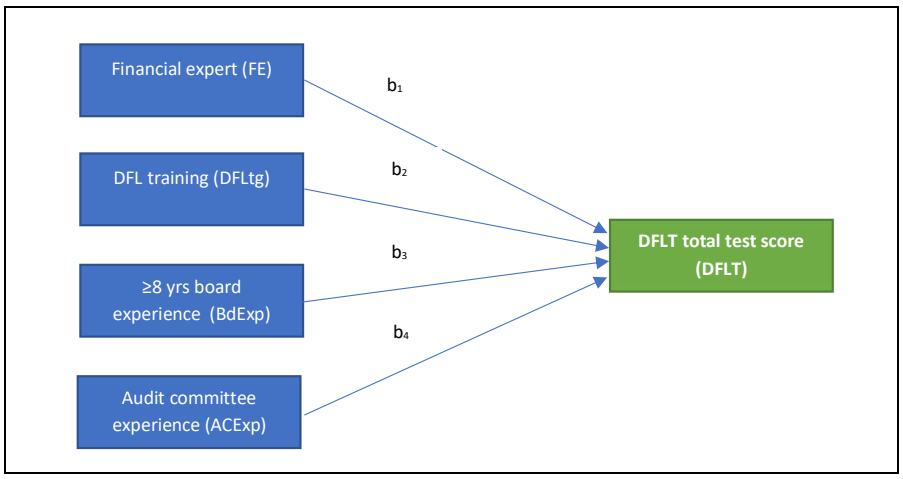


Table 9: How directors assess their peers' financial capability

How participants identify peers who are financial expert (FE)			**How participants identify peers who are nonfinancial experts (NFE) but director financial literate**		
Established measures	**No NFEs**	**No FEs**	**Established measures**	**No NFEs**	**No FEs**
Education e.g., accounting or finance degree	3	0	Completed DFL training	0	0
Professional role e.g., accountant or CFO	**10**	4	C-suite executive e.g., CEO	1	1
Professional membership e.g., CPA Australia	2	3	Board tenure	0	1
			Board leadership role	2	0
Observations	**No NFEs**	**No FEs**	**Observations**	**No NFEs**	**No FEs**
Lead finance discussions	4	0	Do pre-work	7	1
Use technical terms	2	1	Are active in financial discussions	9	4
Probe into the detail and underlying principles and processes	2	1	Ask deeper more insightful questions	5	3
Connect figures and connect figures to underlying processes, principles & standards	1	1	Can connect the finances to operations and the big picture	4	2
			Self-reliant	**10**	4

Figure 2: Model 1 regression analysis with DFLT score as the outcome variable



The regression model equations are:

H_1: $DFLT = b_1\ FE + e_1$ Equation (1)

H_2: $DFLT = b_2\ BdExp + e_2$ Equation (2)

H_3: $DFLT = b_3\ DFLtg + e_3$ Equation (3)

H_4: $DFLT = b_4\ ACExp + e_4$ Equation (4)

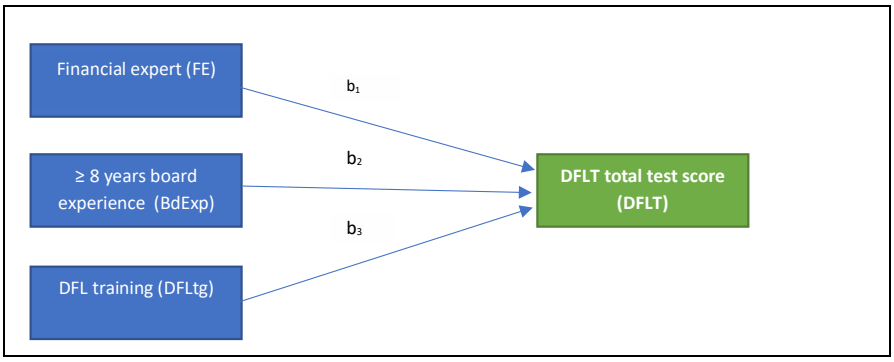
H_5: $DFLT = b_5 FE + b_6\ DFLtg + b_7\ BdExp + b_8\ ACExp + e_5$ Equation (5)

Table 10: Standard Multiple Regression Model Predicting DFLT Score with four predictors

	Director financial literacy test (DFLT) scores				
Variable	*B* [95% CI]	*β*	*SE*	*t*	*sr*
DFLT (continuous)	12.399 [11.631, 13.167]***		.388	31.964	
Financial expert	5.258 [3.825, 6.691]***	.530	.724	7.265	.492
Board experience (≥ 8 years)	1.455 [.374, 2.537]**	.193	.546	2.666	.181
DFL training	1.257 [.134, 2.381]*	.168	.567	2.216	.150
AC experience	.534 [-1.043, 2.111]	.052	.796	.671	.045

Note N= 123. *CI* = confidence interval. t = *B* divided by its standard error. *$p < .05$. ** $p < .01$. ***p <.005

Figure 3: Model 2 - Regression Model with DFLT score as the outcome variable



The hypotheses and corresponding equations for this model are:

H_1: $DFLT = b_1\, FE + e_1$ Equation (1)

H_2: $DFLT = b_2\, BdExp + e_2$ Equation (2)

H_3: $DFLT = b_3\, DFLtg + e_3$ Equation (3)

H_6: $DFLT = b_9 FE + b_{10}\, BdExp + b_{11}\, DFLtg + e_6$ Equation (6)

Table 11: Standard Multiple Regression Model Predicting DFLT score with three predictors.

	Director financial literacy test (DFLT) scores				
Variable	***B* [95% CI]**	**χ**	***SE***	***t***	***sr***
DFLT (continuous)	12.378 [11.614, 13.142]***		.386	32.088	
Financial expert	5.357 [3.957, 6.757]***	.540	.707	7.577	.512
Board experience (≥ 8 years)	1.533 [.514, 2.593]**	.206	.525	2.959	.200
DFL training	1.355 [.271, 2.438]*	.181	.547	2.476	.167

Note N= 123. *CI* = confidence interval. t = *B* divided by its standard error. *$p < .05$. ** $p < .01$. ***$p < .005$

Table 12: Binary Logistic Regression Analysis for Variables Predicting DFL

Predictor	**β**	***SE* β**	**Wald's *χ2***	***df***	***p***	**e^{β} (odds ratio)**
Constant	-3.590	.686	27.422	1	.000	.028
Financial expert	4.112	.840	23.994	1	.000	61.098
Board experience (≥ 8 years)	1.537	.699	4.830	1	.028	4.650
DFL training	1.138	.629	3.278	1	.070	3.120
Test			**χ2**	***df***	***p***	
Overall model evaluation			58.935	3	.000	
Goodness-of-fit test - Hosmer & Lemeshow			9.870	4	.043	

Appendix 1: Director financial literacy domain definition and claims statement

Domain definition		
Director financial literacy is the ability to independently read, understand and use the three fundamental financial statements (balance sheet, income statement and statement of cash flows) to form a strategic view of the organisation's financial story in relation to solvency, position, and performance for the purposes of financial monitoring and discharging core directors' duties.		
Claims statement		
Level	**Director financial literates understand:**	**Director financial literates understand the following concepts.**
1	• How each of the key line items in financial statements contribute to an organisation's financial story.	1. Balance sheet 1.1. Assets 1.2. Liabilities 1.3. Equity 1.4. Reserves 2. Statement of cash flows 2.1. Operating activities 2.2. Financing activities 2.3. Investing activities 3. Income statement 3.1. Income 3.2. Expenses 3.3. Profit/loss 3.4. Profit vs cash at the bank 3.5. Measures of profit (e.g., EBIT, EBITDA and NPAT)
2	• How each of the three fundamental financial statements contribute to the construction of an organisation's financial story.	4. Financial statements – the purpose of each statement and the relationships between them
3	• The strategic financial story presented in an organisation's financial statements and the implications of that story for the organisation.	5. Solvency 5.1. Capacity to service debt 5.2. Liquidity 6. Financial position 7. Financial performance

Appendix 2: DFLT Fit statistics

The extent to which individual board directors are director financial literate is not clear due to the absence of a direct, reliable, and valid measure of this capability. Our research tackled this measurement challenge by developing a psychometrically robust direct measure of DFL. This involved developing a competency framework through a Delphi study (Bettington, Bezemer & Nicholson, 2014; 2015), a DFLT content specification, DFL question bank, and an initial online multiple choice DFLT for piloting and calibrating. Data was collected through Crowdsourcing (Mturk and Prolific) and calibration was performed using item response theory and, to a lesser extent classic test theory. Rasch analysis, and item response theory technique, were used to construct a Rasch measurement scale using binary scored DFLT pilot data.

Classic test theory and Rasch analysis were conducted on the DFLT data over four rounds. During this process potential issues with the test stimulus material, and the phrasing of questions and response options were identified. Consequently, the stimulus material and two questions (seven items) were modified to address these weaknesses and reduce test-taker burden. The final round of the Rasch analysis was reached when each of the six DFLT Rasch measurement decision rules were met (Table 1). Criteria included (1) generic measurement rules such as Rasch statistical cut-offs (Bond & Fox, 2007), credential test design, and multiple-choice test forms (Haladyna, 2004; Haladyna & Rodriguez, 2013); and (2) DFLT specific requirements identified in the test plan (Appendix D) and content specification (Appendix 1). Once the DFLT was finalised, it was possible to set the total test score 'pass' threshold for director financial literates.

Table 1: DFLT decision criteria

Generic quantitative decision criteria (Bond & Fox, 2007)
1. **Reliability** – For items (Cronbach's alpha and PBC) and persons (Person Separation Reliability and Person Separation Index) reliability indicators were at least at an acceptable level.
2. **Item difficulty** estimates fell within the range of -1 to 1 logits, and item fit statistics cut-offs were essentially met.
3. **Person ability estimates** covered at least the same range as items and person fit statistics cut-offs were within the fit statistics cut-offs range and essentially met.
4. **Test fit** demonstrated where the observed data model reasonably approximated the Rasch model. This involves completing a series of test and item statistical checks for unidimensionality, and local dependence.
Study-specific qualitative decision criteria
1. Each competency level in the **content specification** covered by at least one test item and at least three items provide empirical evidence of a test-taker's ability to fulfil the three claim statements.
2. **Test purpose and uses** are fulfilled with the collection of items.
3. **Test-taker burden** – parsimonious in the number of items and time to complete the test in a single sitting with effort dedicated solely to completing the test.

Four stages of data analysis was completed within each of the four rounds of test calibration. At the conclusion of the first round of analysis, the test quality was improved by deleting mis-fitting items

and persons and redundant items. The Rasch analysis was repeated over another three rounds until both item and person statistics met the guidelines and there was sufficient coverage of the competencies identified in the DFL competency framework and DFLT content specification. At the completion of each round, the was results were checked against the reliability and validity requirements for robust measurement. The results for the final round, which formed the basis for the DFLT used in the studies reported in this paper, are summarised in the ***Table 2***.

Table 2: Reliability and validity of Rasch analysis

Reliability				
Requirement	**Package**	**Results**	**Interpretation**	
Person reliability	eRM separation reliability (PSR) MS Excel Person Separation Index (PSI)	PSR = 0.7091. PSI = 1.53.	A PSI < 2 is sufficient for screening or credentialing purposes. The PSR falls within the acceptable range of .7 - .8 (Cohen, 1988)	✓
Item reliability	eRM Cronbach's alpha	α = .7 and the PBC results were positive	Cronbach's alpha was in the acceptable range (.7 - .8) and the positive PBC results raised no concerns about the internal consistency of the test.	✓
Validity				
Requirement	Package	Results	Interpretation	
Test unidimensionality	Ltm MPA.	1 major and dominant factor with an eigenvalue around 4 and a second factor with an eigenvalue of approx. 1.6 and p = .01	Statistically nonsignificant result indicated strict unidimensionality requirement was met for a p <.01. Essential unidimensionality evident in the screeplot and confirmed by formal tests.	✓
	eRM Martin-Loef test	p = .745 (median split) and p = .931 (mean split)	Non-significant p value suggests the Rasch unidimensionality requirement was met.	✓
Item unidimensionality and local independence	eRM Wald test on each item	Statistically non-significant result for each Wald test	Results indicated item level local independence and unidimensionality issues not of concern.	✓

Item and person reliability

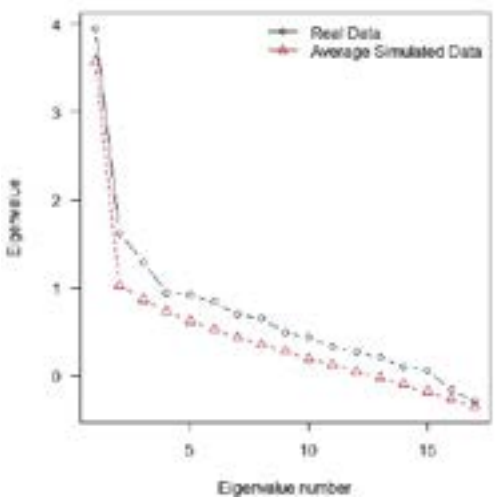
The person separation reliability (PSR) at the end of round four was .71, which is within the acceptable range for internal consistency (Cohen, 1988). The person separation index (PSI) was 1.6, indicating approximately 1 to 2 levels of ability were covered in the 17-item test. This narrow range of abilities supports test efficiency and reduces test-taker burden, which is a key requirement for the DFLT. The Cronbach alpha for test-level reliability is also at an acceptable level (α = .7) (Cohen, 1988)

Test unidimensionality

An exploratory analysis of test unidimensionality was conducted using modified parallel analysis (MPA). The results indicated that by the end of the four rounds of Rasch analysis, unidimensionality had been maintained. A comparison of the observed and expected

eigenvalue indicated there was one dominant factor with an eigenvalue around 4 and a second factor with an eigenvalue around 1.6. There was a statistically nonsignificant difference between the second factor of the observed data and expected eigenvalue (***Figure 1)***.

Figure 1: Modified parallel analysis scree plot

Alternative hypothesis: the second eigenvalue of the observed data is substantially larger than the second eigenvalue of data under the assumed IRT model Second eigenvalue in the observed data: 1.6274 Average of second eigenvalues in Monte Carlo samples: 1.0269 Monte Carlo samples: 100 p-value: 0.1	

A formal test of unidimensionality was conducted using the Martin-Loef test (***Table 3***). The results of this test did not provide evidence of a statistically significant difference between the easy and difficult items. Indicating the DFLT was unidimensional.

Table 3: Martin-Loef test for unidimensionality

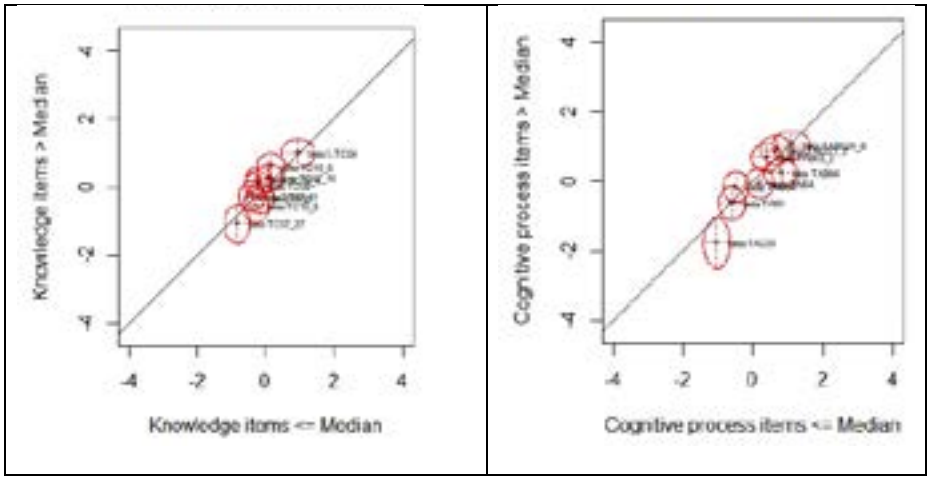
Martin-Loef test (split criterion: median)	**Martin-Loef test (split criterion: mean)**
LR-value: 62.801	**LR-value:** 54.205
Chi-square df: 71	**Chi-square df:** 71
p-value: .745	**p-value:** .931

Item unidimensionality and local independence

The global tests for unidimensionality indicated that the DFLT met this requirement. The Wald test and goodness of fit plots were used to check the unidimensionality of each item. The Wald test results did not report statistically significant items, demonstrating unidimensionality had also been met at the item. The goodness-of-fit plots for the knowledge items and cognitive process items indicated each item's confidence ellipsis touched the centre line (Rasch model)

and, therefore, conformed to the Rasch measurement model within 95% confidence intervals (***Figure 2***). This result further confirmed the unidimensionality of the DFLT.

Figure 2: Andersen LR goodness of fit plots for items



Test local independence

Local independence at the test level was checked using the nonparametric T11 test (NPT11). A significant result for the NPT11 test indicated local independence had been violated. To identify the specific item pairs potentially affecting local independence the nonparametric T1 (NPTI) test was applied to the DFLT. The *p*-value for the DFLT was adjusted to $p < .0003$ due to chance violations arising in the simulation process (Koller & Hatzinger, 2013; Van der Lans et al., 2018). The results of the NPT11 test identified four item pairs involving five individual items with statistically significant ($p < .0003$) inter-item correlations - (**7**, **8**), (8, **9**) (**12**, 16) and (12, **17**).

Two item pairs involving items 7, 8 and 9 were expected given these items were grouped together in a single question with the aim of assessing the test-taker's knowledge of the difference between common measures of profit used in financial statements. Item pairs involving items (12, 16) and (12, 17) were not expected and were flagged for further investigation when applying qualitative decision criteria at the completion of round four of analysis. Question 12 was concerned with predicting solvency with reference to information in the balance sheet. Question 16 was concerned with using the cash flow statement to compare differences in the magnitude of cash inflows from the sale of assets. Question 17 was concerned with using the cash flow statement for making predictions about an organisation's solvency.

Questions 16 and 17 shared the same stimulus material (cash flow statement), separate stimulus material was provided for question 12 (balance sheet). Both sets of stimulus material, however, referenced the same fictitious organisations. Consequently, learning effects may have been present when addressing questions 16 and 17. While this is of concern from a strict Rasch measurement perspective, connecting pieces of information to construct an organisation's financial story is critical to financial monitoring. This type of relatedness across items via financial statements (stimulus material) is, therefore, both to be expected and necessary for differentiating director financial literates from those lacking this ability. The continuing presence of local independence, albeit at a reduced level since round one, is therefore, of no concern for the DFLT.

Final checks – Application of the decision criteria

Prior to finalising the DFLT the quantitative and qualitative decision criteria were applied to the test and its items. The quantitative criteria were:

1. **CTT measures of reliability** were met. Cronbach's alpha was at an acceptable level and PBCs were generally improved by the inclusion of each item.

2. **Item difficulty estimates** fell within the approximate range of -1 to 1 logits, and item infit/outfit *t* statistics cut-offs were met. The item difficulty range was –1.226 to + 1.034 so each item conformed to the guidelines of -2 to 2 for item infit/outfit statistics (Bond & Fox, 2007).

3. **Test reliability and validity** was satisfied. The item and person reliability measures were acceptable and indicated the DFLT was limited to discriminating between 1 and 2 levels of ability, which is suitable for the binary purpose of the DFLT. The statistically non-significant result for the unidimensionality tests (MPA and Martin-Loef test) confirmed the DFLT is unidimensional. The statistically nonsignificant results of the Wald tests for item level influence on unidimensionality and local dependence also provided evidence in support of the DFLT data approximating the Rasch model.

The statistically significant results the global test for local independence (NPT11) and item level test (NPT1) for the five item-pairs flagged the requirement for local independence had not strictly been met. This was not of concern given the underlying inter-related nature of director financial literacy content and the non-significant results for the item level Wald tests.

Three qualitative criteria relating to coverage, test purpose and test-taker requirements were applied to the round 4 DFLT in consultation with Business School subject matter experts

consulted during the earlier development stages of the DFLT. This process confirmed that each of the qualitative criteria had been met.

1. **Coverage of content specification**

Each competency level in the content specification had been covered by at least one test item with at least three items providing empirical evidence of a test-taker's ability to fulfil the three claim statements:

- Claim statement 1 (*Understand how each of the key line items in financial statements contributes to an organisation's financial story*).
- Claim statement 2 (*Understand how each of the three fundamental financial statements contribute to the construction of an organisation's financial story*).
- Claim statement 3 (*Understand the strategic financial story presented in an organisation's financial statements and the implications of that story for the organisation*) was covered by eight items.

At the completion of the process, a robust direct measure of director financial literacy, the DFLT, was developed for application in the two studies presented in this paper - Study 1 involved directly assessing individual directors serving the boards of Australian corporations to determine whether directors are financial literate, and Study 2 which involved comparing the results of the DFLT and indirect established measures to ascertain the explanatory and predictive value of indirect measures.

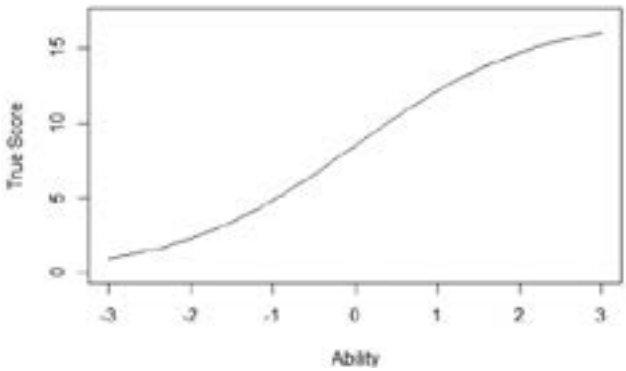
Setting the cut-off 'pass' threshold score.

The purpose of the threshold score was to provide direct evidence that DFLT test-taker was competent within the range of knowledge and cognitive processes defined in the content specification and operationalised by the 23 items selected for inclusion in the final version of the DFLT. Each test-taker's response to DFLT items were dichotomously scored, with 1 point assigned to a correct response and 0 points assigned for an incorrect response. A total test score was calculated as the sum of all test item scores.

Establishing the performance cut point on a Rasch scale is purpose-driven and context dependent. It is not surprising, therefore, there is a diversity of procedural guidance in the Rasch measurement literature (Bond & Fox, 2007; Wang, 2003; Zoanetti et al., 2009). For the purposes of our research, we needed to establish the threshold total test score to distinguish between director financial literates and those lacking this ability. The test characteristic curve

(Figure 3) generated from the Rasch analysis was referenced to identify the test score threshold score at an ability level determined through the Rasch analysis as representing the minimum necessary to cover the practical claims for testing and the content specification (Appendix 1).

Figure 3: Test characteristic curve used for setting the threshold score



The calibration process for the DFLT resulted in a clustering of items within 1 logit of the default mean of 0, establishing the minimum level for director financial literacy at +1 logits. This clustering of items is appropriate to the purpose of the DFLT, which is to clearly identify test-takers who are director financial literates (Bond & Fox, 2007).

The upper boundary of +1 logits falls on the x-axis of plot of person parameters and is the equivalent of a total test score of 12 to 13 points out of a maximum score of 17 points (Round four DFLT) on the y-axis of the plot of person parameters. As 12 points is slightly below 1 logit, a test performance cut score of 13 points or (76.5%) was adopted to ensure coverage of the minimum ability.

The final version of the test included six additional items covered in four questions drawn from the original 50-item version of the DFLT (round one). These items were rephrased versions of questions 9 (knowledge item **TC09.1**) and 10 (knowledge item **TC10**) and the re-introduction of question 1 (knowledge item **TC03**) and question 23 (cognitive process item **TAC02**). These questions were included to ensure full coverage of the content specification. Given the addition of these six items it was necessary to establish an equivalent test 'pass mark' or threshold. This was calculated by applying the 76.5% pass mark to the final test total of 23 marks, which with conventional rounding resulted in a 'pass mark' for the final version of the DFLT of 18/23.

Practical interpretation of the total test score

Test-taker's response to each test item was automatically scored and aggregated to create the total 'test score' for determining whether the test-taker achieved at least the minimum level of DFL required for board work. If a test-taker answered at least 18 of the 23 test items correctly then it was concluded the test-taker had achieved the minimum capability required for financial monitoring and was, therefore, at least 'director financial literate'.

Three performance level score ranges (approximate total test score %) and descriptions were developed to convey to test-takers the potential practical implications of their test results. The Rasch scale was used to establish three broad performance categories.

Firstly, test-takers achieving at least the cut performance standard score of 18/23 (1 logit on the Rasch scale), had demonstrated they had at least the minimum capability required for financial monitoring. Although the test results were inconclusive for test-takers achieving a total test score below 17, applying performance labelling and descriptions were a practical means for test-takers to gauge how close they were from being director financial literate.

Secondly, test-takers achieving a total test score between 13 and 17 (between 0 and 1 logits on the Rasch scale) were potentially borderline director financial literate.

And finally, achieving a total test score below 13 (below 0 logits on the Rasch scale) suggested there were several gaps in their director financial literacy that needed to be addressed through education, experience, or other means.

Stream 04. Gender, Diversity and Indigeneity

She-Matters: Interest profiles and patterns of a vanishing gender- Inputs from the Indian subcontinent

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Stream 04. Gender, Diversity and Indigeneity

She-Matters: Interest profiles and patterns of a vanishing gender- Inputs from the Indian subcontinent

ABSTRACT

*In India, there exists a rather contrasting view between STEM educational and occupational realities for women. Seeking to understand STEM academic and career choices, the study examined the vocational interest profiles of women and interest distribution patterns in sub-disciplines of science, technology, engineering, arts and mathematics. A convenience sample of 543 female students from south Indian universities participated in the study. First significant finding is the dominant people interests across sub-disciplines, suggesting that women having higher people-orientation is not just a western stereotype but exists across cultures. **S**econd important finding is the dominant information technology basic interests in both technology and other subgroups. Third, traditional STEM interest combinations of investigative, realistic, conventional, along with new interest configurations emerged within sub-disciplines.*

Keywords: vocational interests, Indian women, STEM career choice, interest profiles, gender differences in STEM fields, female workforce participation

INTRODUCTION

A negative impact of the covid pandemic was the lockdown of colleges, companies and countries everywhere. The new buzzword was "online"; from learning to healthcare to entertainment, everything moved online. All this was possible because of the rapid digital transformation across industries. From artificial intelligence to cybersecurity, digitalization is the key to flourishing in the new normal. A major component of this technological revolution is the demand for digitally skilled talent with STEM skills and knowledge being a critical requirement of the emerging technology landscape (Shoffner & Dockery, 2015). However, this demand for talent cannot be completely fulfilled unless women enter the tech or computing workforce. The underrepresentation of women in science, technology, engineering and mathematics (STEM) fields is a much researched and debated issue for several years now. In India, there exists a rather contrasting view between STEM educational and occupational realities for women. India tops the world in producing female graduates in science, technology, engineering and mathematics; at 43%, this is one of the world's highest, but India ranks 19th globally in employing STEM graduates (Oxfam report, 2019). Women constitute only 14% of the total 2.8 lakh engineers, scientists and technologist in the country. Indeed, the overall female workforce participation itself is only 27% as compared to 96 % for men (Oxfam report, 2019). Thus, while STEM enrollment rates are increasing there is still a huge gap in employability.

Extant research suggests that one reason for this is preference-based career choices. Examining gender differences, Su et al.(2009) found that while men preferred to work with things, women preferred working with people. As STEM environments are high in things-orientation and low in people-orientation, women are less likely to enter STEM careers (Su & Rounds, 2015). However culturally, STEM majors are seen as a respectable career path for women to choose and there is much interest exhibited. Vocational interest is a central predictor of STEM-related academic and career choices (Ainley, Jones, & Navaratnam, 1990; Larson, Wu, Bailey, Borgen, & Gasser, 2010). Individual preferences for certain activities lead to the formation of interest in that domain, driving them to search for and select environments in which they can express these interests (Holland, 1997). A major gap in STEM interest research is the lack of studies examining differential interest patterns within STEM sub-disciplines (Ertl & Harmann, 2019; Su & Rounds, 2015). Additionally, many studies have focused on

defining STEM fields through the narrow lens of a people-things dimension. In going beyond the usual people and things narrative, this study aims to understand what other diverse configurations of interests explain the choice of STEM majors by Indian women. Considering the new extended acronym STEAM, the study examined the organization of interests of women in the sub-disciplines of science, technology, engineering, arts and mathematics (STEAM).

REVIEW OF LITERATURE

Vocational interests are powerful predictors of individual choices (Lent, 2013) and are useful in predicting various academic and career outcomes. Vocational interests guide and support individuals in moving towards or away from certain activities and environments (Larson et al., 2010). Interests are reflected in the way individuals think about themselves (Hogan and Blake, 1999) in situations, behaviour and contexts in which activities occur and these intrinsic preferences are measured using interest assessments. The central theories explaining vocational interests and choice are Holland's RAISEC model (Holland,1997), Lent's social cognitive career theory (Lent, 2013) and Prediger's people-things and data-ideas dimensions (Prediger, 1982). Holland (1997) postulated that students with STEM interests should chose STEM-related educational and occupational environments and vice versa. Prior research demonstrates that students with higher realistic interests chose engineering, mechanical and technical majors (Pa¨ßler & Hell, 2012; Ralston, Borgen, Rottinghaus, & Donnay, 2004), while informational technology and computers science major students have greater conventional interests (Elsworth, Harvey-Beavis, Ainley, & Fabris, 1999; Larson et al., 2010). Similarly, students in science and math majors have greater investigative and enterprising interests (Ainley et al., 1990; Pa¨ßler & Hell, 2012). Meanwhile, students in arts and humanities have greater social and artistic interests and are less likely to choose technical careers (Pa¨ßler & Hell, 2012; Ralston et al., 2004).

According to Gottfredson (2005), individual career choices are shaped by how far an occupation is considered as typical of men or women. Yet, questions prevail on whether STEM fields are essentially male or female. STEM fields are not equal and there exist gender differences regarding interests in specific STEM subjects and the actual percentage of women entering a sub-discipline (Ertl & Hartmann, 2019). Generally, STEM subjects and occupations are elucidated as people-oriented or things-oriented using Prediger's (1982) bipolar dimension. In his bipolar model, individuals are attracted to either

people or thing-based work but cannot have both interests (Prediger's, 1982). Hence, women are more attracted to people-orientated or social work environments, while men choose realistic or things-orientated work environments (Su et al., 2009). Within STEM fields, women tend to move towards people-oriented STEM fields (e.g., social sciences) and away from things-oriented (e.g., engineering) STEM fields (Su & Rounds, 2015). One reason for women's' preference of social work environments over realistic STEM fields is the prerequisites of strong quantitative ability for these disciplines. Because of this requirement, women with weak mathematical skills cannot or chose not to enter STEM fields (Gottfredson, 2005). In contrast, Wang et al. (2013) demonstrated that that it is not lack of ability but individual choice that decides entry into STEM occupations. Examining gender differences in math and verbal ability, they found that individuals with high mathematical and verbal ability were less likely to pursue STEM fields. Their sample had a greater percentage of women than men in the high math and high verbal ability group. Thus, having different levels of math and verbal ability offers women a wider choice of careers in both STEM and non-STEM fields (Valla & Ceci, 2014).

Alternative to bipolar models, Tay, Su, and Rounds (2011) suggest a bivariate representation of interests where individuals may have interests in both people and things and data and ideas. They found evidence of this dual interests in their study of community dwellers and armed forces where more than half of the sample possessed interests in both people and things (Tay et al., 2011). Extending the bivariate model, the multivariate, person-centred model of vocational interests describes the existence of multiple interests in individuals, leading to more complete interest profile structures (McLarnon et al., 2015).

Given this contrasting background, the study seeks to understand the distribution of interests that exist within science, technology, engineering, arts and mathematics in the present context. A few research questions that the study focuses on addressing are:

RQ1. Do occupational stereotypes of the western world hold good within the Indian subcontinent or will new patterns emerge?

RQ 2. Do women move towards or away from STEAM fields based on their interests?

RQ 3. What interest combinations, both high and low levels, exists within STEAM fields?

RQ 4. Which specific basic interests represents STEAM education pathways

The study expects both results in line with existing literature and new interest patterns to emerge. Using Indian female subsamples, the study aims to present a deeper and comparative examination of basic interest distribution across STEAM sub-disciplines.

METHODOLOGY

Participants and procedure

A convenience sample of 543 female students from south Indian universities participated in the study. The questionnaire comprising of interest items, demographics and instructions was administrated to fulltime undergraduate and postgraduate students. To participate in the study, students had to be enrolled in science, mathematics, arts, technology or engineering-related fields. The mean age of the sample was 20.22 yrs. 14 students did not report their age. 11% students enrolled in Physical sciences, 37% in Technology disciplines, 29% in Engineering disciplines, 14% in Arts and 9% in Mathematics disciplines.

Measures

Interests were measured using a newly constructed basic interest assessment (Cherian & Kamalanabhan, 2018). ComPass is an indigenously developed interest test to meet the needs of Indian graduates, job seekers and students. The test measures vocational interests across five basic interest categories namely Engineering, Information Technology, Business, People-Related and Technology Research & Development. Using basic interest measures provides more deeper insights of the relationships between vocational interests and career choice (Su & Rounds, 2015). Responses are rated on a five-point Likert-type scale with responses ranging from strongly dislike (1) to strongly like (5). Internal-consistency and item-to-total correlations were estimated to establish reliability of the scales. Cronbach"s alpha ranged from 0.73 to 0.86 with all values being above the suggested cut-off of 0.70 (Cronbach, 1951). Item-to-total correlations ranged from 0.41 to 0.62 and are within the acceptable range (Clark and Watson, 1995). Validity was evaluated using content validity, face validity and construct validity. The results of reliability and validity tests showed acceptable levels of reliability and internal validity for the new basic interest scales (BIS).

Statistical analyses

Data was cleaned and prepared for analysis. Three different analyses were performed. First, the interest profiles of students were computed. Statistical techniques are used to summarize an individual's likes and dislikes into interest scores. Interest scores reflect the extent to which the student enjoys performing each work activity as given in the item. Hence, the summarized interest score on each scale indicates the strength of interest in that area and is representative of an individual's degree of interest in an occupation, field of study or profession (Hansen, 1984). Interest scores for each scale are computed, with the highest score indicating the primary interest category or most preferred interest type. Second, the mean distribution of interests within different STEAM sub-disciplines were examined using a paired T. test. Third, correlation analysis was performed to determine the relationships between interest scales in a full female sample. The five BIS are Engineering (ENGG), Information Technology (IT), Business (BUS), People-Related (PR) and Technology Research & Development (TR&D).

RESULTS

A perusal of the interest profiles showed that 31% of the females had predominant social interests (i.e.) their highest interest was on the people-related BIS. 29% of females had higher IT basic interests, followed by 20% of females with strong BUS basic interests. The lowest interests for the full sample were on ENGG (12%) and TR&D (8%) basic interests respectively.

The results show that while women do have a higher people-orientation or social dimension, there exists other distinct interests as well. Of significance here is the 29% of females with highest IT interests, suggesting that women have a strong preference for IT-related fields within STEAM. More than half (57%) of the females from technology disciplines, 23 % of females from engineering-related disciplines, 10% of females from mathematics, 6% from Arts and 3% of females from science had a predominant IT basic interest.

Similarly, engineering preferences or realistic interests in women cannot be completely written off as there is a small group (n=64, 12%) of females with higher engineering basic interests. Meanwhile, only less than half (48%) of the students from engineering sub-disciplines displayed predominant ENGG interests. If so, what were the other diverse interests present within this engineering subgroup?

Therefore, to further understand the specific interest distributions that exist within the STEAM sub-disciplines, a paired T. test was conducted. The mean distributions were compared within each STEAM field of study (e.g., Mathematics, Science) to understand how the subgroups differed in their interests. For each STEAM subgroup, the BIS having the highest mean was compared with the means of the other BIS using the paired samples t-test. In the subgroups, the p value for each pair of the dimensions was less than 0.05 (p value <0.05) indicating that the mean differences were statistically significant (Hair et al., 2010).

Table 1.1 gives the results of the paired samples t-test for the Science subgroup. Students in this discipline are enrolled in physics and chemistry programmes. The results of the highest mean on the TR&D scale (M= 3.72, SD= 0.73) was statistically different from the mean value of IT (M= 3.32, SD=0.74) (t (59) = 3.70, p = 0.00) and the mean value of BUS (M= 3.24, SD=1.03) (t (59) = 4.74, p = 0.00). Thus, the results indicated that the highest interest categories for the Science group is TR&D, followed by PR and ENGG.

Insert Table 1.1 about here

Table 1.2 gives the results of the paired samples t-test for the Technology subgroup. Students in this discipline are enrolled in computer science, information technology, software engineering and computer application programmes at the undergraduate and postgraduate level. The results of the highest mean value on the IT scale (M= 3.87, SD= 0.63) was statistically different from the mean value of ENGG (M= 3.28, SD=0.78) (t (200) = 11.82, p = 0.00), mean value of TR&D (M= 3.52, SD=0.65) (t (200) = 7.36, p = 0.00) and the mean value of BUS (M= 3.60, SD=0.71) (t (200) = 5.40, p = 0.00). Thus, the results indicated that the highest interest categories for the Technology subgroup is IT and PR.

Insert Table 1.2 about here

Table 1.3 gives the results of the paired samples t-test for the Engineering subgroup. Students in this discipline are enrolled in electrical engineering, electronics, instrumentation, telecommunications, chemical, aeronautical and other engineering-related programmes. The highest mean for this group was on PR (M= 3.75, SD= 0.64). However, an analysis of the same with other means revealed no difference statistically, indicating strong interests on all five BIS. To examine the patterns more deeply, the paired

T. test was performed using the second highest mean. The results of the second mean value on the TR&D dimension (M= 3.73, SD= 0.58) was statistically different from the mean value of IT (M= 3.71, SD=0.70) (t (156) = 25.57, p = 0.02), mean value of ENGG (M= 3.65, SD=0.74) (t (156) = 26.18, p = 0.00), mean value of PR (M= 3.75, SD=0.64) (t (156) = 25.31, p = 0.00) and the mean value of BUS (M= 3.60, SD=0.66) (t (156) = 25.74, p = 0.00). Thus, the results indicated strong interests for the Engineering subgroup is PR, TR&D and IT. Conversely, this group had lower ENGG and BUS basic interests as compared to TR&D.

Insert Table 1.3 about here

Table 1.4 gives the results of the paired samples t-test for the Arts subgroup. Students in this group were enrolled in language, economics and finance. The results of the highest mean value on the PR scale (M= 3.78, SD= 0.74) was statistically different from the mean value of IT (M= 3.38, SD=0.91) (t (76) = 5.30, p = 0.00), mean value of ENGG (M= 3.06, SD=0.93) (t (76) = 7.43, p = 0.00), mean value of TR&D (M= 3.41, SD=0.80) (t (76) = 4.83, p = 0.00) and the mean value of BUS (M= 3.54, SD=0.86) (t (76) = 3.46, p = 0.00). Thus, the results indicated that the highest interest for the Arts group is PR basic interest, while the lowest interest is ENGG.

Insert Table 1.4 about here

Table 1.5 gives the results of the paired samples t-test for the mathematics subgroup. The results of the highest mean value on the IT dimension (M= 3.87, SD= 0.58) was statistically different from only the mean value of ENGG (M= 3.48, SD=0.61) (t (47) = 2.23, p = 0.02). Thus, the results indicate that the mathematics group has strong interests in IT, PR, BUS and TR&D categories.

Insert Table 1.5 about here

DISCUSSION

The study sought to understand the comparative distribution of vocational interests within science, technology, engineering, arts and mathematics pathways for women in the present context. The first significant finding is the dominant people interests across sub-disciplines, suggesting that

women having higher people-orientation (Su et al., 2009) is not just a western stereotype but exists across cultures. The second notable finding is the dominant information technology basic interests in women across sub-disciplines and not just the technology majors. Within STEM**,** Su and Rounds (2015) proposed that women preferred to move towards people-oriented STEM fields like social sciences, medical science, medical services and away from things-oriented computer science disciplines. However, the findings suggest that Indian women might prefer technology pathways within STEM because of their high information technology basic interests. Third, traditional STEM interest combinations of investigative, realistic, conventional (Ainley et al., 1990; Elsworth et al., 1999; Perera & McIlveen, 2018), along with new interest profiles have emerged within the sub-disciplines.

The first subgroup (i.e.) science was represented by highest levels of technology R&D interests, followed by above-average levels of people-related and engineering interests. The subgroup also displayed below-average or lower information technology and business interests. High technology R&D interest is reflective of an underlying interest for technological research, innovations, advanced mathematical, data and analytics. Technology R&D basic interest is comparable to the investigative interest dimension in Holland's RAISEC model which symbolizes a preference for scientific, mathematical and analytical work environments and activities. In the RAISEC framework (Holland, 1997), STEM interests are represented by a combination of investigative (science, mathematics) and realistic (engineering and technology) interests. Therefore, the dominant interest of women in the science subgroup being investigative is aligned to extant studies (Ainley et al., 1990; Pa¨ßler & Hell, 2012). What is surprising is the high engineering and low business interests present in this subgroup. A closer look at the correlation patterns revealed strong associations between engineering and technology R&D basic interest factors ($r= 0.46$, $p<0.01$). While this is a new finding, considering that the science subsample constitutes only 11% of the total sample, it needs to be examined further.

The second subgroup Technology refers to information technology and computer science disciplines. Extant studies reveal that information technology and related STEM majors are represented by greater conventional interests, mid-levels of realistic and very low levels of investigative interests (Elsworth et al., 1999; Perera & McIlveen, 2018). This subgroup is characterized by higher levels of information technology and people-related interests, near-mean levels of business and lower levels of

technology R&D and engineering basic interests. Information technology BIS denotes certain facets of Holland's conventional interests in that it embodies routine, structured programming technologies and information systems work. Therefore, the results are consistent with previous research studies (Elsworth et al., 1999). Interestingly, science sub-disciplines displayed higher technology R&D and lower information technology basic interests, while technology sub-disciplines had higher information technology and lower technology R&D basic interests. Taken together, these results validate that information technology (akin to conventional) and technology R&D (akin to investigative) are two different basic interest categories. This is important as the IT industry has various technology areas that comprise both routine programming technologies (e.g., web programming) and newer data analytic technologies (e.g., big data) and required both IT and TR&D skillsets. Hence, this classification is useful in accurately mapping IT work activities and occupations with the right interest category, rather than just grouping all software-related work together. Another notable finding is the interest combination of stronger information technology and people interests for this group, indicating that women with this background maybe nurtured for technical leadership roles. Typically, team lead (TL), project lead (PL) and project management (PM) roles in the IT industry require a mix of technical and people management capabilities.

The results of the third subgroup engineering, suggest near-equal levels of people-related, technology R&D, information technology and engineering interests to be present. The absence of pre-dominant engineering interests is little surprising as prior research suggests that individuals choose engineering educational pathways due to higher realistic interests (Larson et al., 2010; Ralston et al., 2004). In India, a large number of girls and boys enrol in engineering undergraduate programmes as engineering is considered a prestigious, professional career to pursue. In the engineering subsample, 80% of females were enrolled in electronics-related engineering disciplines and 20% of females in chemical, aeronautical and biomedical engineering disciplines. This disagreement between STEM major choice, percentage of females and their measured interests indicates that the presence of factors other than vocational interests may have influenced their college major selection. A few factors as enumerated in literature are prestige, socialization factors, peer network contacts, work environment, motives and aptitudes (Ferriman et al., 2009; Gottfredson, 2005; Lent, 2013). The presence of

engineering, technology R&D, information technology basic interests offer these women a broader choice of careers to pursue (Valla & Ceci, 2014; Wang et al., 2013), including being a good fit for the science and information technology industry.

For the arts subgroup, the predominant basic interest is people-related with lower levels of business, information technology and technology R&D interests (Leuty et al., 2016; Perera & McIlveen, 2018). Recently, Ertl and Hartmann (2019) determined that economics students have high enterprising and conventional interests. In agreement with this, there was a small percentage of the females in the arts subgroup with business and information technology as their most preferred basic interests.

Finally, the mathematics subgroup was characterized by highest levels of information technology interests, along with near-mean levels of people-related, technology R&D and business interests (Pa¨ßler & Hell, 2012). Information technology, and not technology R&D being the predominant interest for maths subgroup (Perera & McIlveen, 2018) is unexpected. Especially, since the inclusion of statistics subgroup in the mathematics subsample should have led to higher investigative interests. Still, these results converge with Su and Rounds (2015) findings that high mathematical ability does not necessarily predict interests in STEM fields for women. Furthermore, the percentage of women in a STEM major or occupation is not related to the requirement of quantitative ability in that field. Another finding is the lower or lowest engineering basic interests perhaps suggesting that high quantitative ability does not lead to higher realistic or investigative interests (Woodcock et al., 2013).

Vocational interests are powerful predictors of occupational membership (Su & Rounds, 2015). While the results showed Indian women to have a high people preference, their story does not end there. The specific combinations of basic interests identified within the different sub-disciplines help paint a larger picture that goes beyond the people-things narrative. The participation of women in the workforce has been on the decline in the last few years, dropping to almost 9% in the pandemic years. In the current technology economy, India cannot fulfil its desire to become a digital skills provider of the world until women are made an essential part of the workforce. A glimmer of hope is the Indian IT industry which is major employer of women, employing nearly 34% of females as part of its talented workforce. The mapping of the identified interest combinations for the sub-disciplines to existing

occupations and jobs in the IT industry can provide STEM female students with clear career guidance on the path to pursue post college.

A limitation of this study is that more STEM sub-disciplines pertaining to social sciences, biological science, medical science, humanities, medical services, applied mathematics, etc were not included which could have given a holistic view of the full STEM vocational interest spectrum of women in India. However, these were the major groups that were the basis for Su and Round's (2015) seminal study concluding on the people-oriented STEM preferences of women and replicating the study might have given similar results. To fully appreciate the findings of this study, future research should investigate if the identified basic interests in STEM educational pathways is likely to predict STEM occupational membership for women.

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TABLES

Table 1.1: Paired Sample T-Test Science Subgroup

Variables		Mean	SD	t	Sig. (2-tailed)	df
Pair 1	TR&D	3.72	0.73	4.74	0.00**	59
	BUSINESS	3.24	1.03			
Pair 2	TR&D	3.72	0.73	3.70	0.00**	59
	IT	3.32	0.74			
Pair 3	TR&D	3.72	0.73	1.61	0.11	59
	ENGG	3.56	0.77			
Pair 4	TR&D	3.72	0.73	4.58	0.52	59
	PR	3.67	0.71			

Note: ** $p \leq 0.05$; two-tailed; N = 60 (Science subgroup); IT= Information Technology; Engg= Engineering; PR= People-Relatedness; TR&D= Technology Research & Development

Table 1. 2: Paired Sample T-Test Technology Subgroup

Variables		Mean	SD	T	Sig. (2-tailed)	Df
Pair 1	IT	3.87	0.63	5.40	0.00**	200
	BUSINESS	3.60	0.71			
Pair 2	IT	3.87	0.63	11.82	0.00**	200
	ENGG	3.28	0.78			
Pair 3	IT	3.87	0.63	0.95	0.35	200
	PR	3.83	0.64			
Pair 4	IT	3.87	0.63	7.36	0.00**	200
	TR&D	3.52	0.65			

Note: ** $p \leq 0.05$; two-tailed; N = 201 (Technology subgroup); IT= Information Technology; Engg= Engineering; PR= People-Relatedness; TR&D= Technology Research & Development

Table 1. 3: Paired Sample T-Test Engineering Subgroup

Variables		Mean	SD	T	Sig. (2-tailed)	Df
Pair 1	TR&D	3.73	0.58	25.74	0.00*	156
	BUSINESS	3.60	0.66			
Pair 2	TR&D	3.73	0.58	25.57	0.00**	156
	IT	3.71	0.70			
Pair 3	TR&D	3.73	0.58	25.31	0.00**	156
	PR	3.75	0.64			
Pair 4	TR&D	3.73	0.58	26.18	0.00**	156
	ENGG	3.65	0.74			

Note: ** $p \leq 0.05$; two-tailed; N = 157 (Engineering subgroup); IT= Information Technology; Engg= Engineering; PR= People-Relatedness; TR&D= Technology Research & Development

Table 1.4: Paired Sample T-Test Arts Subgroup

Variables		Mean	SD	t	Sig. (2-tailed)	df
Pair 1	PR	3.78	0.74	3.46	0.00**	76
	BUSINESS	3.54	0.86			
Pair 2	PR	3.78	0.74	5.30	0.00**	76
	IT	3.38	0.91			
Pair 3	PR	3.78	0.74	7.43	0.00**	76
	ENGG	3.06	0.93			
Pair 4	PR	3.78	0.74	4.83	0.00**	76
	TR&D	3.41	0.80			

Note: ** $p \leq 0.05$; two-tailed; N = 77 (ARTS subgroup); IT= Information Technology; Engg= Engineering; PR= People-Relatedness; TR&D= Technology Research & Development

Table 1.5: Paired Sample T-Test Mathematics Subgroup

Variables		Mean	SD	T	Sig. (2-tailed)	Df
Pair 1	IT	3.67	0.65	0.47	0.64	47
	BUSINESS	3.63	0.73			
Pair 2	IT	3.67	0.65	2.23	0.02**	47
	ENGG	3.48	0.61			
Pair 3	IT	3.67	0.65	0.92	0.36	47
	PR	3.60	0.71			
Pair 4	IT	3.67	0.65	1.20	0.24	47
	TR&D	3.57	0.67			

Note: ** $p \leq 0.05$; two-tailed; N = 48 (MATHS subgroup); IT= Information Technology; Engg= Engineering; PR= People-Relatedness; TR&D= Technology Research & Development

7. Teaching and Learning

Mission Impossible? Preparing Business School Graduates for a Post-Banking Royal Commission World

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Mission Impossible? Preparing Business School Graduates for a Post-Banking Royal Commission World

ABSTRACT:

Financial institutions in Australia have recently been exposed for normalised bad behaviour by the Banking Royal Commission and business schools stand accused by critical management scholars of perpetuating a corporate culture that prioritises maximizing shareholder profit to the detriment of broader stakeholder concerns. Our research aim was to understand how well business schools have prepared their students to enact personal and social responsibility in workplaces through an investigation into the experience and perspectives of current student interns and graduates. We employ a qualitative and exploratory multi methods approach. Our findings serve to inform pedagogy and practice that supports business school students to develop purposeful, critically considered approaches to professional practice and emerging professional identity.

Key Words: *PRME, agency, deliberate professional, responsible management education, critical reflexive practice, business ethics*

INTRODUCTION

The 'Final Report' of the Royal Commission into Banking in Australia (February 2019) revealed an alarming level of normalised bad behaviour and institutional inertia across the banking and finance sector in Australia. The report noted that professional associations, industry bodies and educational institutions serve to maintain the cultural status quo of corporations driven by short-term incentives and returns, shareholder primacy, and a dominant market logic. These drivers underpin the damaging and unethical practices that were brought so graphically to light in televised revelations of the Royal Commission (O'Brien, 2019). At the same time, trust in business was at an all-time low (Edelman, 2019)

Business schools play a significant role in the education and preparation of graduates who go on to populate, manage and lead financial institutions as well as other business enterprises. Given the exposure of the unethical behaviour taking place within these institutions (O'Brien, 2019), business schools stand accused by critical management scholars of perpetuating a corporate culture that prioritises maximizing shareholder profit to the detriment of broader stakeholder concerns. This has been a pervasive criticism in business management literature (Ghoshal, 2005; Parker, 2018).

Given these ongoing issues, the following study explores how well student interns and graduates are prepared for the ethical challenges in their workplaces, as brought to light by the Royal Commission, and the attributes, skills and knowledge that they need to navigate a post-Royal Commission environment. In particular we investigate the lived experience of student interns and graduate perspectives – largely missing from the literature. The research findings may then inform business schools on how best to deliver their work integrated learning programs, higher education teaching and learning practices, professional learning and micro-credentials in order to equip its students. Hence, the study is guided by the following research questions:

> What are the lived experiences of student interns and graduates in navigating the embedded ethical challenges in their internships and graduate employment? and

What are the perceived gaps in their capacity to navigate these issues, and how can business schools best prepare them?

The research explores these issues through the case study of an Australian business school (hereafter: "The Business School") that is a signatory to the United Nations' Principles of Responsible Management Education (PRME). The research is aligned with the mission of business schools that are committed to the six PRME principles (purpose, values, methods, research, partnership and dialogue - see Table 1). We apply the PRME principles of *research* that advances understanding in sustainable social, environmental and economic value, *partnership* to explore joint approaches, and *dialogue* to facilitate debate among stakeholders, in order to contribute to *purpose* (developing capabilities of students), *values* of global responsibility, and *methods* that create effective learning experiences for responsible leadership (see Table 1).

Insert Table 1 about here

The paper proceeds as follows**.** Using key insights from the Banking Royal Commission findings, and recent critique of business schools **w**e introduce the research context. This is followed by a review of relevant literature across responsible management education, reflexivity, critical thinking and experiential learning. We then introduce the conceptual framework that informs our research design: the "deliberate professional" (Trede & McEwen, 2012; 2016).

Our research methods use a highly engaged qualitative and exploratory multi methods approach. Business school students and alumni, employed across banking, finance and other corporate sectors were engaged in the project. Our data was drawn from facilitated debate and dialogue via a deliberative forum, focus groups, and reflective writing. The findings may serve to inform pedagogy and practice that supports business school students to develop purposeful, critically considered and intentional approaches to both professional practice and their emerging professional identities (Trede & McEwen, 2012; 2016).

RESEARCH CONTEXT

Following a series of scandals across the banking finance sector in Australia, a Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry took place throughout 2018. Members of the public submitted more than 10,000 complaints about financial services entities and public hearings involving customers, employees, and those responsible for their governance revealed extensive unethical practices across the sector.

The Final Report of the Royal Commission was released in February 2019, leading to a series of recommendations including in culture and governance, where culture is understood as "the shared values and norms can be seen as both reflecting and constituting the culture of an entity. Foregrounding the Royal Commission, the Prudential Inquiry into the Commonwealth Bank of Australia (2018) had similarly identified "culture" as a key lever in addressing misconduct - "cultural change that moves the dial from reactive and complacent to empowered, challenging and striving for best practice in risk identification and remediation" (Australian Prudential Regulation Authority, 2018, p.4). From the executive summary, the culture of the bank was demonstrated by a widespread sense of complacency from the top down; loss of customer voice; reactive rather than proactive responses to risk; favouring of consensus over constructive criticism and a lack of intellectual curiosity and critical thinking.

Since business schools educate and prepare graduates who go on to manage and lead financial institutions, questions over the role and responsibilities of business schools arise: Can business schools play a role in helping to restore trust in the banking and finance sector and business more broadly? How can the curriculum prepare and equip graduates to navigate embedded ethical challenges? Can business schools challenge existing mindsets to cultivate critical reasoning and moral accountability in their graduates? What teaching and learning practices could be developed to this end? These questions underpin the aims of the research project.

LITERATURE REVIEW

The problem with business schools

Following several corporate, environmental and financial crises, along with a succession of leadership and corporate scandals linked to poor decision making and questionable ethical practice in the business sector, the role and performance of business schools has also come under fire (Cunliffe 2016; Godemann et al., 2011; Issa & Pick 2018; Mokoqama & Fields, 2017). Business schools are tasked to produce the next generation of managers and to ensure graduates are taught to recognise, reflect upon and critically examine issues pertaining to business ethics, to ensure they are adequately equipped to make sustainable decisions in their professional lives (Godemann et al. 2011; Issa & Pick 2018). A key issue highlighted in both academic and mainstream articles is that the practices of business schools are not aligned with their stated ideals and purpose theory (Bennis & O'Toole 2005; Parker 2018; Peters & Thomas 2020). Indeed, Goshal (2005, p. 75) makes the point that: "[o]ur theories and ideas have done much to strengthen the management practices that we are all so loudly condemning."

Responsible Management Education

A growing response by business schools to this criticism is to focus on responsible management education (RME), centred around ideas of values, accountability, moral decision-making, ethical virtues and character, and sustainable relationships (Hibbert & Cunliffe 2015, p. 4). One approach had been to adopt the PRME. Yet there is still a disconnect between ideals/rhetoric and practice. In a study of a European business school signed up to the PRME, Høgdal, Rasche, Schoeneborn and Scotti (2021) explore the "hidden curriculum" including how the formal curriculum is delivered, how students and lecturers interact, and how the school is governed. They found a lack of alignment between the school's formal responsible management education claims and students' lived experiences meant that the concepts such as CSR were considered "buzzwords" (Høgdal et al., 2021, p. 179).

According to Laasch, Suddaby, Freeman and Jamali (2020), responsible management as a field of research is further problematised by three key issues: lack of consensus on what constitutes

responsible management, RME is considered synonymous with multiple other fields of research, and RME is considered a subfield of research to other more established research areas (such as CSR or humanistic education). Further, there is a significant gap in understanding student and graduate experience and perspectives related to RME that this study aims to address. With its organisational-centric focus in the RME literature, we now turn to transdisciplinary research (Laasch et al., 2020) to build the connection between the principles of RME, real-world practice and student experience.

Reflexivity, relationality and moral responsibility

A growing body of theory and research argues that learning to be critically reflexive is central to preparing students for ethical practice (Berti, Nikolova, Jarvis & Pitsis, 2020; Cunliffe 2016; Hibbert & Cunliffe 2015; Tourish, Craig & Amernic, 2010). Cunliffe (2016) draws connections between reflexivity and ethics, suggesting that reflexivity "…offers a way of foregrounding our moral and ethical responsibility" (p. 741), defining reflexivity as "questioning what we, and others, might be taking for granted—what is being said and not said—and examining the impact this has or might have" (Cunliffe 2016, p. 741). The implications for teaching are clear – embracing reflexivity in the classroom involves a shift away from instruction to a relational exchange. Guided experiential learning, dialogue and discussion enable radical changes in perspective (Cunliffe 2016; Hibbert & Cunliffe 2015).

Theoretical Framework: The 'Deliberate Professional'

One framework which offers such a proposition is the "deliberate professional" (Trede & McEwen, 2016). For most business schools, a key objective is to prepare learners to be "future practitioners who have a voice and make a difference" (Trede & McEwen 2013, p. 9). As outlined, educational theorists recognise the importance of cultivating the critically reflective professional – those graduates who consciously, thoughtfully, and courageously consider how to "be" in the practice world (Trede & McEwen, 2016). Educating the deliberate professional is a teaching approach that prepares students for professional practice encompassing a deliberate consideration of their actions with the aim of encouraging greater agency and responsible action. The aims of 'deliberating' are underpinned by three pedagogical concepts: 1. critical consciousness raising; 2. autonomy and self-

directed learning; 3. critical thinking (Trede, McEwen & Trede 2016, p. 16). A focus on what is probable, possible, and impossible in terms of past actions to help inform future actions is also integral to framework. Theoretical underpinnings from both hermeneutic and critical traditions draw from theorists including Arendt, Barnett, Bauman, Bourdieu, Habermas &. Newman as cited in Trede & McEwen (2013). Empirical research suggests that such transformative learning requires praxis, that is, critical reflection plus practical action where students enact their new knowledge in their everyday lives (Trede & McEwen, 2016). The four core attributes of the deliberate professional are set out in Table 2 below.

Insert Table 2 about here

Supporting students to become reflexive, socially responsible and action-oriented professionals requires the development of these core attributes, including through work integrated learning activity (Trede & Jackson, 2019). Agency, as the "capacity for individual action within a complex world of social structure" is an integral component of the deliberate professional as it "builds a strong interrelationship between self, purpose and choice" (Trede & Jackson 2019, p. 3). Importantly, within the DP framework, agency is seen as a "highly interdependent concept that is shaped not only by individual students but also by the social, cultural workplace contexts and how these position students and enable or hinder agency (Trede & Jackson, 2019, p.3). Importantly, the authors acknowledge a limitation of the approach is that it fails to account for unequal power relations in the workplace.

METHODOLOGY

Case Selection

The research takes a qualitative case study approach (Cresswell, 2007), investigating a bounded system (the Business School) through multi-methods data collection to explore case-based themes. Our case is a large Australian Business School with 25 undergraduate and postgraduate programs. In addition to being a signatory to the PRME), the University has developed a "Social Impact Framework" which includes as its remit to develop Students to have the agency to enact personal and social responsibility **(**Gusheh, Firth, Netherton & Pettigrew, 2019, p.15.)

Data Collection

We drew from 3 methods across three research stages: online pre-forum reflections, forum and focus groups, and a post–forum feedback survey. In order to investigate the research questions, the inclusion criteria for the research sample was for those students and alumni who had corporate work experience, either as an intern or as a graduate. We therefore undertook purposive sampling of a Bachelor program within the Business School where students are required to complete corporate internships, often in banking and finance, and are offered a graduate role on degree completion. The program also maintains an active alumni community from which to draw participants. In addition, postgraduate alumni of the Business School community whose interest in the Banking Royal Commission outcomes was fostered in the earlier deliberative forum were invited to participate.

Invitations to participate were distributed with the support of the program director and framed as an opportunity to address the role of business schools, based on personal experience following the findings of the Banking Royal Commission. Participants were grouped as follows: current students who had undertaken a corporate internship, recent graduates – up to 5 years since graduation, longer term graduates – more than 5 years since graduation and postgraduate alumni. Challenges in recruiting participants, in particular a series of COVID-19 related lock-downs and difficulty in accessing alumni meant that the research design had to be adapted. This included changing face-to-face interviews to online open-ended surveys and holding the focus groups over the one evening. Participation rates are detailed in Table 3.

Insert Table 3 about here

Multi-Methods

A multi- methods approach was employed to tackle the research questions:

1. *Pre-forum reflection*

Participants were initially invited to respond to a confidential online survey to reflect on a significant workplace ethical challenge they had observed or encountered during an internship, or following graduation, and how well they felt prepared to deal with the situation. Acritical incident

method (Flanagan, 1954; Simmons, 2017) was employed to inform the second stage of data collection. (See Appendix 2 for survey questions).

2. *Forum and focus groups*

Following the pre-forum surveys participants were invited to attend a research event at the Business School consisting of a deliberative forum and focus groups, in order to tackle the research questions. Both focus groups (Kamberelis & Dimitriadis, 2011) and deliberative forums (Dryzek & Stevenson, 2011) provide an authentic setting for "collective conversations" and an exploration of multiple perspectives on complex issues. Participants formed peer-based focus groups led by facilitators. with 23 participants across the four cohorts (see Table 2). During the focus groups facilitators were provided with an interview guide (Appendix 3) to enable a semi-structured approach, with questions acting as prompts to uncover critical areas of interest while remaining open to pursue new and unanticipated themes (Patton, 2015). Students were first encouraged to reflect on and share a critical incident (Flanagan, 1954; Simmons, 2017) from their own experience. Focus group discussion then explored the extent to which participants felt prepared by the business school to navigate ethical challenges in the workplace. A volunteer from each group feedback key issues to the large group. The evening ended with a deliberative discussion on the key issues raised in each group.

3: Post – Forum Feedback Survey

Immediately following the focus group event, participants were emailed a link to an anonymised feedback survey in order to capture any reflections on their experience of the research process, any further reflections, and on any impact the research may have made. (See Appendix 4 for the survey questions).

Data Analysis

A constructivist grounded approach to data gathering and analysis seeks to understand emergent multiple realities (Charmaz 2014) by taking an inductive, interpretive, open-ended, and contextualised perspective, where reality is socially constructed, and data provides thick description (Creswell & Miller, 2000). Using grounded techniques including the recursive process of constant

comparison and saturation (Charmaz, 2014), data across the three stages of research (including the transcribed forum and focus groups) underwent three iterative phases of analysis. This included initial coding of emergent issues followed by focussed coding including descriptive, in vivo, emotive and theoretical codes used to integrate categories of analysis. The process of focussed coding was aided using NVivo software, exploring matrix queries, densely coded and overlapping nodes in the data, giving rise to dominant themes (Bazeley, 2013). Tentative identification of analytic categories drawn from the focussed codes then led to a summary of findings. Appendix 5 provides an overview of the Nvivo data analysis.

Limitations

Our study has several limitations. The sample size was limited due to the COVID-19 pandemic, directly impacting numbers of participants attending the forum and focus groups event. Secondly, whilst we chose to focus on the one undergraduate program due to its corporate internships and graduate roles, we recognise that not all undergraduate students have this opportunity, leading to different experiences as regards navigating ethical challenges in their careers. By involving a broader postgraduate group in the research, we hope to have addressed this in some way by including the later stages of professional life. We note the exploratory nature of our study here.

FINDINGS

Experience of normalised bad behaviour emerged early in the pre-forum surveys with student interns carrying out important tasks without adequate knowledge or guidance, whilst simultaneously lacking the seniority to have raised concerns taken seriously. For longer term graduates, questionable practices, weak HR, disinterested management, and the emotional cost of choosing to leave a workplace due to unethical practice were key themes.

Insert Table 4 about here

Table 4 sets out the findings with seven interconnected categories to emerge from the data, together with related themes and sub themes. In analysing the findings, the responses from across the participant peer groups (See Appendix 5) read as a 'developmental arc' aligning nicely to the four

elements of the deliberate professional, as graduates journey through their professional lives. What emerges clearly is the need for greater accountability by both business schools in their RME approaches and graduate employers in their intern and graduate programs, in order to foster the development of students and graduates who have "the agency to enact personal and social responsibility" (Gusheh, et al., 2019). Looking at the findings from each of the peer groups:

- *Student interns – feeling like a novice*

Student interns reported a lack of preparedness for their early placements: "you just don't have the knowledge to ask the right questions. The amount of responsibility I got … was too early." A strongly felt sense of insufficiency in knowledge, training and experience meant that many of the students did not feel they had the ability to be heard. This created a sense of vulnerability for some students where "dodgy practices" were normalised, and students felt compromised. Most felt that University could better prepare them by looking more at practice and less at theory, for example, peer support rated highly with this group: "just sharing your story, having forums like this where young students can hear from people who have faced those problems in the workplace, because there's no other way to learn that it's okay to speak up, if you haven't heard from someone who has been able to successfully do so without some negative repercussion". Similarly – a more real-world approach to ethical issues at University would be helpful: "at uni basically everything you do is black or white … so textbook compared to what it's like in the industry."

- *Recent graduates – career aspirants*

Recent graduates who have entered the workforce within the last five years take a pragmatic approach, and career aspirations are front of mind. They recognise that their early internships were challenging due to a general lack of knowledge. They understand the importance of networks and workplace relationships. Several the student's organisations have been involved in the fallout of the Banking Royal Commission and have witnessed the human cost on both their customers and their managers. However, their approach towards their organisations is career focused, having secured a graduate position for themselves. There was concern about not wanting to "rock the boat": "It's sometimes hard to raise something to a manager, not because of fear of getting punished, but more of like a respect factor".

- *Longer term graduates – experience begets wisdom*

For graduates who have been in the workforce for more than five years, there has been significant opportunity for professional and personal development. This cohort includes participants who have been directly impacted by the fallout from the global financial crisis: "You look back over the experience you gained in real working life and think "wow", wouldn't it be great to be able to try to bring that forward or accelerate that earlier on in foundations of your education." Participants in this group take a purposeful approach to their working lives with a number of them having left jobs due to a clash in values and witnessing unethical practices they had raised within their organizations but were not adequately dealt with. This group were also well aware of the emotional costs and long-term impacts of unethical practices on both themselves and the company. They had come to understand, that to try to bring about change in an organisation is not always possible: "Everything's set up for the companies to protect their own interests." In terms of preparing graduates: "It's beyond teaching in subjects, sitting through just a broader ethical subject which has a test at the end of it. There are no right or wrong answers." Instead: "taking an experiential case study-based approach" would be of value.

- *Postgraduate alumni – war stories and the broader view*

The post graduate alumni took a broad ranging approach in their responses. Most had at least one "war story" where they had left a workplace due to poor ethical practices. Based on their own experiences they were keen to address what Universities could do for their students: "… the lived experience, classroom scenarios where you actually get to do a real thing or you role play something that is actually emotionally felt..." and "encourage the young people to have the courage to speak up but we also think it's really important to give them techniques about speaking up". Participants also addressed the role of the business school: "It's important obviously for the faculty to demonstrate these sorts of traits that we're encouraging because there's nothing like leading by example."

DISCUSSION AND CONCLUSION

We have learnt through the voices of the participants that there are some significant obstacles to exercising agency in the workplace, particularly as an intern or early graduate. There is a strong

relationship between having voice, "knowing what to say and the right questions to ask", as well as issues of power, influence and the "ability to be heard". Confidence, courage, supportive relationships (managers, peers) are valuable resources to be nurtured. Responding to normalised unethical practice involves an understanding of workplace culture. Additionally, there are personal impacts from ethical fallouts and consideration of some of the bigger issues such as power in context: individual vs institutionalised practice, is required.

All participants understood the value of learning from their own and others' experience and the vital role that business schools can play, both in how their formal curriculum is delivered and their "hidden curriculum" (Høgdal et al., 2019) - how students and lecturers interact, and how the school is governed. Universities can lead by example. Experiential, critically reflexive and agentic learning that robustly engages with issues revealed in this research, and that provides for honest dialogue on shared experiences must be the way forward for business schools that are serious about embracing RME. The deliberate professional framework (Trede and Mc Ewen, 2016) is promising. Some subjects within the case study School are on track. However, as the research and literature confirms, a whole of business school response is needed (Kitchener & Delbridge, 2020).

In conclusion, our study has shed light on important issues if business schools are to take the opportunity to flourish into the future. Despite the commitment of hundreds of business schools to PRME there is still a disconnect between ideals/rhetoric and practice. There is also a disconnect between what is delivered in the curriculum and real-world experience. A lack of coherence across the curriculum regarding theories and ethical practice currently exists. The voice and experience of graduates is rarely present in the literature and student perspectives are not well understood. With less than half of the Banking Royal Commission Recommendations implemented since its release, momentum for change aimed at addressing misconduct in the financial services sector, and business more broadly, has slowed. The importance of business schools to prepare our graduates to navigate ethical challenges and enact personal and social responsibility is greater than ever.

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Table 1: The Six Principles of Responsible Management Education

Principle 1: Purpose - We will develop the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy. Principle 2: Values - We will incorporate into our academic activities, curricula, and organisational practices the values of global social responsibility as portrayed in international initiatives such as the United Nations Global Compact. Principle 3: Method - We will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership. Principle 4: Research - We will engage in conceptual and empirical research that advances our understanding about the role, dynamics, and impact of corporations in the creation of sustainable social, environmental and economic value. Principle 5: Partnership - We will interact with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges Principle 6: Dialogue - We will facilitate and support dialog and debate among educators, students, business, government, consumers, media, civil society organisations and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability (United Nations 2021a)

Table 2: The four core attributes of the deliberate professional are set out in Table 2 below.

- Deliberate on the complexity of practice and workplace cultures and environments.
- Understand what is probable, possible and impossible in relation to existing and changing practices.
- Take a deliberate stance in positioning oneself in practice as well as in making technical decisions and
- Be aware of and responsible for the consequences of actions taken or actions not taken in relation to the 'doing', 'saying', 'knowing' and 'relating' in practice (Trede, McEwen & Trede 2016, p. 7).

Table 3: Overview of multi-method sample

Method	Number of participants
1. **Pre-forum Reflection**	13
2. **Forum and Focus Group Event**.	
- Current Bachelor program students	6
- Recent Bachelor program graduates (< 5yrs)	5
- Longer term Bachelor program graduate (>5yrs)	5
- Postgraduate Alumni (7)	7
- **Total**	23
3. **Feedback Survey**	10

Table 4: Data analysis - key categories and themes

Key Category	Dominant Theme	Sub Themes
AGENCY SUPPORTED OR SUPPRESSED	Ability to be heard	(Dis) Respectful communication
	Courage to act	(In) Appropriate response
		Authenticity in practice
		Autonomy - freedom to choose
		Benefit of experience
		Building confidence
		Career goals and priorities
		Deliberate practice and education
		Feeling like a novice - age as a factor
		Self-awareness
BRIDGE BETWEEN UNIVERSITY AND REAL WORLD (ETHICS)	Theory vs practice	Critical thinking
		Education - real world application
		Learning ethics at Uni
		Pressure to follow set path
		Sharing experience for learning ethical practice
		Usefulness of degree or internship
KNOWLDEGE OR EXPERIENCE (GAPS)	Insufficiency- knowledge, training, experience	Unclear on required process

		Knowing what to say & asking the right questions
		Learning from experience
		Learning from others
		Knowledge or context legacy
		(Un) Ethical Practice and standards
		Overworked - under staffed
		Realistic expectations
ORGANISATIONAL CULTURE	Day-to-day processes	Politics at work
	Systemic problems	Transparency - lack of
		University context
		What informs organisational ethical knowledge and approach
		What informs personal ethical knowledge and approach
		Workplace (not) prepared for interns
ETHICALLY CONFLICTED	Dodgy Practice	Normalised abnormalities
	Whistle blower	Escalating issue
		Risk job for ethical action
		Conflict of (personal) interests
EMOTIONAL COST	Emotional and physical impacts	Being humiliated, shamed or undermined
		Consequences of fallout - personal or group
		Fear of mistakes
		Feeling helpless - powerless
		Feeling unprepared
		Long term impact
		Loyalty challenged
		Resignation or losing job
		Conflict of (personal) interests
		Deliberate ethical or moral practice
RELATIONSHIPS	Manager and CEO as Pivotal	Positive connections or influences
	Influence of peers/ colleagues	Relationships with external clients or stakeholders
	Power Imbalance	Lack of support
	Shared experience	Management ignoring issue
		Management taking actions to rectify
		Preserving relationships
		Supervisor's role - reaching out
		Networks influence

Appendix 1

Invitation to Participate

You have been invited to participate because you are a student or graduate of UTS Business School. You will have experienced working in a business setting in your internship or graduate employment and may have an interest in this research as a thought leadership opportunity for UTS Business School.

Before you decide to participate in this research study, please check the selection criteria:

Inclusion criteria

- Current student who has undertaken or is undertaking an internship or with work experience
- Graduate – up to 5 years since graduation
- Graduate – more than 5 years since graduation

Exclusion Criteria -

- Current student who has not yet undertaken an internship/work experience

Appendix 2

Questions for Pre- Forum Journaling

Q. 1 Please describe an incident you have observed or personally encountered in the workplace (e.g. during an internship, or following graduation) that raised ethical concerns* for you. What was the situation or context? What actions did you or others take? What else could have been done? What were the outcomes?

> ** Ethical concerns may involve acting in the best interest of stakeholders such as customers, clients, community or the environment; not misleading or deceiving; acting fairly; delivering services with reasonable care and skill or where you may, for example, feel under pressure to act in ways you feel uncomfortable with. The significant incident may have had positive, negative or neutral outcomes.*

Please use an alias for any individuals or organisations to ensure confidentiality.

Q.2 Please choose the option that best describes your response to the following statement:
"I feel prepared to deal with ethical challenges in the workplace"
Likert Scale: agree – disagree

Q.3 What resources are you able to draw upon to navigate ethical challenges?
Examples of resources might include mentors, previous experience, personal traits (eg resilience, honesty ...), workplace protocols, industry codes of practice, corporate leadership.

_____

Q.4 In what way(s) (if any) have your experiences at the UTS Business School prepared you to navigate ethical challenges?

_____

Q.5 Which of the following best describes your relationship to UTS Business School (please select one)?
Current BAcc student
Recent BAcc graduate (2017 or later)
BAcc Alumni (graduated before 2017)
Other – Postgrads and Graduate Alumni

_____

Q.6 Which of the following best describes your gender (please select one)?
Female/ male/ Transgender/ Intersex/ Non- binary/ Prefer not to say /Other (pls specify)

Q.7 Thank you very much for your time. We look forward to your participation at our Leadership Forum which will be a catered event with industry and business school leaders on May 24, 2021 from 6pm.

Appendix 3

Facilitator's Interview Guide for Focus Groups

"SEMI- STRUCTURED INTERVIEW GUIDE FOR FOCUS GROUPS"

1. **Reminder of Confidentiality.**
   Discussion recorded, transcribed and de-identified. Chatham house rule applies: "participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed".

2. **Introductions (including facilitator)**
   - First names,
   - Briefly your working background – *no need to name employers*
   - And briefly your interest in this topic.

3. **Go over the Ground Rules for the Group (previous page)**

4. **Individual Reflection (3-4 minutes)**
   - Using the paper provided (for you to keep)
   - We've heard about some of the workplace experiences through the pre-forum survey that challenged people's values and raised ethical concerns*. Please take a couple of minutes to reflect on your own experience of an incident you have observed or personally encountered in the workplace (e.g. during an internship, or following graduation) that raised ethical concerns for you. (Those participants that submitted a reflection on the pre-forum survey may prefer to refer to the example already submitted)

     - Describe the situation or context.
     - How did you feel about the situation?
     - How did you decide what to do?
     - What actions did you or others take? What, if any, were the outcomes?
     - How prepared did you feel to navigate this situation?

** Ethical concerns may involve acting in the best interest of stakeholders such as customers, clients, community or the environment; not misleading or deceiving; acting fairly; delivering services with reasonable care and skill or where you may, for example, feel under pressure to act in ways you feel uncomfortable with. The significant incident may have had positive, negative or neutral outcomes.*

5. **In Pairs – Share Experiences (5-7 mins)**
   - Commonalities, differences.

6. **Collective Reflection (20 minutes)**
   - Then invite anyone who is comfortable, to share their reflections with the full group, using the questions below to aid the discussion. No need to identify the organisation.
   - As an alternative **back-up** you may present your group with a hypothetical ethical challenge (pasted below - based on the pre-forum survey), which the group can brainstorm responses to, using the questions below.

     Questions to explore with the group. NB: Be open to pursue new and unanticipated themes the students and alumni bring up themselves. Use the following questions as a guide to get the conversation going:

     i. How did you deal the situation? What resources did you (or the person you observed) draw from – e.g. previous experience, practice, relationships,

skills, knowledge, attributes?

ii. To what extent did the business school *prepare* you for the situation? What was useful? What were the *gaps*? (curriculum, extra-curricular, relationship with staff etc.)

iii. What are the implications for how business schools should best prepare its students? A creative *brainstorm*.

iv. Are there other questions we should be asking here?

v. How realistic is it to expect a graduate to speak out when "bosses don't want people to rock the boat"? Is this a dangerous proposition- are we setting students up to fail?

vi. Does getting promoted alter your moral compass? Ie the higher you rise in an organisation the less likely you are to speak out against unethical practice. (HBR)

vii. Other thoughts?

7. Feedback to the Bigger Group (2-3 minutes)

- Leave a few minutes to decide as a group what are the key ideas that have emerged that you would like to share with the larger group? Who would like to feed this back?

Return to Main Room

Appendix 4

Questions for Post-Forum Reflections

Q1 - Have any aspects of the research (e.g. pre-forum written reflection, focus group discussion) impacted on your insights into ethical challenges in the workplace?
Please explain the impact and what you might do differently due to these insights in the box below

Q2 - Have any aspects of the research (e.g. pre-forum written reflection, focus group discussion) impacted on your insights into the role of business schools?
Can you please elaborate on your response?

Q3 - Is there anything else you would like to share with us?

Appendix 5

NVivo data analysis: Participant peer group by focused coding.

Analytical Codes and Categories	Current student	Recent graduate	Long term graduate	PostGrad Alumni
1 : AGENCY SUPPORTED OR SUPPRESSED	10.33%	10.07%	41.03%	17.46%
2 : (In) Appropriate response	5.94%	7.81%	31.31%	34.9%
3 : Ability to be heard	18.84%	7.91%	36.56%	22.16%
4 : Feeling like a novice - age as a factor	8.77%	12.54%	49.97%	1.71%
5 : Authenticity in practice	0%	0%	48.54%	29.39%
6 : Autonomy - freedom to choose	0%	7.66%	28.2%	14.75%
7 : Being humiliated, shamed or undermined	0%	0%	73.74%	26.26%
8 : Benefit of experience	9.01%	1.48%	46.62%	28.83%
9 : Building confidence	15.38%	6.67%	50.98%	0%
10 : Career goals and priorities	0%	29.5%	49.07%	18.37%
11 : Conflicting priorities	0%	5.41%	44.02%	24.28%
12 : Courage to act	0%	35.5%	7.06%	47.52%
13 : Deliberate practice and education	8.85%	1.88%	42.75%	18.82%
14 : My purpose and fit in work environment	9.63%	20.35%	47.97%	11.16%
15 : (Dis) Respectful communication	9.09%	14.55%	35.64%	26.64%
16 : Self-awareness	0%	4.17%	31.69%	30.28%
17 : Taking action and courage to act	10.13%	9.01%	38.88%	25.56%
18 : BRIDGE BETWEEN UNIVERSITY AND REAL WORLD (ETHICS)	16.49%	15.35%	30.24%	15.7%
19 : Business of business schools	0%	0%	0%	67.96%
20 : Critical thinking	9.32%	14.06%	30.98%	14.83%
21 : Education - real world application	16.77%	12.24%	40.74%	14.39%
22 : Learning ethics in uni & what is taught	8.33%	7.14%	39.08%	21.25%
23 : Pressure to follow set path	0%	100%	0%	0%
24 : Sharing experience for learning ethical practice	28.91%	24.1%	23.28%	4.48%
25 : Theory vs practice	30.02%	3.19%	35.96%	11.42%
26 : Usefulness of degree or internship	22.59%	18.62%	35.72%	7.27%
27 : Value of intern experience to intern and company	15.12%	52.6%	32.27%	0%
28 : CLIENTS AND OTHER STAKEHOLDERS	1.34%	31.96%	29.39%	37.31%
29 : Client and customer interactions poor	0%	9.66%	33.4%	56.93%
30 : Clients and customers - outcomes for	2.74%	52.37%	33.93%	10.96%
31 : Relationships with external clients or stakeholders	1.86%	16.12%	30.09%	51.93%
32 : DAY-TO-DAY PROCESSES	17.66%	21.21%	27.61%	19.05%
33 : Coherence between different levels of organisation	0%	18.33%	21.41%	48.25%
34 : Overworked - under staffed	42.62%	57.38%	0%	0%
35 : Realistic expectations	0%	20.17%	43.24%	6.44%
36 : Systemic problems	0%	22.11%	35.12%	30.38%
37 : That's just my job	26.82%	38.98%	23.14%	11.05%
38 : Time effecting outcomes	27.72%	52.23%	8.13%	11.91%
39 : Work standard suffering	69.91%	10.84%	19.25%	0%
40 : Working or studying from home	69.23%	0%	0%	0%
41 : ETHICALLY CONFLICTED	14.63%	7.79%	27.9%	28.87%

7. Teaching and Learning

42 : Addressing ethical issues	5.59%	9.07%	30.39%	40.11%
43 : Against organisation's procedures	19.32%	11.62%	50.68%	18.38%
44 : Alarming to me (against own values)	16.1%	0%	34.6%	35.04%
45 : Broader eco system or context	0%	0%	0%	49.48%
46 : Business in disarray	4.68%	56.73%	38.6%	0%
47 : Conflict of (personal) interests	27.97%	9.91%	32.66%	20.21%
48 : Deliberate ethical or moral practice	10.25%	3.75%	39.88%	37.86%
49 : Discrepancies with figures	74.18%	0%	25.82%	0%
50 : Escalating issue	27.77%	17.79%	18.35%	36.08%
51 : Ethics as a continuous process	0%	0%	32.76%	32.8%
52 : Feeling like dobbing	21.88%	38.39%	39.73%	0%
53 : Imperfectly (un)balanced	0%	0%	66.8%	20.55%
54 : Legal requirements and illegal practice	36.47%	14.42%	44.36%	4.75%
55 : Normalised abnormalities	21.27%	14.4%	43.72%	4.06%
56 : Noticing discrepancies	15.99%	0%	61.27%	9.73%
57 : DODGY PRACTICE	22.33%	16.36%	25.27%	18.38%
58 : Risk job for ethical action	9.63%	0%	13.08%	64.21%
59 : Unethical - suspicious	8.52%	7.24%	36.06%	28.89%
60 : Whistle blower	29.2%	0%	56.68%	14.13%
64 : Consequences of fallout - personal or group	0%	24.14%	22.45%	32.28%
65 : Long term impact	20.06%	0%	39.47%	18.68%
66 : Impacting company - I can't ignore this	15.48%	5.49%	67.51%	11.53%
67 : Resignation or losing job	5.13%	0%	32%	44.51%
68 : KNOWLDEGE OR EXPERIENCE (GAPS)	23.62%	20.56%	23.87%	17.49%
69 : I was learning	47.64%	12.77%	39.59%	0%
70 : Insufficient experience	51.03%	14.89%	26.01%	8.07%
71 : Insufficient information	22.11%	37.96%	39.93%	0%
72 : Insufficiency- knowledge, training	39.11%	26.06%	25.13%	9.7%
73 : Insufficient training	100%	0%	0%	0%
74 : Knowing what to say & asking the right questions	20.51%	10.36%	21.27%	18.38%
75 : Knowledge or context legacy	9.01%	26.29%	18.02%	46.68%
76 : Learning from experience	6.86%	14.37%	60.96%	12.45%
77 : Learning from others	45.18%	19.65%	20.47%	4.23%
78 : Unclear on required process	72.55%	0%	27.45%	0%
79 : Unsure of what to do	50.71%	13.21%	13.68%	22.41%
80 : MANAGER AND CEOS AS PIVOTAL	20.49%	14.83%	32.68%	19.38%
81 : Management helping	22.19%	0%	42.5%	0%
82 : Management ignoring issue	17.29%	18.98%	38.57%	25.15%
83 : Management taking actions to rectify	17.7%	30.2%	52.1%	0%
84 : Manager devaluing others	0%	0%	41%	59%
85 : Role of Manager or CEO	26.85%	13.94%	38.98%	20.23%
86 : Supervisor's role - reaching out to	42.22%	0%	39%	18.78%
87 : EMOTIONAL COST	19.41%	13%	34.47%	18.57%
88 : (Un) Confidence	46%	19.36%	19.36%	15.28%
89 : Early in career - feeling novice	57.75%	13.15%	21.25%	7.84%
90 : Emotional or physical impacts	27.47%	0%	45.47%	27.06%
91 : Fear of mistakes	43.26%	56.74%	0%	0%
92 : Feeling helpless - powerless	6.03%	0%	52.37%	41.61%
93 : Feeling unprepared	28.29%	0%	45.35%	26.35%
94 : Loyalty challenged	0%	100%	0%	0%
95 : ORGANISATIONAL CULTURE	16.68%	16.65%	32.57%	15.02%

7. Teaching and Learning

96 : Politics at work	0%	0%	52.39%	39.56%
97 : (Un) Ethical Practice and standards	7.33%	35.13%	33.24%	9.54%
98 : Practice standard (against)	7.9%	21.25%	45.83%	18.3%
99 : Transparency lack of	15.59%	38.4%	10.22%	7.76%
100 : University context	0%	0%	0%	0%
101 : What informs organisational ethical knowledge and approach	11.85%	9.88%	40.24%	20.22%
102 : What informs personal ethical knowledge and approach	19.51%	12.22%	29.62%	5.06%
103 : Workplace (not) prepared for interns	63.09%	20.94%	15.98%	0%
104 : Workplace culture	0%	4.81%	57.7%	20.06%
105 : Positive connections or influences	16.49%	12.02%	58.13%	13.36%
106 : POWER IMBALANCE	6.68%	15.73%	27.18%	28.81%
107 : Royal Commission	0%	0%	49.72%	35.35%
108 : Setting the scene - background info	23.14%	3.51%	45.44%	27.91%
109 : WORK RELATIONSHIPS	20.55%	20.85%	32.45%	16.32%
110 : Influence of peer or colleague	44.86%	9.58%	38.07%	7.49%
111 : Lack of support	35.81%	0%	0%	64.19%
112 : Networks influence	0%	80%	0%	11.59%
113 : Preserving relationships	0%	62.46%	37.54%	0%
114 : PEER RELATIONSHIPS	52.03%	29.98%	17.99%	0%
115 : Shared experience	0%	61.83%	11.48%	26.7%

IT as a mediator of organizational change over time

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IT as a mediator of organizational change over time

Abstract

This research explores how organizations view IT and how this influences the contribution of technology to the evolution of the business over time. Investigation on how organizations adopt, enact and struggle with IS has been a main direction of IS research. At the same time, longer-term perspectives on the interplay between IS and management have hitherto been undertheorized, with few studies taking a more longitudinal view. This means we have little understanding of how organizations continuously adopt IS, and critically the interplay between the IS and management. We have conducted a qualitative study of 9 SMEs in Australia. We articulate a model that shows the different ways that organizations enact and engage with IT and how it in turn impacts the organization over time.

Keywords: IT, organizational change, SMEs, digital transformation

Introduction

This study takes a novel historical view on the interplay of information systems (IS) and management of organizations. It does so by examining how organizations continuously adopt, enact and struggle with IS and how IS alters, or reinforces, ways of working and management overtime.

Investigation on how organizations adopt, enact and struggle with IS has been a main direction of IS research. The extant research has contributed a body of knowledge on antecedents to adoption of IS, how affordances of IS are enacted, and the range of internal and external forces that challenge organizations. Researchers have typically studied single IS, such enterprise systems, mobile technology, analytics, platforms or social media (Li et al., 2018, Kietzmann, 2008, Leonardi et al., 2013, Gosain, 2004, Dremel et al., 2017). This ignores the ongoing evolution of organizations, their IS, and management practices. This is important because some IS such as ERP can alter processes, and require management responses to doing so, particularly for small and medium sized enterprises (SMEs). Likewise, enterprise social media requires a shift in ways of working and communicating that is more open and less centralized (Forsgren and Byström, 2018, Leonardi et al., 2013). In theory such IS require organizations to adapt and evolve to fully exploit the potential of the technology. This is important because often IS are not simply tools such as a spreadsheet or alternate form of software application. Rather some IS have affordances and embody logics (Lyytinen et al., 2009, Yoo et al., 2007, Gosain, 2004, Bernardi and Exworthy, 2019) that can underpin or be in conflict management, ways of working and extant business models as well as drive new opportunities and efficiencies.

Longer-term perspectives on the interplay between IS and management have hitherto been undertheorized, with few studies (e.g. Cragg and Zinatelli, 1995) taking a more longitudinal view. This means we have little understanding of how organizations continuously adopt IS, and critically the interplay between the IS and management. We argue that taking a more historical view is important for several reasons. First, studies in IS and management continually show that 'traditional' and 'old' organizations struggle with the process of technology change, and some remain deeply resistant to digital transformation (Sebastian, 2017). The resistance to technological change is inherent in organizational structures, values and identities; that is, their 'deep structure' (Gersick, 1991). Thus, understanding how organizations have continuously enacted IS can help to show if, and how, IS can break down this deep structure or if IS is simply enacted within the confines of existing ways of way and how management continuously act as an impediment to fully exploiting digital technology (Nograšek and Vintar, 2014), rather than triggering strategic responses from organizations (Vial, 2019). Second, by focusing on single technologies and cross-section research, existing literature offers a less complete picture of the how organizations continuously adapt to IS, how IS shapes an organization and how management shape IS. By taking a historical view, this research aims to establish the connection between practices, IS and management, and the tensions between them.

To explore the interplay between IS and management over time, we are guided by the following research question:

How do organizations view IT and how does this influence how IT contributes to the evolution of the business over time?

Addressing the research question is important for theorizing the crucial but overlooked aspect of IS research. A qualitative theory generating case study of SMEs was undertaken, comprised of interviews with organizations. In this paper we present the findings from the first phase of exploratory interviews. We articulate a model that shows the different ways that organizations enact and engage with IT and how it in turn impacts the organization over time.

The remainder of the paper is structured as follows. In the next section we outline the study method. We then present the preliminary findings from 9 SMEs. The paper concludes with a summary of the main contributions and directions for future research.

Research Study

The study demanded a need for an understanding of the context and practices of managers of SME and how they continuously adapt to, and reshape, digital technology. Consequently, a qualitative method for data collection is adopted. We follow an inductive form of reasoning by drawing conclusions from our observations (Eisenhardt et al., 2016; Mantere and Ketokivi, 2013). Further, our case study approach applies

an idiographic perspective as we aim to explore context-specific aspects (Walsh et al., 2015a), with the interplay of digital technology and management practices being our study's context. By acknowledging the interpretation in an enacted, rather than a purely objective world and by privileging contextual understanding over a priory theory (induction), we follow a grounded theory approach.

Data collection

We rely on in-depth interviews with managers/owners of small enterprises in Victoria, Australia. At the time of writing we had interviewed 10 SMEs, including 16 interviewees (as summarized in Table 1). 10 SMEs participated in the first phase of data collection and 5 of them were available for the second data collection.

Focusing on a range of small enterprises was ideal for our theorizing in several significant ways. First, by studying a range of SMEs we are able to cross check hunches and ideas and learn about different approaches, processes and experiences. This is important because SMEs are diverse in nature and planning, strategizing and approaches to technology vary (Li et al., 2018, Burgess et al., 2009). Second, while single case studies may yield more data within an organization, it is difficult to gain access to multiple data points within a single small enterprise. Rather, decision making and management is undertaken by one or two persons, who are typically the owner/manager.

Our sampling approach can be defined as purposive sampling as we identified actors, predominantly through professional networks, and online searches and invited SMEs to participate in the study. Interviewees were typically the owner of the SMEs, although in some instances, Director of marketing and IT managers participated in the interviews resulting in 15 people interviewed (see Table 1). All organizations had been in existence for at least 5 years. Interviews were conducted face-to-face. All interviews were audio-recorded with permission of the interviewees and professionally transcribed.

A semi-structured interview schedule was followed focusing on engaging our informants in storytelling and experience sharing on the historical and current use of digital technology within the organization and how the organization has evolved alongside the technology. We aimed to explore their perceptions of changes in their workplace due to technology, changes of the role of digital technologies, organizational and managerial processes.

While most IS studies are framed around a specific technology, in our study participants were encouraged to reflect on a range of technology advances, challenges and the evolution of digitalization within the organization. Most frequently, interviewees reflected on cloud, social media and industry specific applications. Thus, fitting with our study motivation the interviews accounted for change over time, providing multiple, rather than a single, snapshots of the enactment of technology.

Table 1. Sample organization profile				
Pseudonym	**Roles**	**Sector**	**No. of employees**	**Age of enterprise**
SME1	Owner (1)	Retail pharmacy	3- 5	40 years
SME2	Co-founder (1)	Automotive repairs	40	12 years
SME3	Co-director (1); General manager (1)	Construction – new home building	6, plus subcontractors	35 years
SME4	CEO (1)	Consulting	20	30 years
SME5	Portfolio manager (1); CEO	Real estate	8	8 years
SME6	Owner (1)	Hospitality	6	5 years
SME7	IT manager (1); Co-founder (1);Marketing (1)	Renovation	20	
SME8	CEO (1); Head of Business (1) Development (1), sales (1), marketing (1)	Engineering consultancy	15	32 years
SME9	Owner (1)	Tourism	20	9 years (but the business exist since 90s)

Analysis procedure

Because of the early stage of the study, data collection and analysis were conducted simultaneously so understanding could emerge from the theoretical concepts and empirical content. The interview transcriptions were entered into NVivo qualitative software for analysis, as were notes and memos. In total, 210 pages of qualitative data were analyzed.

The focus of the analysis was to explore and discover trends in the data to inform theoretical development and sampling as our study progressed. To ensure a systematic and reliable coding process, the following rounds of analysis were undertaken.

First, two researchers independently coded a sample of the data, producing a list of open codes for discussion and negotiation. To do so we continuously consulted content categorization schemes from other studies on SMEs and technology, digital transformation and digitalization, and management change (Li et

al., 2018, Forsgren and Byström, 2018, Cragg and Zinatelli, 1995, Cragg et al., 2002, Freixanet et al., 2020). The purpose of these open codes was to identify and describe the phenomena found in the text. Through an iterative comparison process prescribed by the open coding technique (Charmaz and Mitchell, 2001), we agreed on a consolidated list of open codes, which was used as the basis of a "code book" and as a heuristic to code the data.

Second, using the code book, the two authors separately coded a small sample of transcripts and compared and discussed the coding which led to further adaptation to the code book.

Third, through multiple rounds of axial coding, we identified relationships among the open codes. As our analysis developed, we applied selective coding, focusing more on trying to explain the interplay between IT and the organization overtime.

Findings

Our findings reveal different approaches towards the enactment of technology over time. The findings are framed as '*IT enhanced processes'*, '*IT at the core of business evolution'*, '*IT as support for business*' and '*Proactive business evolution but limited role of IT'*. These are illustrated in Figure 1 based on the level of investment into IT on the Y axis and the level of technology mediated business evolution on the X axis.

In the top left quadrant, '*IT enhanced processes*' refers to organizations that continuously invest in IT as a means to enhance processes, but at the same time there is little evolution of the business. In the top right quadrant, '*IT at the core of the business transformation*' refers to organizations that also have IT investment is both high as well as at the core of business transformation. Such organizations use IT to enhance products and services, customer engagement and/or improve internal operations. In the bottom left quadrant, '*IT as support for business*' refers to organizations where IT investment is continually a low priority and plays limited value add to business delivery, engagement with customers and so on, beyond a mediating tool. In the bottom right quadrant, 'proactive business evolution but limited role of IT' plays the polar opposite to the top right quadrant in that IT investment is low, yet the business is able to continuously evolve. This view shows that for some organizations technology is only one means of transformation.

Each of these are discussed in turn in more detail.

Figure 1: Relationship between IT and the organization

IT at the core of business evolution

The focus on technology enacted differs if the organization places technology at the core of their business offerings or not. For instance, SME4 proactively explores new digital offerings and consider technology to be critical:

> "*They're (digital technologies) absolutely crucial. Our business tries to leverage new technologies. Our awareness and ability to employ, deploy and leverage those technologies is crucial for our ongoing success. Essentially, we're an IT business*" (SME4).

The organization specializes in psychometric tests plays an active role in evangelizing technology with customers who are viewed by a company as low tech:

> "*Whilst we are interested in that data and its predictive nature, we have trouble convincing organizations, generally, about the power of that data.* (SME4)".

The organization actively develops new products and explores new opportunities and sees itself as an *"early innovator" and* realizes the benefits of innovation:

> "*Our business depends on being innovative because we can never compete with the behemoths of the industry, SAP, Oracle and things like that. So, we tend to work in niches. We tend to approach it from a psychological perspective because there's a natural barrier to competitors to get in there"* (SME4).

Similarly, an engineering consultancy services organization (SME8) defines itself as "*a technology company. IT does everything"* With the aim of making automation more accessible to other small organizations, SME8 developed their own control low cost control systems platform for all industry sectors and especially processes that are distributed over large geographic area i.e. agriculture.

Further evidence of the core role of IT is the organization's future orientation and the core that IT plays in this:

> "*Now we want it on IoT. We want it online. We want it on a server. We want to see it because we're just nerds. So, we built a control system to do that, that just hooked it in the parts and where it all leads. And we think, yes, this is pretty cool. This little control system can apply to lots of energy saving loops and water recirculation, whatever those loops are. We want to create loops, putting controls in"* (SME8)

Both SME4 and SME8 provide evidence of how SMEs are constantly seeking to improve their practices and create more knowledgeable motivated teams. They are investing in workforce transformation, employees development; putting focus in developing a strong organizational culture:

> "*No, I think the thing that holds the business together and holds the IT people, who could all earn significantly higher salaries working somewhere else, is the ethics of the company, the camaraderie, and the family culture that we've been able to build up and support. So, personally, I couldn't think of an employee that I haven't helped outside of business hours in some case* (SME4)".

While such organizations can be considered at the forefront of IT, the most SMEs in our sample are not technology driven and technology mostly was enacted as a delivery support or interface for normal offerings (digital technology enabled business models; customer engagement strategies, digital sales) or digital processes (internal workflows, cloud based systems, managing buyers and suppliers).

IT enhanced processes

Organizations in this quadrant also view IT as central but experience less transformation. For instance, a renovation organization (SME7) is continuously strived for new CRM and accounting software to support its business. To do so proactively seeks and analyzes available solutions and develops its IT capabilities to deploy the solution and reorganize work processes. However, it does not leverage the IT investment to change its product or service, customer engagement or operations. In other words, the IT only mediate existing ways of working and organization enacts IT to update its existing processes.

For example, SME7 was driven by the need to improve its existing sales and accounting tool (excel spreadsheet) that did not allow them to have a registry of orders in real time. They decided to implement a new CRM system with the help of an external IT consultant. Though, they oversee the complexity of the solution chosen and had difficulties integrating the system within the organizations processes.

> "*So we actually started with that and it actually took us way, way, way longer than we thought to build it because to use the analogy that the trainer told me, when you buy excel or office with excel in it, excel gives you a blank spreadsheet but you have rows and you have columns and you have icons for your tools, right? Well, think of like a vacuum, that's they solution, so you literally create the rows and the columns and the whatever. So actually, what you do is you create what's called your series and your models and your categories that builds up your whole construct.* (SME7).

It took them longer than they thought. Even if the resulting workflow allows them to see what is happening in real time, the system does not appear user-friendly and considered to be too slow:

> "*Erm, the user group is experiencing annoyance at the moment with those waiting times, but actually, from an IT perspective, it's writing back 700 lines of data very time they save one of those multi-room quotes, so it's trying to find the balance between setting real expectations versus what it's really doing and also fixing real technical issues. Erm, the trades*…"(SME7).

Despite the effort that they had to put together in the system, it did not fulfill company's expectations entirely. Though, give the resource constraints and the time spent, SME is not planning to change the system resulting in partial path dependency.

Proactive business evolution but limited role of IT

Organizations in this quadrant place less emphasis on IT but are still continuously transforming their practices by investing in new technologies for house modelling, construction.

SME3, a construction business carefully complies with all the requirement and have all the necessary tools to provide the best possible service for customers in terms of design, modelling of the houses, etc. However, past negative experiences with software purchases not delivering on its promise contributed to a lesser emphasis on IT:

> *"as soon as you have a miss (poor return on IT investment), you start thinking they're all going to be misses, so we've just backed away from that. We just keep doing it manually*"
>
> "*Because some of these things are quite costly to do, and no one will guarantee you what it can do for you, because everybody's system is different, and everybody's operating a different set of*

> *programmes together, so that always makes a little bit nervous, to say, okay, well… And we've done it before*" (SME3)

SME9 proactively invests in developing knowledge to embrace upcoming technologies, improve business practices in order stay ahead of the competitors but privileging approach of *not fixing anything that is not broken*: "*…technology is growing so fast, and you don't want to be that person who has no idea by the time they're 80. And if you don't start at 40, that will absolutely happen, because it will only go faster*" (SME9).

IT as a support for business

The majority of the SMEs in our sample did not view IT as central to their core business. Rather, for these organizations, most of these investments are needs driven. For instance, responding to customer demands or supply chain requirements, organizations adopt new solutions such as platforms for document exchange with insurance companies to be complaint with their requirements (SME2) or develop their activity on social media to engage potential customers and enhance SMEs visibility using Instagram and Facebook (SME6, SME5, SME2).

Typically, these organizations relegate their IT innovation to other organizations and only deal with the support functions internally. For instance, a real estate organization (SME5) resolved to using a platform based real estate organization as its means of interfacing with customers. This follows for the SME digitalization is driven by external stakeholders in the value chain. SME2, an automotive repair organization explained that it had to embrace multiple platforms to comply with insurance providers:

> "*The dilemma with that is each insurance company will bring in a digital platform that they choose to use. And it makes it really efficient for them because that's the only one they're using. When we've got 20 different insurance companies coming in on a weekly basis, and they all have a slightly different format and a slightly different process, those efficiencies, for them, have actually added to our administration, rather than made it more efficient*" (SME2).

For most of them digital technologies play an important role when engaging and interacting with customers. They are quite active in social media to gain visibility, notoriety and allow for product promotion.

For such organizations, when IT investment occurs to transform their internal processes, workflows, they are mostly driven with updating outdated systems. For instance, SME5 is exploring options of adapting cloud:

> "*That... I know that is in, in the pipeline. Uh, but at the moment, it's, it's still all server-based, paper-based records". (*SME5)

For SMEs in this quadrant, the long-term approach to IT is also engrained in the conservative attitude of the owner/manager but also a recognition of falling profit margins for traditional SMEs as they face competition from large organizations and online organizations. This was particularly the case for an independent pharmacy (SME1) who struggles with the cost of IT on the one way and the reducing profits on the other:

> *"all these sorts of technology costs a lot of money and expenses. And just independent pharmacies will not prepare to pay for because the profit to the business is just not that great at all*" (SME1)
>
> "*Just saying, he's (employee) trying to convince me to just build a website, a pharmacy website. And I know it's not a big technology thing, but then to paying almost about $3,000 plus, I don't know, whatever how many thousand dollars of them yearly fees. Is it justifiable?*"

Both SME1 and SME2 are experiencing changes in the way the business operates today. For SME2 the biggest challenge is the relation with insurance providers "*It's quite odd that if you were running a panel shop 15 years ago, you were... It was a lot more flexible with everything. Whereas, nowadays, you just have to be aware of the changing environment with the insurance companies. They are the biggest variable in what we do*" (SME2) and lower margins. They also expect car manufacturers to move to the automotive repair space. SME1 has to cope with retail pharmacy network like Chemist Warehouse.

Following from the above, for SMEs in this quadrant investment in employees to master the necessary IT mediated changes is also only marginal.

Discussion and conclusion

This study set out to expand the literature on SMEs and IS by taking a novel historical view on the interplay between IS and organizations. We did so by examining how organizations continuously adopt, enact and struggle with IT and how IT alters, or reinforces, ways of working and management overtime. As noted, within the IS field there is a tendency to examine the adoption and enactment of single technologies rather than examine the interplay of IT on the organization over time.

Figure 1 summarized our key findings in a matrix. It is useful as a lens to understanding the long term approaches to the enactment of IT. Clearly, there was a difference between organizations in the top right-hand corner, which can be considered as frontier organizations, who leverage IT to continuously evolve and transform. For such organizations IT is at the core of the business as well as past and future orientation. However, in our study this represented only a small number of organizations. It shows that for many SMEs they are in continuous struggle to keep up with IT or are unable to shrug off the traditional challenges that SMEs face around resource limitations and strategic views of IT (Burgess et al., 2009). For such SMEs, the

decision to adopt technology or not is highly impacted by cost. As other studies have noted, we also see a trend towards SMEs relegating the IT innovation to larger platform based actors (Li et al., 2018). At the same time, like other literature we see that SMEs are not only passive users of IT but can use it to transform their products, services and ways of working (Li et al., 2018, Forsgren and Byström, 2018, Cragg and Zinatelli, 1995, Cragg et al., 2002, Freixanet et al., 2020). As a preliminary study the theoretical implications of the matrix will be developed further in our research. In addition to building our sample.

We see several important directions worth pursuing. First, our study indicates that the centrality of IT is not only linked to how knowledge intensive or technology driven is the industry but also on the emphasis placed on IT by the owner or managers. Other studies have highlighted this, however they have done so in light of single technology innovations (i.e. see for instance (El-Hadden 2019) on cloud computing) rather than take a long term view. Second, SMEs are subject to high resource constraints than large organizations and our data shows how most of their IT decisions are cost driven. Yet, many of these investments fail to create value. SMEs need to mindfully assess sociotechnical, strategic and risk aspects when embarking on digital initiatives (Grover et al., 2018). Further research should focus on conditions for developing robust digital initiatives for SMEs. Finally, organizations have varied needs when it comes to the use of IT. Based on a study of cloud technology adoption by SMEs, El-Hadden (2019) suggests that understanding the specifics of innovation dynamics can lead to a successful IS/IT adoption. This research aims to take one step further by differentiating between types of organizations in regards to IT and understand how IT based decisions take place.

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2.Organisational Behaviour

JOB BURNOUT DURING COVID-19: MAPPING THE RESEARCH LANDSCAPE

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JOB BURNOUT DURING COVID-19: MAPPING THE RESEARCH LANDSCAPE

ABSTRACT

The paper aims to identify the research themes pertaining to job burnout. 454 articles published in peer-reviewed journals between 2020-2022 were analysed. Using Bibliometrix-Biblioshiny. Web of Science (WoS) Core collection database was considered to extract the articles.. Results from the thematic analysis indicate four broad conclusions. First, understanding job burnout, and the interventions to reduce job burnout provide overarching research direction in this field. Second, recent research examined the behavioral and organizational outcomes of burnout. Research on mindfulness is gaining traction. Third, job demand-resources model is extensively used as a theoretical lens to explain the effects of job burnout on individuals and organizations. Fourth, emerging research considers psychological phenomenon such as trauma in relation to burnout.

Keywords: Job burnout, bibliometric analysis, R-tool, Covid-19

INTRODUCTION

The outbreak of COVID19 pandemic has shifted the traditional working arrangements in organizations. Workers and businesses across the globe were affected. In the recent years, there was perceptible change to various facets of business- human resource practices, organization structures, leadership, and demographics of workers. Each of these elements significantly contributed to changes in the organization; the pandemic only accelerated these changes.

In terms of work and work environment, employees have experienced and continue to experience stress. Organizations scaled back resources, and this consequently increased the job demands. With the ever-increasing work pressure, workers across organizations reported fatigue, irritability, tension, insomnia; all of which are signs of job burnout.

We are currently in the recovery phase. Businesses while scaling up their operations, have now accepted the 'new normal'. This then may be an opportune moment for us to reflect on the pandemic years through the 'learning' lens. What could be the significant issues that have impacted business practices, and therefore the mental health of the employees? What were the interventions, and how effective were they? Most importantly, what are the lessons learnt, and how would be respond to similar challenges in the future?

This paper sets out to achieve this purpose. The paper analyses the intellectual, and conceptual evolution of the topic 'job burnout' during the pandemic years.

METHODOLOGY

Bibliometric analysis, a qualitative approach for conducting systematic literature review was adopted. This method analyses the trends on the topic of 'job burnout' in the most recent years. The methodological aim was to examine the conceptual structure of the research themes pertaining to job burnout.

Data collection and analysis. The analysis was performed using bibliometrix R-Tool. It is an integrated suite of software applications for bibliometric and scientometric analysis. The data was retrieved from Web of Science (WoS) Core Collection. There is a high risk of missing relevant articles based on the search parameters when sourcing the documents from the database. To minimize this risk, the search was conducted using the broadest possible terms related to job burnout. The search was performed using the term 'job burnout'. This search term were to appear as a 'topic' in the research articles. It includes the search term found in the manuscript's title, abstract, or the author-provided key word. Only peer-reviewed articles appearing in journals were considered. Conference proceedings, book reviews, and editorials were excluded. All the articles considered were published in English. 454 articles were extracted.

FINDINGS AND DISCUSSION

Thematic map

The thematic map presents four typologies of themes to be defined based on the quadrant in which they are placed. Author provided key words appearing in articles were considered as the criteria to develop the research clusters. Based on the degree of density, and centrality of the key words, the four clusters or themes are-basic, motor, niche, and emerging/declining.

Insert Figure 1 about here

Basic themes.

The first is the lower right quadrant (Q1) labelled basic themes or underlying themes. The clusters in this quadrant are high on centrality, and low on density. The research clusters in this quadrant are very important for the development of the field. We find four clusters in this quadrant- cluster 1: burnout, job satisfaction, nurse; cluster 2: depression, social support, and anxiety;

The themes in this quadrant form the bedrock of research in the field and mostly comprise of general topics from which specific research themes would emanate.

Employee turnover is an issue that has plagued the organizations. It has only been exacerbated

during the pandemic and post-pandemic recovery. Previous studies indicate that a variety of factors influence employees' intention to leave, and turnover. Among these factors, job satisfaction is one of the important precursors. It is especially common among nursing staff (Labrague et.al, 2020). This is because burnout is a condition that is common among professions that require close and direct contact with people. It is an outcome of long-term stress and fatigue arising from work. In case of nurses, job burnout is caused not only by demanding working conditions, but also perceived lack of resources to perform the tasks (Ślusarz et.al, 2022). Therefore, research on job burnout and lack of job satisfaction among nurses is one of the core research themes.

Luo et.al (2020) identify factors affecting job burnout. These are personal factors such as one's professional background, and mental endurance; job responsibilities such as workload, sense of responsibility; and promotion and rewards. Furthermore, they have identified counter-measures for these conditions. For example, experiencing empathy, and being rational about one's work significantly alleviated personal and job related factors of burnout. Seeking support from peers, supervisors aided workers to overcome stress, and depression. Tao et.al (2022) posit similar findings. In a study that investigated job burnout among fire figthers (n=716), perceived organizational support (POS) was found to reinforce the relationship between one's neurotic personality and job burnout. Smoktunowicz et.al (2021) extend this line of inquiry. Considering the relationship between one's self-efficacy and received organizational support, their study concluded that first enhancing one's self efficacy, and then providing organizational support significantly reduced one's stress and burnout on the job.

A sub theme that addresses research on the topics of 'COVID', 'stress', and 'mindfulness' appears at the cusp of basic and motor themes. Research in this area can be considered more recent and that which is actively being pursued in the light of pandemic.

Extant research indicates that restrictive measures imposed during the COVID-19 lead to poor mental health, especially among healthcare professionals (Prudenzi et.al, 2021). In a study that was conducted during the first wave of COVID-19 where nation-wide lockdown was imposed, individuals who demonstrated mindfulness (being focused on the present rather than dwelling on the past), compassion, and values were able to mitigate the negative psychological effects of the pandemic better (Prudenzi et.al, 2021). Similarly, mindfulness sessions were organized for healthcare workers by creating virtual clinics in Mexico. Of the 507 workers attending these

sessions, about 70% reported significant 'post trauma stress disorder (PTSD), and burnout. Female workers were especially found to be at a higher risk (Real-Ramírez, 2021).

Motor themes.

This is the top right-second quadrant (Q2). We see that themes that are the core to the field are being rigorously pursued currently. Therefore, we infer that there is both sustained and growing interest to study these behavioral outcomes. There are two clusters that appear as sub-themes- cluster 1: emotional exhaustion, well-being, organizational; cluster 2: job satisfaction, commitment.

Emotional exhaustion is a core facet of burnout. It includes weariness, scarcity of energy, and lack of emotional resources (Moore, 2000). Bianchi et.al., (2019) identifies emotional exhaustion to be one of the dimensions of burnout where it influences work-life quality, work efficiency, and work-output quality (Darkwah et al., 2016). Therefore, these findings suggest that emotional exhaustion influences certain organizational variables related to work and work environment. These findings were extended by Mata, and Tarroja (2022) who observed a significant negative relationship between emotional exhaustion and psychological well-being of workers. More specifically, emotional exhaustion is negatively related to job satisfaction (Benitez, & Medina, 2021). Moving away from the industrial/organizational psychology lens, O'Brady, and Doellgast (2021) present the human resource management-industrial relations perspective to explain the relation between emotional exhaustion and well-being. Labor unions are at the forefront when initiating campaigns to alleviate workplace stress and burnout. They negotiate agreements that offer protection to workers from unpredictable pay and working conditions. (Union) shop stewards enforce collective agreement with the objective of maintaining healthy working relationship between administration and workers. Practices such as these offer a collective voice to the employees against the negative impact of the job demands, as well as enhancing perceptions of organization justice. Thus, unions alleviate job stress, and achieve employee well-being by developing and enforcing fair human resource practices (O'Brady, & Doellgast, 2021). Interestingly the two clusters- (i).COVID, Stress, and Mindfullness; and (ii). Emotional exhaustion, well-being, and organizational are in proximity. This indicates at least a partial overlap of research themes such as the relationship between mindfulness interventions and emotional exhaustion (Bi, & Ye, 2021; Said, & Tanova, 2021); Covid-19 and emotional exhaustion (Hwang, Hur, & Shin, 2021; Wang et al., 2021), Covid-19 and employee well-being

(Alrighe et al., 2022; Yan et al., 2022), and mindfulness and psychological well-being (Kay, & Young, 2022; Calvo et al., 2022).

The final research cluster in the motor theme focuses on job satisfaction, and commitment. Extant research suggests job satisfaction, and organizational commitment to have significant influence on burnout. Studies have indicated that job satisfaction is negatively associated with two facets of burnout- emotional exhaustion, and low personal accomplishment. On the other hand, organizational commitment insulates workers from experiencing job burnout (when they are committed to the organization; Yue et al., 2022). The relationship between job burnout, job satisfaction, and commitment is further established through studies which suggest job burnout and job satisfaction acting as regulating variables between dispositional variables and outcomes such as commitment (c.f. Li et al., 2022; Koo et al., 2020). The relationship between job burnout, job satisfaction, and organizational commitment has been investigated in a variety of industries such as hospitality (Koo et al., 2020), healthcare (c.f. Yue et al., 2022; Li et al., 2022), information technology (Atouba, 2021), judiciary (Lambert et al., 2020), and construction (Liu, 2020).

Therefore, we may infer that research interest on these topics will continue to remain robust.

Niche themes.

This is the third- upper (Q3). The research clusters in this quadrant are high on density, and low on centrality. This means research themes in this quadrant has well developed internal links (as indicated by high density) but unimportant external links (indicated by low centrality). Two clusters are observed as sub-themes here- cluster 1 sub theme: job demand-resources (jd-r) model, workload, psychological empowerment; and cluster 2 sub theme: safety compliance, safety participation.

Job demand- Resources model (Bakker, & Demerouti, 2007) is widely used as a theoretical lens to explain the relationship between workload, work-life conflict and job burnout. According to this model, the job demands are initiators of stress and other such negative psychological outcomes. The resources are responsible for one's motivation on the job. The model studies the interaction between the job demands and the resources to predict behavioral and organizational outcomes. Job demands include cognitive, social, psychological, and physical efforts required to perform a job; therefore they entail a certain 'cost'. On the other hand, resources are the psychological, social, or organizational aspects of the job that attenuate these 'costs' and lead to

the employee's professional development. There is rich literature that focuses on such relationships between demand, and resources associated with a job. For example, excessive use of mobile, communication and information technology (MICT) tools as a part of one's work (costs) is positively associated with job burnout. These negative effects are moderated by the team members' support (Jiang et al., 2022). Excessive job demands also leads to decreased employee engagement. This is expressed through decreased vigor and energy on the job, exhaustion, and detrimental effects on one's mental health (Van der Laken et al., 2020). Extant research points towards psychological empowerment as an intervention to counter the negative effects of excessive job demands. Empowered employees perceive having more resources to perform the job. They experience higher psychological safety. It describes how individuals perceive risks and consequences of job demands. Psychologically empowered employees are more involved with the tasks related to the job. They perceive greater control at work. They realize greater alignment between their personal values and job demands, and demonstrate greater competence at work. Such positive psychological state mitigates emotional exhaustion and burnout (Zhou, & Chen, 2021).

Safety compliance refers to the important activities that need to be performed to maintain safety at workplace. Safety participation refers to voluntary activities that foster a safe working environment. Research indicates a positive relationship between safety participation, safety compliance, and decreased occurrences of accidents (Tong et al., 2020). Yang et al (2021) extend the research on safety compliance and safety participation to the effect on job burnout, and on the physical and mental health of workers. In a study of 406 frontline coalmine workers, job burnout characterized by exhaustion, cynicism, and low professional efficacy negatively moderated the relationship between safety compliance and safety outcomes. Similarly, emotional exhaustion, a facet of job burnout mediated the relationship between safety compliance and safety participation (Yang et al., 2021).

Recent research considering job demand-resources model focused on affective outcomes such as job satisfaction (Shan et al., 2022), and employee well-being (Sarmah et al., 202i), behavioral outcomes such as work engagement (Lan et al., 2020), and turnover intention (Haque, 2020); and performance outcomes such as workplace safety.

However, the research landscape exploring these themes is still nascent, and therefore offers potential interest for future researchers.

Interestingly, a third cluster comprising of research areas such as 'child welfare', intrinsic motivation, and job demands is seen at the cusp of niche and motor themes. This indicates a significant growth in interest on these topics. This trend is driven by increasing interest in the job design-resources model to explain the relationship between workplace climate and organizational outcomes (c.f. Cho et al., 2022; Moo-Kyeong, 2022; Portoghese et al., 2020) and therefore becoming more common as a motor theme.

Declining or emerging themes.

This is the fourth-lower left quadrant The research cluster in this quadrant is low on centrality, and density. There can be two ways to interpret the interest in research themes in this quadrant-declining or emerging. The research themes may either be weakly associated with other research clusters related to the topic (low on centrality), or will be loosely associated with other key words in their cluster (low on density). Research themes low on centrality and density are deemed to be declining. On the other hand, promising research themes somewhat high on centrality , and density can be considered emerging. In this case, three sub-themes or clusters are found in this quadrant: cluster 1 sub-theme: turnover, exhaustion, cynicism; cluster 2 sub-theme: secondary traumatic stress, compassion fatigue, professional quality of life, and cluster 3 sub-theme-work engagement, nursing, personality.

To be compassionate is to be aware and be empathic towards others' difficulties. It directs the individuals to help others (Dirik et al., 2021). It is a common behavior demonstrated by workers in the healthcare industry. Compassion fatigue is when there is a reduced understanding of others' suffering or distress. There are various factors that lead to this state of mind. Prolonged interaction with traumatized patients or traumatic events, conscious avoidance of anxiety inducing stimuli, job stress, and burnout (Diriki et al., 2021). Yi et al (2018) identify factors such as protracted interactions with traumatized individuals, organizational hurdles in providing care to the traumatized individuals, and feeling inadequate as leading to compassion fatigue. Research on the topic is sporadic and mostly restricted to healthcare professionals. This is revealed by the number of articles published on the topic (an average of 2 articles per year since 2006 included in Web of Science Core Collection). However, more recently, there is a growing interest on the topic. A deeper understanding of specific conditions such as secondary traumatic stress (c.f. Roberts et al., 2021; Singh et al., 2020; Starcher et al., 2020), and its relationship with job burnout is widely published. Furthermore, the prevalence of post traumatic stress is being

reported in workers engaged in legal work (Iversen, & Robertson, 2021), mental health professionals (Brown et al., 2021), social work (Vîrgă et al., 2020), policing (Starcher, & Stolzenberg, 2020), and firefighting (Makara-Studzińska et al., 2020). The sub-research theme comprising of topics 'secondary traumatic stress', 'compassion fatigue', and 'quality of life is positioned in proximity with the sub-research theme that focuses on the constructs of job burnout (turnover, exhaustion, cynicism). This suggests that there is an emerging interest to investigate the traditional understanding of job burnout (c.f. Maslach, Schaufeli, and Leiter (2001) ; Allam et al., 2021; Sayedmoharrami et al., 2019; Pakenham, 2015) across various contexts.

CONCLUSION

Research on job burnout remains robust. There is a need for human resource practitioners and academicians to better understand this phenomenon from the psychological, organizational, and larger social perspectives. Only then can effective interventions be designed to overcome this challenge. In this paper, I identify research themes that act as a substrate on which popular and niche research themes are built. Emerging research themes that are most likely to influence future research are also identified. As organizations and society emerge from the challenges of pandemic, it is an opportune moment to reflect upon the ideas from the past, and embrace a future where the full potential of human resources in organizations is leveraged.

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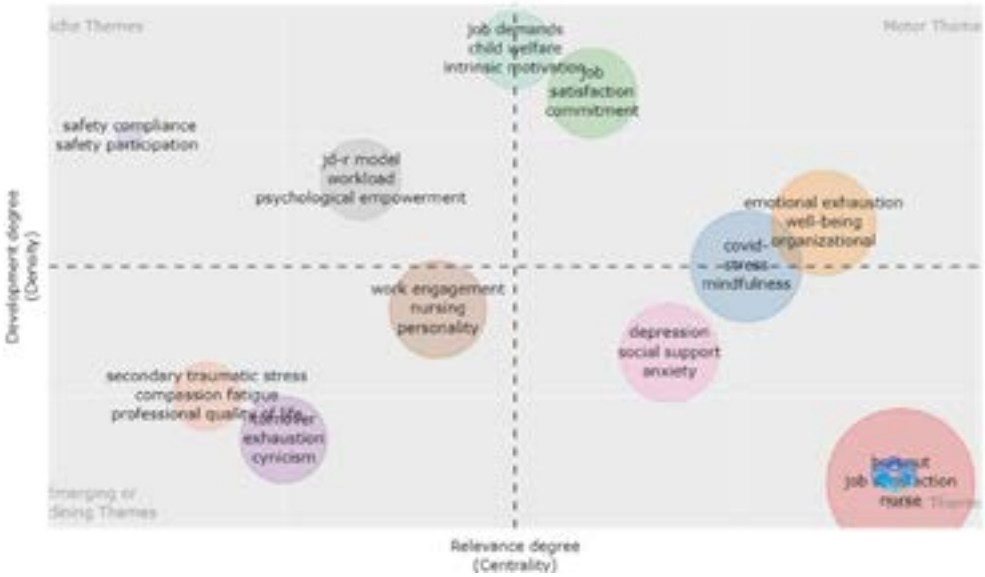
FIGURE

Figure 1. Thematic map: Job burnout research



04. Gender, Diversity and Indigeneity
Interactive Paper

Positive workforce participation for working mothers with children in their early years: A Socio-Ecological and Conservation of Resources approach

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Positive workforce participation for working mothers with children in their early years: A Socio-Ecological and Conservation of Resources approach

ABSTRACT:

The immediate impacts on women's participation in the workforce from the COVID-19 pandemic was felt globally. In Australia, this gendered impact from the pandemic has given the government even more imperative to re-prioritise women's participation in the workforce. However, as witnessed over many decades, this issue of disparity between genders in workforce participation remains a complex one. This paper proposes that legislation and policy alone cannot "solve" the considerable and ongoing disadvantage to women, in particular mothers with children under school age, in engaging and remaining in the workforce. Specifically, the role of theories such as the Socio-Ecological theory and Conservation of Resources theory, are considered as viable and practical theories to better understand and address the complexities of mothers' participation in the workforce. In addition, considering the extensive research highlighting the disincentives and adverse impacts of mothers participating in the workforce, this paper also proposes that a positive lens be applied to understanding the interface between work and family for working mothers, to build greater incentives and supports for addressing gendered participation in the workforce.

Keywords: working mothers; women's workforce participation; work life interface; work life

enrichment; socio-ecological theory; conservation of resources theory

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Women's workforce participation is an ongoing economic and equality priority globally (UN Sustainable Development Goals: Gender Equality) and nationally in Australia (Australian Government Towards 2025 Strategy to Boost Women's Workforce Participation). From an economic perspective, the benefits of increasing women's workforce participation to achieve gender equality for workforce participation is undebatable. In Australia it was estimated by the Grattan Institute in 2012, that if Australia could boost female workforce participation by only 6% (equal to Canada's female workforce participation rates at the time) then Australia's GDP would be AU$25 billion higher (Daley, McGannon and Ginnivan, 2012).

The aim of this research paper is to summarise the current political climate regarding women's workforce participation globally and in Australia, including the current context post the COVID-19 pandemic. It is proposed that responses to address the ongoing gender disparity in workforce participation need to consider the complexity and multifaceted nature of the issue. In particular, special emphasis needs to be placed on mothers with children under school age, where the gender disparity is greatest (ABS, 2021a). This paper also argues that this specific cohort of mother's experience unique complexities in participating in the workforce, given their additional dependence on systemic legislation and policies, such as maternity leave legislation, flexible work arrangement policies, and childcare system legislation and subsidies (Kitchen and Wardell-Johnson, 2018).

This paper argues that future research needs to investigate and understand the multi-factor ecological experiences of working mothers with children under school age given such broader complexities and greater discrepancies in workforce participation. As such, it is proposed that Voydanoff's (2001) work family community ecological theory be utilised to understand these complexities, as it integrates the role of the community domain into the traditional work and family interface. Furthermore, to provide specificity on the practical resources experienced within these ecological areas, it is proposed that the conservation of resources (COR) theory be explored to identify the actual resources that interact within these domains. COR theory (Hobfoll, 1998) is a motivational theory that is underpinned by the premise that humans have an innate need to acquire and conserve resources for survival and to protect oneself.

It is also proposed that future research should identify the positive outcomes of mothers participating in the workforce as a means of promoting workforce participation, through positive work-family interface theories such as the work-family enrichment theory (Greenhaus and Powell, 2006). This means increasing

understanding of how the participation of women in the workforce can be facilitated to be more positive and incentivising for mothers with children under school age given the greater complexities surrounding their participation in the workforce. It is argued that better understanding how to promote more positive workforce participation outcomes should be a focus of existing legislative and national strategies aimed at improving women's participation in the workforce. It is also contended that for nations to sustainably benefit economically from mothers' participation in the workforce, it is fundamental for mothers themselves to benefit socially and psychologically as well, with consequent flow on effects for their families.

THE POLITICAL AND SOCIAL CONTEXT OF WOMEN'S PARTICIPATION IN THE WORKFORCE

Women's Participation in the Workforce

It is well recognized that women's rising participation in the labour force has been one of the greatest economic developments of the last century (Esteban, Tzvetkova and Roser, 2018). In Australia, there has also been a notable increase in workforce participation of women, particularly since the 1950s. According to the Australian Bureau of Statistics (ABS, 1998), it is believed that these changes in women's participation in the workforce has been primarily attributed to a combination of changes in social attitudes to the roles (and rights) of women, and legislation recognising equal opportunity in education and employment. Demographic changes, including having children later, having fewer children, and higher levels of educational attainment have also been associated with these workforce participation changes (Baxter, 2013; Strachan, 2010).

A primary policy reform in Australia that is said to have contributed greatly to increasing women's participation in the workforce, is the introduction of the Child Care Subsidy (CCS) legislation in July 2018. According to Roberts (2019), since the introduction of the CCS, there has been a notable increase in full-time female workforce participation and a decrease in the proportion of females not in the labour force. However, despite these significant shifts in women's participation, there remains a strong disparity between the genders in workforce participation.

According to Kitchen and Wardell-Johnson (2018), although Australia's overall female workforce participation rate has risen since the 1970s, it remains below the rates achieved in Europe, Canada, and New Zealand, and is a full 10 percentage points below the rate for Australian males. A recent report also

found that Australia was ranked 15th overall in the World Economic Forum's Gender Gap Rankings in 2006 but dropped to 50th in the world by 2021 (World Economic Forum, 2021). It has been suggested that the gendered disparity in workforce participation can be attributed to global gendered distributions of domestic and caregiving responsibilities (International Labour Organisation, 2018).

Mothers' Participation in the Workforce

Workforce participation is not only a gendered issue, but also a family structure and dynamic issue. The ABS 2021 results summarise that 'the proportion of couple families where the wife (or youngest same-sex partner) was employed rose from 66.2% for children aged 0 to 4 years to 78.2% for children aged 5 to 9 and to 78.8% for dependants aged 15 to 24. Interestingly, men's participation in the workforce is stable across these dependent age groups, with slight decreases in participation as children get older, the opposite trend of women in the workforce with dependent children. For example, in 2021, 90.8% of men in a couple were employed with a dependent 0 to 4 years and this slightly decreased to 90.3% when children were between 5 to 9 years old and to 89.5% when children were between 10 to 14 years of age. Whereas women's participation in the workforce peaked when children were between 10 to 14 years of age (80.8%) and lowest when children were 0 to 4 years of age (66.2%) (ABS, 2021b).

It is apparent that this gender disparity in workforce participation between men and women of families with children under school age has remained as an ongoing barrier in Australian society despite various developments in systems and legislation noted earlier (e.g., maternity leave, Child Care Subsidy legislation, and flexible part-time work arrangements). It is therefore clear that legislation and policy alone have not fully resolved the enablement of mothers of young children back into the workforce. This notion further emphasises the uniqueness and distinctiveness of workforce participation circumstances and conditions for mothers with children under school age, validating the criticality for a more holistic perspective of the issue for this demographic. It is claimed by various researchers that the impacts of the COVID-19 global pandemic have given us a 'real-time' perspective into these unique and distinct experiences of working mothers with children under school age and has therefore exposed the fragility of their participation and well-being during this period of their lives.

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IMPLICATIONS AND LEARNINGS FROM THE COVID-19 PANDEMIC

On a global scale, the immediate impacts of the COVID-19 pandemic on women's participation in the workforce was remarkable. According to the International Labour Organisation (ILO) (2022), about 113 million women aged 25 to 54 with partners and small children (i.e., under the age of 6) were out of the workforce in 2020. The ILO concluded that the pressures of juggling work and family, coupled with school closures and job losses in female-dominated sectors contributed to this sudden drop in mother's workforce participation. Overall, it is clear from various international studies that similar gender-patterned impacts were being globally experienced.

According to the Australian Government (2020) *Women's Economic Security Statement* in 2020, women's workforce participation in Australia had reached a record high, and the gender pay gap was at a record low. In fact, the rate of women's participation in the workforce was steadily increasing in Australia and reached 61.5 per cent in January 2020 prior to the commencement of COVID-19 pandemic and dropped to 57.5 per cent in May 2020 (ABS, August 2020). It is anticipated that this will have long term and ongoing impacts on prolonged unemployment, erosion of skills and talent and fewer employment prospects and greater job insecurity for many women moving forward (Mooi-Reci and Risman, 2021, cited in Risse and Jackson, 2021). Clearly, this is of a higher risk for mothers, given their immediate workforce participation impact from the COVID-19 pandemic in Australia. Aside from the obvious economic impacts on women's workforce participation, the broader detrimental impacts on working mothers from the COVID-19 pandemic have also been documented. These impacts are important to understand, and are discussed next, as they demonstrate the immediate gendered burden that economic and system pressures and changes have on mothers in the workforce. It also highlights the fragility and complexity of mother's participation in the workforce.

Impacts on household and care responsibilities for working mothers

One of the key trends noticed early in the COVID-19 pandemic, was the unequal division of care and domestic responsibilities between women and men with children, and the contribution this may have had to the subsequent impacts on women's participation in the workforce (ILO, 2022). For example, in a recent review of eight articles documenting the costs of the COVID-19 pandemic, researchers found that in exploring data from the US, Italy, Japan, Germany, and the UK, the gender gap in economic impacts from

COVID-19 on households and families was far more adverse for women than men (Croda and Grossband, 2021).

Impacts on psychological distress and mental health for working mothers

Given the gendered impact of COVID-19 on household and caregiving duties, many researchers reported significant differences in psychological distress between men and women during the pandemic (Huang, Krivkovich, Rambachan, & Yee, 2021). For example, researchers found significant gaps in psychological distress between women with and without school-age children in the US (Zomarro and Prado, 2021). In the UK the mental well-being of working parents worsened by 64% as the pandemic was unfolding in 2020, working mothers in particular reported worse mental and financial position due to childcare and home-schooling responsibilities and the increased conflict between work and life domains (Cheng, Mendolia, Paloyo, Savage and Tani, 2021).

Impacts on work life interference for working mothers

As expected, the conflict between work and life or family domains during the COVID-19 pandemic was another factor that was gendered in its impact and distribution. In a recent study conducted in the UK with 26 working women, Adisa, Aiyenitaju, and Adekoya (2021), found that increased domestic workload undermined the ability for mothers to achieve work–family balance and role differentiation due to the occurrence of inter-role conflicts. It was concluded that these findings provide policy makers and practitioners with insights into how society and policy could better support mothers balance their multiple roles between work and family (Adisa, Aiyenitaju, & Adekoya, 2021).

It is believed that the economic and social burden and impact of the COVID-19 pandemic on women could regress women's progress in the workforce for decades if not addressed appropriately through various strategies moving forward (Odata and Parmar, 2021).

Australia's response to women's workforce participation post COVID-19

Following on from the immediate economic turmoil of COVID-19 across Australia, the Grattan Institute stated in March 2021 that the employment bounce back has been faster than expected, but is still incomplete, with underemployment still substantially higher for women than men (Wood, Griffiths, and Crowley, 2021). The report goes on to state that the Australian government's response to this gendered

impact needs to carefully consider the unique circumstances of women rather than rely on traditional economic 'playbook' approaches from previous recessions (Wood, Griffiths, and Crowley, 2021).

One of these immediate and early responses from the Australian government to the COVID-19 pandemic impacts, was when the Australian government provided a policy package to parents for free childcare. The gender patterns in the unpaid care of children in Australian society meant that the temporary free childcare policy had far more significant implications for women's employment than it did for men; again, reinforcing the impact and gendered impact of Australia's childcare access to mothers' participation in the workforce (Craig, 2020; Hand, Baxter, Carroll and Budinski, 2020, as cited in Risse and Jackson, 2021). Also, given this policy response provided temporary relief during the beginning period of COVID-19 in Australia, the access and affordability of childcare remains an ongoing systemic problem that continues to impact mothers with children under school age to a greater degree than men.

In 2018, a report by KPMG titled *The cost of coming back: Achieving a better deal for working mothers*[1], found that one of the key reasons these workforce participation targeted policies and legislations are not 'solving' the gender disparity of participation in the workforce is because of the economic disincentives for Australian families. In this report, it was quoted that 'the interaction of the personal tax, family payments and childcare support systems is deterring Australian women with young children from participating more fully in the workforce' (Kitchen & Wardell-Johnson, 2018, p.3).

In addition to this, a recent report conducted by Victoria University in 2022, investigated the access and availability of childcare for families in communities across Australia and found that 'the demand for space in early childhood education and care (ECEC) outpaces local capacity to provide services, and this is where childcare deserts are found' (Hurley, Matthews, & Pennicuik, 2022, p.2). The report also found that these 'childcare deserts' are disproportionately located in rural and regional areas and where there are higher proportions of children and families on lower income or below the poverty line (Hurley, Matthews, & Pennicuik, 2022). These findings demonstrate that the lack of access and availability of childcare in communities exasperates the complexities and barriers of mothers with children under school age participating in the workforce.

Acknowledging childcare as a key factor contributing to mothers' participation in the workforce in Australia, the Australian Government has recently built on the existing Australian Government's 2025 strategy to boost women's workforce participation. The Australian Government's Women's Economic

1 A follow up report to the KPMG 2018 report '*Ending workforce discrimination against women*'

Security Statement 2020 is aimed to deal with the impacts associated with COVID-19 that women in Australia have been significantly affected by (Australian Government, 2020). One of the key priority areas within this statement is to 'rebuild women's workforce participation and further close the gender pay gap.

In response to this priority area, the recent Australian Government Women's budget statement for 2022/2023 highlights further investment into childcare affordability as an enabler for workforce participation for mothers. Also included is an investment into childcare accessibility for rural and remote communities. Finally, a reference to 'normalising flexible work' for mothers with children under school age is also prioritized as a strategy to support women's employment outcomes and 'limit their risks of career limitations from accessing flexibility'. Other systemic issues to be addressed through this budget include paid parental leave, by introducing an Enhanced Paid Parental Leave (PPL) to provide more parental leave flexibility for eligible working families.

Although these systemic factors are critical in supporting mothers' participation in the workforce, it is also apparent from the existing literature that these systemic policies and legislation alone do not solve the complex and multi-faceted issue of workforce participation for mothers with children under school age. For example, it is also clear from the evidence summarised in this paper that COVID-19 illustrated that women are still disproportionately responsible for the domestic and care duties within households and more susceptible to psychological health and well-being consequences. This further re-iterates the need for a more complex understanding of the unique systemic, social, and psychological enablers and barriers to mothers' participation in the workforce, while their children are under school age.

Based on this position and the research already summarised in this paper, it is strongly proposed that government strategies aiming to increase the participation of women in the workforce need to respectfully understand the broader barriers and experiences of these women, to accurately understand and address the complexities behind how, why, and when mothers participate in the workforce.

The need for a greater understanding of the complexities underpinning mothers' participation in the workforce, is the underpinning of this research paper's rationalisation for the need for an integrated theoretical perspective for understanding and addressing workforce participation of mothers with children under school age.

A CASE FOR AN INTEGRATED ECOLOGICAL AND RESOURCE PERSPECTIVE FOR

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PROMOTING WORKING MOTHERS PARTICIPATION IN THE WORKFORCE

It is clear from the research and evidence summarised in this paper that workforce participation for women needs to be more than just an economic strategy. The report authored by Kitchen and Wardell-Johnson (2018) states that, in Australia, there is still a need for a greater and broader perspective on women's workforce participation; in particular, conventional perceptions of gender roles pertaining to family earnings and the work/child rearing dichotomy of responsibilities require further interrogation at a societal level. The report further adds that this is particularly important in families with children under school age, where childcare policies and primary child rearing responsibilities are particularly impactful on workforce participation decisions (Kitchen and Wardell-Johnson, 2018).

A theory that has attempted to address social issue complexities from a broader and holistic perspective is the socio-ecological systems theory developed by Bronfenbrenner (1979). This theory originated in the context of child development, positioning that child development is a complex system of relationships affected by multiple levels of the environment, ranging from the immediate and direct settings of family and school to the broader indirect impacts from cultural values and laws. Given the integrated breadth of the ecological systems theory, it has been applied to various complex social and cultural issues for exploration and understanding. According to McLaren and Hawe (2004) an ecological perspective is applicable for various contexts in a broad sense given its focus on individual as well as contextual factors in areas such as health research and prevention.

An adaptation of the socio-ecological model that has been applied to the work and family interface research is the Voydanoff's work, family and community theory (Voyandoff, 2001). This paper proposes that this theory is a potentially applicable theory and perspective for holistically and theoretically conceptualising the complexity of working mothers' experiences in participating in the workforce. Drawing from Bronfenbrenner's ecological systems theory (1979), Voyandoff (2004) proposed that domains such as work and family are not only microsystems consisting of activities, roles, and interpersonal relationships, but that the processes and linking mechanisms between two or more of these systems form a broader systemic level of influence on outcomes. As such, Voydanoff (2001) provided an ecological framework that integrates the role of community into the work and family interface.

Further applying this model to the existing work and family interface models, Voyandoff (2004) also stated that the connection between system levels occur when resources (drain or generation) and spill over

(positive or negative) and linking mechanisms such as work-family conflict or work-family facilitation occur.

As such, there is a deliberate empirical link between Voydanoff's work, family and community ecological theory and the role of resources (drain or generation) and work-life interface. Therefore, this research paper proposes that to effectively understand the complexities enabling mothers to participate in the workforce, an empirically measured resource theory such as the conservation of resources (Hobfoll, 1989) and a work-family interface theory could be conceptualised within the work, family and community framework as a conceptual model to explore and understand the multi-level resources influencing and affecting mothers workforce participation, while their children are under school age.

In relation to the work-family interface literature, previous scholars have measured and acknowledged the importance of understanding the negative relationship between work and family for working mothers but have also started to acknowledge that the continued negative illustration of the relationship between work and life for mothers does raise additional challenge for policy makers. In their study of Australian mothers' experiences participating in the workforce, for example, Losoncz and Bortolotto (2009) unsurprisingly found that strain associated with work–life imbalance was negatively associated with poor physical and mental health and low satisfaction with work and family life. However, Losoncz and Bortolotto (2009) suggested the need to also consider how approaches to work and life can support and encourage mothers to positively participate in the workforce.

As such, this research paper also proposes the potential benefits of applying a positive lens to the work-life interface, such as the theory of work-family enrichment (Greenhaus & Powell, 2006), to understand the role an integrated model of work, family, and community resources could have on working mothers' positive experiences across their work and broader life domains. According to Greenhaus and Powell (2006) work-family enrichment theory is defined as the extent to which experiences in one role (i.e., work) improves the quality of life in the other role (i.e., family). As with existing work-family interface theories, work-family enrichment is bi-directional, meaning that it can be measured as enrichment from the work to family direction and from the family to work direction (Carlson, Kacmar, Wayne and Grzywacz, 2006). This bi-directional relationship could be a factor to consider in incentivising workforce participation for mothers, by considering the positive influences resources can have on mothers' enrichment outcomes bi-directionally across the ecological domains of *work* and *life*; which according to Voydanoff's (2001) theory could encapsulate work, family and community.

Overall, this paper argues that in a research environment where the negative effects of work and life interface are so commonly reported and investigated, a positive perspective may provide a more complete understanding of this complex issue and its potential for practical positive outcomes and strategies. This is line with empirically supported positive organisational scholarship approaches when managing problems and adversities (Cameron and Spreitzer, 2012).

Finally, as Australia continues to recover from the economic and social implications from the COVID-19 pandemic, this paper believes that it is imperative that Australian working mothers' participation in the workforce to not only be sustained but also incentivised through strategies that are supportive and respectful of the complexities of the work, family, and community interfaces in their lives. There is an ongoing and even more paramount need following on from the adverse effects of the pandemic on working mothers, to not only systemically support working mothers with children under school age to participate in the workforce, but also socially and psychologically as a society.

In conclusion, it is clear from an economic perspective that mothers' participation in the workforce is a strong priority and incentive for governments. As summarised in this paper, however, it is imperative that to increase women's participation in the workforce, particularly for those with children under school age, the issue needs to be understood and addressed from a broader perspective. This paper proposes that such an approach would not only encourage greater parity in workforce participation between men and women but would also appropriately address the complex and multi-layered factors and resources that could influence this. Furthermore, this paper emphasises the need for research to also measure the multi-level factors and resources that can enable a more positive interface between work and family, as a strategy to better support and incentivise mothers' participation in the workforce.

> *Workforce participation and economic productivity are reasonable objectives of government policy, but they are not sufficient on their own. Ignoring [other] equally important objectives [will see] increasing numbers of Australian women ask: why choose motherhood, when your society fails to adequately support that choice?(* Leahy, 2019).

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Gender-based violence and harassment in Bangladesh's Ready-Made Garments (RMG) Industry: A neglected issue in policy and practice

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Gender-based violence and harassment in Bangladesh's Ready-Made Garments (RMG) Industry: A neglected issue in policy and practice

ABSTRACT:
Gender-based violence and sexual harassment have had limited attention from the government and employers in the RMG industry in Bangladesh, despite the comprehensive approach to restructuring the industry. Women's experience in paid employment was affected due to the exploitative work environment in this industry. This research examines the present conditions of this violence in the RMG factories, the preventive measures and the causes for such behaviours by the work supervisors. The findings reveal that first, women workers had faced this violence for years without any preventive measures from the government and employers. Second, in the absence of regulations, the High Court Directives are not effective and functioning in addressing these issues. Third, social norms and power dynamics at the workplace were behind this violence.

Keywords: workplace violence, sexual harassment, Bangladesh RMG industry, gender-based violence,

Gender-based violence and sexual harassment (GBV&SH) in the workplace have become an emerging concern in the Ready-Made Garments (RMG) industry in Bangladesh recently, though this has been a long-standing problem since the 1980s (Kabeer, 1991; Kabeer & Mahmud, 2004; Manusher Jonno Foundation (MJF), 2019). A growing amount of research indicates that workers in this industry face violence for not meeting production targets, and women, in particular, experience sexual harassment for work mistakes, absence, arriving late including missing production targets (International Labour Organization (ILO) & UN Women, 2020; K. Moazzem, Khandker, Arifuzzaman, & Ferdows, 2019). However, neither the employment regulations nor the common laws on violence against women include the provision on GBV&SH in the workplace. The issue remains quite silent in the regulatory framework as well as workplace strategies.

The issues of GBV&SH in the RMG factories have been neglected by the government regulators and labour inspectors for the last decades, though the industry has been restructuring employment regulations to address workers' rights and safety issues. Two industrial disasters (the collapse of the Rana Plaza in 2013 and the factory fire in the Tajreen Fashions in 2012) compelled the government to amend the labour laws, including adopting several corrective measures (Reinecke & Donaghey, 2015). However, the GVB&SH issues were neglected in the laws and, therefore, no effective measures were adopted to address these issues.

The RMG industry is estimated to employ 3.2 million women workers out of 18.6 million, which is one-sixth of total female employment in 2016-17 (BBS, 2017). There have been significant changes to improve the working conditions of women in this industry since 2013, after the deadly accidents. But these initiatives were limited to workers' health, safety and security at the workplace. There was no attention to developing decent workplace culture, identifying problems in workplace behaviours and protecting women against GVB&SH in the workplace. The government has been obliged to follow Directives from the High Court Division (HCD) on sexual harassment in the workplace since 2009, but it lacks proper implementation and monitoring. The discussion on the socio-cultural context that impacts workplace behaviours is also absent in recent research and development studies.

This research aims to explore three questions: what is the state of GVB&SH in the RMG workplace, how have the Directives of the HCD been implemented, and why the GVB&SH incidents in the factories. The remainder of the paper starts with a brief discussion of the international and national

legal framework on GVB&SH in the workplace, then a discussion about women in society, their paid employment and workplace violence. Later this paper presents the methods of this research. Finally, the findings are discussed, including the conclusion.

LEGAL ARRANGEMENTS ON GBV&SH: INTERNATIONAL AND NATIONAL CONTEXT

The GBV&SH in the world of work has been a reality for many years, yet the issues have been addressed in the global arena until 2019. There were no binding international instruments to guide states to formulate national laws and effectively address workplace violence. The International Labour Organization (ILO) adopted the Violence and Harassment Convention, 2019 (Convention No. 190) (hereafter C190) in June 2019 as an instrument for its member states to identify and prohibit workplace violence and harassment issues (ILO, 2022). The Convention provides an inclusive and comprehensive definition of gender-based violence and harassment in Article 1: "a range of unacceptable behaviours and practices" that "result in physical, psychological, sexual or economic harm". This definition includes gender-based violence and harassment as "violence and harassment directed at persons because of their sex or gender". This definition includes sexual harassment (Eliminating Violence and Harassment in the World of Work, 2019, p. 5).

C190 calls on all ILO members to adopt appropriate laws and regulations so that employers will be bound to take measures to prevent violence and harassment and protect workers (Article 9). This Convention requires member states to adopt "an inclusive, integrated and gender-responsive approach for the prevention and elimination of violence and harassment" with consultation with employers and workers' organisations (Article 4). The Convention also ensures the right to equality and non-discrimination in employment, including for women workers and workers belonging to vulnerable groups, by asking its member states to adopt appropriate regulations and policies (Article 6) (p. 6-8). The articles of C190 relevant to this research can be seen in Table 1.

Insert Table 1 about here

The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), 1979, is the landmark that highlighted the equality of women with men by eliminating all forms of discrimination against women. In the economic domain, CEDAW includes principles based on the equal rights of men and women in employment (CEDAW, 1979). This Convention did not

provide explicit provisions on GBV&SH in the workplace for signatory countries to protect workers from workplace violence. However, CEDAW General Recommendation No.19 recognises that "equality in employment can be seriously impaired when women are subjected to gender-specific violence, such as sexual harassment in the workplace". This recommendation also includes a clear definition of sexual harassment (CEDAW, 1992).

Bangladesh has not ratified the C190, therefore, it is not legally bound to follow the provisions, such as to adopt appropriate laws to ask employers for specific measures to protect workers against GBV&SH. However, the country signed the CEDAW 1979 and is committed to providing protection against GBV&SH in the workplace. The existing legal framework in Bangladesh is not capable of ensuring this protection or prohibiting GBV&SH in the workplace (Yasmin, 2021). The Bangladesh Labour Act (BLA) 2006 provides only one provision about the attitude toward women workers "will not be subjected to any indecent or disrespectful behaviour" (Section 332) (Bangladesh Labour Act, 2006). However, contravening this article does not include any punishment option, except the general provision on the punishment with imprisonment for a term of up to 3 months or with a maximum fine of 25,000 taka, or both can be applied for violating any provision of the Act (section 307).

The Directives on Sexual Harassment by the High Court Division (HCD) of the Supreme Court, Bangladesh, provided guidelines for workplaces and educational institutions to work on sexual harassment issues until an adequate and effective legal framework is adopted by the government. The directives include a comprehensive definition of sexual harassment that include:

> indecent gesture, teasing through abusive language, stalking, jokes having sexual implication; attempts or efforts to establish physical relation having sexual implication by abuse of administrative, authoritative or professional powers; unwelcome sexually determined behaviour (whether directly or by implication) as physical contact and advances; sexually coloured verbal representation, remark or gtesture; demand or request for sexual favours; making love proposals and posing a threat in case of refusal; showing pornography; insult through letters phone calls, sms, notice board or walls of office/factory, washroom having sexual implication and taking still or video photographs to blackmail and assassinate character. (High Court Division, 2009)

The directives provide a guideline for employers to maintain effective measures to prevent the offences of sexual abuse and harassment. Employers are also obliged to form Complaint Committees to receive and investigate complaints of sexual harassment and the Committee should have at least two external members, preferably from organisations working on gender issues and sexual abuse. Employers are required to create awareness and public opinion against sexual harassment and gender discrimination (HCD, 2009). There is a lack of comprehensive research on the knowledge on this guideline and the status of anti-harassment committee in the workplaces.

Table 2 presents the related provisions for the BLA2006 and the Directives of the HCD that relate to GBV&SH issues in the workplace.

Insert Table 2 about here

WOMEN IN SOCIETY, PAID EMPLOYMENT AND WORKPLACE VIOLENCE

Women in Bangladesh's patriarchal society remain in subordinate positions while men's superiority is manifest in every sphere of life. Gender inequality starts at the family level, influenced by the social traditions and norms, opposing girls' education at the primary or secondary level and compelling them to get married at a very young age (Solotaroff, Kotikula, Lonnberg, Ali, & Jahan, 2019). Inequality and deprivation are prominent during marriage life, with women compelled to fulfil what are seen as reproductive and household responsibilities. The socially ascribed responsibilities of unpaid care jobs create a sense that women's unequal position in the family is normal, and they are bound to perform these duties without any question. The disproportionate responsibilities for unpaid work in the home create men's perception of disrespect, inequality and discrimination, which spills over into paid employment (Kotikula, Hill, & Raza, 2019).

As a part of the patriarchal structure, men's identity in Bangladesh society is distinguished by gender status and exercise of power. The socially constructed idea of masculinity is the high status of men, superior position of male members in the family and society with an associated perceived right to control women and precluding them ever being under the supervision of women. Men or husbands have the authority and legal rights to beat their wives. Domestic violence is also common if women are unwilling to perform any duties provided by men. It is reported that, almost one-third of women who have been married (72 per cent) experienced one or more forms of violence by their

husbands at least once in their lifetime (BBS, 2019). Women's entry into waged employment is seen as a challenge and threat to their husbands' social status and the exercise of power (Naved et al., 2018). The concept of masculinity is confronted by women's economic freedom and power exercise through their waged employment.

In Bangladesh, historically, women's paid employment was very limited for the bottom-level workers. The RMG industry creates a vast opportunity for formal-waged employment for women with minimal or no education. These women are the first- generation of the female workforce who have participated in the urban manufacturing industry, leaving their typical rural agricultural non-paid work (Heath & Mobarak, 2015; Kabeer, 1991). These women workers are often helpers (entry-level), operators (responsible for sewing), or cleaners (Heath 2018; Kabeer 1991). Employers prefer women as they can be easily exploited because of women's lack of education, bargaining power and the hierarchical and patriarchal societal context.

Societal perceptions of what constitutes work for women greatly impact women's labour market location in Bangladesh. The common societal attitudes toward RMG jobs are disrespectful as no education or skills are required to get this job and vulnerable as employers can terminate at any time (Heintz, Kabeer, & Mahmud, 2018; Kabeer, Mahmud, & Tasneem, 2018). Most women workers are widows or separated from husbands, extremely poor and landless and are non-productive in community perceptions.

Women's experience of GVB&SH at the family and society level and men's perceived identity have a reflection in the workplace. The exercise of men's power and superiority is regarded as essential to establishing the hierarchical human resource structure over women employees. This scenario is evident in the RMG industry, where men managers/supervisors need to achieve production targets by using verbal, physical or emotional violence to compel women workers to finish their work within a shorter period. The experience of family violence and attitude towards women influence the mindset of perpetrators and workplace supervisors to abuse women workers emotionally, physically, and sexually on the way to or from work and at the workplace, respectively (ADB & ILO, 2016; Gibbs et al., 2019).

Workplace violence may take different forms, such as physical (e.g. slapping, hitting, pulling hair), sexual (e.g. abusive language, gestures, unwanted sexual advances, sexual remarks, rape),

economic (e.g. missing performance bonuses, deduction of wage) and emotional (e.g. shouting, threats, undermining workers or swearing), between men and women workers at a workplace. Perpetrators of this violence can be male co-workers, supervisors, managers or any male persons in public. Three broad categories of drivers can be identified for workplace violence; these are social structure (often driven by patriarchy and power relations) decides attitude toward women workers, the management structure of an organisation and management's strive towards managing differences among workers (Gibbs et al., 2019).

METHODS

Data Collection Techniques

This study used a qualitative research method for data collection. Data were collected through document analysis and interviews with participants. Document analysis includes examining all types of regulations (acts, rules, policies, codes, statutory orders, strategies) on GBV&SH, including other research papers. Semi-structured interviews were conducted with the research participants online from March to June (2021); provided with the travel restrictions due to covid-19 worldwide. Semi-structured interviews were conducted with public officials, factory management, NGO activists, researchers and academics. Female workers from the RMG factories were not included in this study, considering the mode of research and their limited access to technology, like online meetings through different applications.

Research Settings

The research was conducted with the organisations working to develop the apparel industry in Bangladesh. The government organisations such as the Department of Inspections for Factories and Establishments (DIFE), the Department of Labour (DoL), the Ministry of Labour and Employment (MoLE), Labour Welfare Centre (LWC), Department of Women Affairs (DWA), the Central Fund (CF) and the Bangladesh Labour Welfare Foundation (BLWF) were selected to recruit participants for this research. From the non-government agencies - national and locally-based foreign NGOs, the International Labour Organization (ILO) and its organ the Better Work Bangladesh (BWB), research organisations, individual lawyers, academics and two leading trade associations - Bangladesh Garments Manufacturers and Exporters Association (BGMEA) and Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), were identified to recruit participants.

From the factory management group, a total of ten RMG factories located in four districts (Dhaka, Gazipur, Chottogram and Narayanganj) were selected according to the density of the RMG factories (K. G. Moazzem & Radia, 2018). The garments factories are highly concentrated in the Gazipur district and therefore, more than half of the factories (six factories) are in Gazipur, two factories in Dhaka, one in Narayangonj and one in Chottogram. All factories are categorised as large, medium and small factories based on their total workers. In this research, six small factories, three medium-level factories and two large factories were selected for data collection.

Research Participants and Recruitment

Forty-five interviews were conducted with the participants from the RMG factories, labour inspectorates, MoLE, DWA, NGO activists, researchers and academics groups, trade associations and labour lawyers. Participants were identified from the contact list of organisations' websites, contacted via email and finally, interviewed online using Zoom. All interviews were video-recorded with the consent of the participants. Category-wise information about all participants can be seen in Table 3 attached at the end of this paper. Participants were divided into two groups for two types of interviews. Firstly, Key Informant Interviews (KII) were with eleven participants from the local and foreign-based NGOs, research, academic, labour lawyer background and from the ILO and the BWB, Dhaka offices.

Insert Table 3 about here

A total of thirty-four In-depth Interviews (IDI) were conducted during the second stage with participants from factory management, government organisations and industry associations. The participants from the factory management group include human resource (HR) managers (n=10 one from each factory), welfare officers (n=8), and owner (n=1) from ten factories. The participants from the government organisations were DIFE (n=5 labour inspectors), DoL (n=1 medical officer), LWC (n=2 medical officers), the MoLE (n=1 Deputy Secretary), the DWA head office and Upazilla/sub-district level office (n=2 Deputy Director from each-level), CF (n=1 project officer), and BLWF (n=1 project officer). Two participants were recruited from the BGMEA and BKMEA (one from each). Data on the RMG Factories and Participants can be seen in Table 4.

Insert Table 4 about here

Data Collection, Management and Analysis

Data were collected online through Zoom interviews one-to-one. Two separate open-ended interview guides were designed to elicit to elicit conversations with research participants. Yet the topics were overall the same for both the KII and IDI participants. All interviews with the KII and IDI lasted from one hour to 1.5 hours. All discussions were conducted in Bengali (the local language) and translated into Australian English by qualified translators. While the KII participants informed a general overview of the problem based on their research and work experience, the IDI participants provided more detailed and practical information on the issue they were directly involved in. The interview data were coded, classified under themes and analysed by using the latest version of NVivo software (O'Leary, 2017). Themes were identified based on background analysis, examining the regulations and raw interview transcripts.

FINDINGS

Harassment and Violence Issues: The Uncared and Silent Killer at Workplace

Lack of knowledge on GBV&SH

Some participants (employers) indicated that their factories did not experience any GBV&SH. It was realised during the data collection that management has very little knowledge about the definition and types of violence and harassment. They consider serious types of harassment such as rape or physical torture as violence and harassment; rather, physical abuse, bullying, slang language, and emotional and psychological violence are not accepted as harassment. One welfare officer from a small factory explained that:

> *I have received more complaints of verbal abuse, what is called slang language, I have got it in many cases before. Then we made the management very aware of it. So I got verbal abuse, but I did not get anything like sexual Harassment or physical Harassment.*

GBV&SH is there, but a tendency to avoid

Factory management tends to avoid GBV&SH in their workplace. Therefore, most of them indicated that they know that sexual harassment exists in the RMG industry, but nothing like that happened in their workplace. One manager from a small factory told that:

> *Actually sexual harassment happened from the supervisor to co-worker (women workers). Because they always work together, so whenever supervisors get a chance, they touch different*

sensitive body parts of the women workers, and do different kinds of gestures. But I have not received any such complaint to date, I have heard that these kinds of things are there.

Though the factory management could not find any occurrence of GBV&SH in the workplace, however, these incidents were reported by the KII participants, especially by the NGO activists, ILO and BWB representatives, academics and researchers. They explained that it is easier to humiliate women workers than men in the workplace. One of the NGO activists, who had work experience on the sewing floor, informed that:

A male worker is called as 'brother please do this'. But a woman worker is not called like this, similarly the behaviour with her is not the same as like they do with the male worker. They try to take advantage by calling her sister-in-law so that they can say bad stuff (e.g slang) to her. You know according to our country's culture, sister-in-laws, co-relatives, you can have all forms of discussions. "Do your job" by saying this, the supervisor often puts his hands on her back. This is absolutely sexual harassment. Such actions or words are very common for our women.

The managers and the welfare officers explained that it might happen twenty years ago that supervisors used to be harsh with workers, but now the situation has changed. The narratives from the factory management suggest that large factories may control this relationship by being guided and regulated through workplace policies; however, the small factories and, in some cases, medium-level factories are not able or willing to restrain supervisors from mistreating women workers. The data from two large factories revealed this relationship is quite good. However, one of the managers from a medium-level factory informed that:

Previously it was like, not only did they hurl, abuses, but they used to hit too. I know that hurling, abusing still take place in the factory. But in front of us, they are quiet, but we know that they have yelled for sure.

One of the NGO activists explained that abusive workplace behaviour still exists in the RMG factories:

But bullying is still there; they think it is impossible to get the job done without bullying. The use of slapping or slapping on the body has decreased, but the bullying has not gone away yet.

Complaints on GBV&SH issues

The complaint rate is really low on GBV&SH issues. The finding was derived from the interview narratives of the labour inspectors and the factory management. One of the labour inspectors confirmed after analysing three years of data (from their complaints book) that there was no complaint of sexual harassment. The factory management informed that they received minimal complaints on GBV&SH issues. One of the HR heads from a large factory informed that:

> *We received sixteen such cases (gender-based violence and harassment) in the entire garment division last year. There were no cases of sexual harassment, but there were two cases of physical harassment and fourteen were verbal abuse.*

The data collection included the complaints mechanism system in the RMG industry. Most of the factories that participated in this research have several types of complaints systems available for the workers, such as written or verbal complaints through line supervisors, floor in-charge, welfare officers or to participation committee. Workers can also complain through the complaint box. Phone calls and text messages to the hotline number are allowed as complaints mechanisms. There is also an open-door policy that allows workers to go to the senior management directly. However, the narratives suggest that workers mostly complain verbally. They would like to have a face-to-face conversation with the welfare officer or, if possible, with the manager or supervisor. One of the welfare officers explained that:

> *They actually like to complain directly. Because they may explain the complaints in a couple of sentences, rather than sending a letter through complaints box. Writing a complaint does not fully explain what is on their mind. So they come directly to us.*

Given the socio-cultural context where women are less educated, unaware of GBV&SH issues and submissive, it is understood that women workers rarely use these complaint mechanisms, especially during cases of exploitation.

The Directives of HCD: implementation status

The Implementation and Monitoring

The implementation status of the guidelines of the HCD's Directives, especially the preventive measures and awareness programs on GBV&SH by the employers, were found very low in the RMG factories. It was revealed in the interview narratives that factory management is not aware of these Directives. The labour inspectors informed that DIFE has an awareness program on gender issues and the formation of the anti-harassment committee in the RMG factories. But it was not possible for them to cover all the factories and train the factory people under this project. One labour inspector explained the program:

> *we have conducted over 200 programs, including workers and owners. We are informing them about what is said in the laws/rules or in other regulations, what reproductive health is, if there is any problem in these places, how can they get remedies and what are the mechanisms of the government along with the helplines.*

However, this research finds that the factory management is neither aware of these directives nor proactive in preventing GBV&SH incidents in the workplace.

Anti-Harassment Committee: A Paper-Based Initiative

The factories in the RMG industry are required to implement an anti-harassment committee to

prevent harassment and take necessary actions to protect the victims. The labour inspectorate was responsible for inspecting the committee in the factories. They informed that it is a challenge for the factories to include two members (having knowledge of gender and sexual abuse) outside the factory as there is a shortage of such members outside Dhaka city.

The investigation with the factory management revealed that most of the factories have this committee, but the president or head of this committee is the manager himself or welfare officer. Therefore, it seems that there is a control from the management that makes workers feel uncomfortable to complain. The data also revealed the ignorance of the factory management about this committee. The managers were unable to provide the number of the committee members. The narrative from another small factory's manager displays the ignorance of the guideline. When requesting about the inclusion of external members in this committee, one manager from a small factory commented:

> *No, since it is an internal matter of the factory, external matters are not involved.*

The anti-harassment committee in most factories exists on paper only. The main point is that the factories set up this committee only to be compliant with the legal requirements. The factories also want to show the buyers that they have met all criteria set by the brands (the clothing buyers, especially from the developed countries). One NGO activists explain this:

> *Factories have a committee just in papers. But as much as there is, there is no application for it.*

Why the GVB&SH incidents in the factories

Social Construction of Identity

One of the reasons for the GVB&SH incidents was revealed from findings that women are badly treated as they are recognised by the social construction of the identity, where women workers are subordinated, have minimal or no education and are not aware of workplace attitudes. However, this attitude is rare with men workers as they are not easy to exploit. The narrative from an NGO activist pointed out this issue:

> *The reason is that if women are scolded or abused ten times, they will speak up once or they will cry sometimes and then they will, without protesting anything. But even if you scold a man once, he will revolt right away.*

Powerful perpetrators

Another reason was revealed the power dynamics between women workers and the perpetrators, often the work supervisors in the RMG factories. The supervisors are men, powerful and maintain exploitative relationships with workers. It is hard for women workers to overcome the power distance

and seek remedy from men managers for any incident of GVB&SH. The fear of losing jobs add extra pressure here. The factory management is not serious about the complaints, does not take proper initiative and deters women workers from complaining. One of the labour inspectors explained that:

> *There's a tendency to hide information because they (women workers) fear losing their job. This fear is so intense that they cannot be made to confess anything.*

One of the managers from a medium-level factory explained this situation:

> *we do receive some false blame from women and some actual problems too. So maybe in the actual problem, as we are not solving the problem, the woman leaves. Or as soon as the complaint reached to us the woman left the job. So if they are not in the factory, there is no point in solving the problem. Because a lot of them get scared of losing their job. They think that if I complain to HR or welfare officer, then they will not let me work properly. Therefore the way the problems should be received actually they do not.*

Socio-cultural context

There is a social taboo on being exposed to the outside world and therefore, against complaining about GVB&SH in the workplace. Either they have to leave the job because of social taboo that impacts the workplace environment, or the management/co-workers blame them for involving such incidents willingly. One activist explained that:

> *The matter of sexual harassment is a social taboo or stigma. For example, she thinks 'losing the job or sexual harassment-which one is a priority for me'? If she doesn't complain, her job will be saved, plus the social thing attached to it.*

The situation is intensified as these women have little knowledge about the crime that occurred and how they can get a remedy.

CONCLUSION

Women's mass entry into the RMG industry was hope for several unskilled and uneducated rural women labour to access a formal-salaried job. This scope has been limited years after years by these GVB&SH issues unaddressed by the government and employers. This research identifies that there is a genuine lack of initiative to convert the exploitative work environment into an equitable and respectful one. Though the research had the limitation of not being able to learn from the women workers' experience directly (due to covid restrictions during data collection), it was overcome by interviewing diverse participants from diverse backgrounds. Therefore, this research considers the findings to be comprehensive to address the GVB&SH issues in the workplace and will add new knowledge to the discussion of gender equity in employment.

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TABLES

Table 1: The ILO Convention on Workplace Violence and Harassment

Convention and Recommendation	Main Features
Violence and Harassment Convention (No.190), 2019	• Definition (Article 1): ➢ the term "violence and harassment" in the world of work refers to a range of unacceptable behaviours and practices, or threats thereof, whether a single occurrence or repeated, that aim at, result in, or are likely to result in physical, psychological, sexual or economic harm, and includes gender-based violence and harassment; ➢ the term "gender-based violence and harassment" means violence and harassment directed at persons because of their sex or gender, or affecting persons of a particular sex or gender disproportionately, and includes sexual harassment. • Respect, promote and realize the right of everyone to a world of work free from violence and harassment (Article 4(1)). • Adopt, in accordance with national law and circumstances and in consultation with representative employers' and workers' organizations, an inclusive, integrated and gender-responsive approach for the prevention and elimination of violence and harassment in the world of work (Article 4(2)). • Respect, promote and realize the fundamental principles and rights at work, namely freedom of association and the effective recognition of the right to collective bargaining, the elimination of all forms of forced or compulsory labour, the effective abolition of child labour and the elimination of discrimination in respect of employment and occupation, as well as promote decent work (Article 5). • adopt laws, regulations and policies ensuring the right to equality and non-discrimination in employment and occupation, including for women workers, as well as for workers and other persons belonging to one or more vulnerable groups (Article 6). • Adopt laws and regulations to define and prohibit violence and harassment in the world of work, including gender-based violence and harassment (Article 7). • adopt laws and regulations requiring employers to take appropriate steps commensurate with their degree of control to prevent violence and harassment in the world of work, including gender-based violence and harassment (Article 9). • Monitor and enforce national laws and regulations regarding violence and harassment in the world of work (Article 10a) • Protect the privacy of those individuals involved and confidentiality, to the extent possible and as appropriate, and ensure that requirements for privacy and confidentiality are not misused (Article 10c)

Table 1: Key Regulations on Gender-Based Violence (GBV) and Sexual Harassment (SH) in Workplace in Bangladesh

Name of Regulation	Key Features
Bangladesh Labour Act 2006	• Section 332: Women working in an establishment, irrespective of their rank or status, will not be subjected to any indecent or disrespectful behaviour or any attitude that is against their honour and decency from any other person in that establishment. • No penalty for contravening the provision, however, section 307 provides that if no other penalty is provided for violating any provision of the Act, the punishment with imprisonment for a term which may extend to 3 months or with a fine which may extend to 25,000 taka, or with both can be applied.
Directives on Sexual Harassment (by High Court Division)	• **Scope:** offers detailed guidelines for all workplaces and mandates that these directives must be followed until adequate and effective legislation is passed. • **Definition of SH:** indecent gesture, teasing through abusive language, stalking, jokes having sexual implication to attempts or efforts to establish or demand or request for physical relations. It also includes sexually based unwelcome behaviour or verbal representation, making love proposals and posing a threat in case of refusal, showing pornography, and taking video photographs to blackmail. **Guidelines:** • Factory management need to maintain an effective mechanism to prevent or deter the commission of offences of sexual abuse and harassment, • Factory management need to provide effective measures for the prosecution of the offences of sexual harassment resorting to all available legal and possible institutional steps. • The factory management are obliged to form Complaint Committees to receive and investigate complaints of sexual harassment. • Detailed provisions on the formation and other procedures to be followed by the Committee, having at least two external members, preferably from "organisations working on gender issues and sexual abuse". • Preventive measures against workplace sexual harassment, e.g. arranging regular training on gender equality, publishing booklets, etc.

Table 3: Category-wise research participants

Category	Participants by Type	No of Participants	Gender		Interview Stage
			Female	Male	
1	Government officials	13	9	4	**34** In-Depth Interviews **(IDI)**
2	Factory management	19	11	8	
3	Representatives from Trade Associations	2	1	1	

4	NGO Activists (Local and International)	3	4	1	**11** Key-Informant Interviews **(KII)**
5	ILO and BWB	2	2	0	
6	Labour Lawyers	2	0	2	
7	Researchers and Academics	4	3	1	
	Total	45	28	17	

Table 4: Data on the RMG Factories and Participants

Size	*Total*	*Location of Factories*				*TotalParticipants*	*Portfolio and gender of the participants*					
							HR Manager		*Welfare Officer*		*Owner*	
		Dhaka	*Gazipur*	*Narayan ganj*	*Chotto gram*		*M*	*F*	*M*	*F*	*M*	*F*
Small	5	1	3		1	9	4	1	0	3	0	1
Medium	3	1	2	-	-	6	2	1	0	3	0	0
Large	2	-	1	1	-	4	2	0	0	2	0	0
Total	**10**	**2**	**6**	**1**	**1**	**19**	**8**	**2**	**0**	**8**	**0**	**1**

1

This paper investigates the relationship between different manufacturing strategies and Industry 4.0's (I4.0) critical success factors (CSFs) and technologies adoption. 165 practitioners from different manufacturers were surveyed, providing information about the levels of product customization and production volume in their companies. Further, they indicated the adoption level of I4.0 technologies and CSFs. We found four clusters of different manufacturing strategies and two readiness levels based on the establishment of I4.0 CSFs. Findings indicate that, in low-readiness companies, the adoption level of I4.0 technologies does not significantly differ between manufacturing strategies. However, when companies present a higher I4.0 readiness, the adoption of I4.0 technologies seem to vary according to the existing manufacturing strategy.

81

Small dairy businesses in Australia are dying. There is a growing crisis in the Australian dairy industry as small-scale dairy farms, with a milking herd of fewer than 200 cows, have declined from 22,000 in the 1980s to fewer than 6,000 in 2020. What insights can we draw from research for the survival and sustainability of small and medium dairy business models? There is less known about factors that impact dairy farm sustainability; this study aims to address this critical gap in theory and practice. This paper presents a review of the literature and proposes a conceptual model examining the factors influencing dairy business models and their sustainability.

272

Many management scholars are troubled by our discipline's lack of contribution to tackling climate change. While management scholarship relating to climate change is growing, anecdotal evidence suggests that this research has only negligible impact on practitioners. We present preliminary findings and outline an empirical research project to advance our understanding of impact beyond academia. Specifically, we propose to (i) map the contribution of management research across the seminal 'grey literature' on climate change and (ii) to interview grey literature authors to explore their engagement with management research. Our proposed study will augment the sparse evidence base on practitioner engagement and provide a foundation for targeted initiatives to enhance the value of management research for practice.

4

The work-related antecedents of abusive supervision are well known, but less is known about the cross-domain antecedents of this destructive leadership behavior. The present study aims to address this limitation by investigating supervisors' off-the-job experiences during their after-work hours that may potentially influence their behavior at work. We developed a moderated mediation model to answer how and when a supervisor's poor recovery experiences lead to abusive supervision via start-of-workday negative mood. We conducted a single-source, three-phase field study (N = 422) to test the proposed model and found support for the notion that poor recovery experiences, that the lack of psychological detachment from work, relaxation, and mastery experiences (except control experiences) could be the direct predictor of abusive supervision. The results of the study also showed that poor recovery experiences in the personal life of the supervisor can spillover to the work domain and provoke abusive supervisory behavior in them through the mediating effect of start-of-workday negative mood. The study found a good night's sleep to be a key mitigating factor with the tendency to diminish the start-of-work negative mood resulting from lack of relaxation, mastery experiences, and control experiences (except for the lack of psychological detachment from work). We conclude with theoretical and practical implications of the study for researchers and practitioners.

329

Effective leadership plays a critical role in the success of nonprofit organizations, including in the engagement, performance and retention of staff and overall organizational outcomes. Positive leader affect is one aspect of effective leadership, with joyful leadership suggesting a more nuanced approach to the understanding of positive affect, and the concept of joy in leadership being one that has recently emerged in the literature. Limited studies of both positive affect and joyful leadership have been undertaken in the nonprofit sector. The current article presents the first systematic literature review to identify the themes and gaps in the contemporary understanding of joyful leadership and positive leader affect specific to nonprofit organizations. Following the initial identification of key concepts, the methodology of the systematic review is outlined, before identifying the key themes and gaps within the existing literature and presenting opportunities for future research in the area of nonprofit leadership.

313

Joyful leadership is a construct that has emerged in the grey literature but has, as yet failed to receive considerable attention in the academic literature. This paper proposes a conceptualisation of the joyful leadership aligned to discrete emotion theory and identifies the potential association of the specific response patterns associated with joy demonstrated in the leadership context. This paper outlines the conceptual understanding of both leadership and joy and denote how such understanding can inform the conceptualisation of joyful leadership.

11

We explore the influence of the founder on the internationalisation patterns and performance of International New Ventures (INVs) in the context of the Australian and European Financial Technology (Fintech) industry. The study employs comparative analysis, using the triangulation of financial, archival, and social media data across six Fintech INVs from Australia and Europe. Relying on the dynamic capability perspective, this research contends that internationalisation performance is dependent on the degree to which the founder influences the building of dynamic capabilities for the INV. Opportunity recognition is informed by existing knowledge and experience, while networks are essential to knowledge gaps being mitigated, and the speed and scope of internationalisation are exacerbated by personal attributes including entrepreneurial orientation and risk tolerance. The findings also illustrate the importance of context, discerning that in comparison to European founders, the Australian founder faces higher barriers to new market entry, and thus founder characteristics must be more salient, for the INV to achieve a competitive advantage in new markets.

183

Incumbent companies face increasing pressures to become more sustainable and resource efficient and thus, to strategically renew themselves. To proactively adjust to the changing environment, incumbents can engage in collaborations with start-ups by means of external corporate venturing. Although corporate venturing activities perform better if they are continuous and systematic, many incumbents still lack a clear and coherent venturing strategy. By applying a social network analysis on external corporate venturing activities in the chemical industry, based on data extracted from PitchBook Inc., we investigate different renewal strategies that incumbents follow. Our results help to operationalise strategic renewal and contribute to a better understanding of how incumbents exploit and explore sustainable opportunities.

123

Students' work readiness is a crucial impact of higher education in society. Students' employability has radically changed due to the digital transformation of work. After the covid-19 pandemic, the abrupt virtual transformation has highlighted the vital role of IT literacy in employability. This study introduces and reports students' experiences with an innovative teaching technique named virtual collaborative project. We collected qualitative and quantitative data from 64 students who participated in six virtual telecollaborative projects over five years from 2017 to 2021, designed by a university in Poland and five partner universities in Japan, India, Brazil, Australia, and Tunisia. Results suggested that students perceived telecollaboration as an effective teaching method to simulate real work in a virtual space, enhancing their employability.

60

Aim: This paper uses Conservation of Resources Theory (CORT) to examine how leadership behaviours impact the personal resources (discretionary power, Psychological Capital and wellbeing) and outcomes of police officers delivering policing services. CORT explains employee motivation in response to work and is used to explain employee responses when working under stressful conditions.

Methods: Structural Equation Modelling and multi group comparisons of survey data from Italian and English police officers.

Results: Over three-quarters of Italian police officers' wellbeing can be explained by the variance of leadership, PsyCap and discretionary power. In contrast, two thirds of the English police officers' wellbeing is predominantly explained by their PsyCap. Furthermore, wellbeing explains much of the Italian and English police officer's level of engagement. The comparative means for authentic leadership, wellbeing and engagement were both relatively low.

Implications: CORT explains that poorly supported police officers cannot protect society and maintain law and order when their wellbeing is compromised, hence the present leadership behaviours compromise the sustainability of societal wellbeing.

58

This study uses Conservation of Resources COR theories to develop and test:

1. a measure of Public Value;
2. a higher-order construct comprising psychological capacities and behavioural capabilities - HERO-INE, and
3. whether HERO-INE is an antecedent of Public Service Motivation (PSM) and Public Value (PV).

Survey data was collected from 259 Australian healthcare SLBs at two points in time and analysed using Structural Equation Modelling.

The variance of HERO-INE, PSM and in-role behaviour explained approximately 40 percent of the PV, and PSM and in-role behaviour partially mediated the relationship.

The implication of the research is that healthcare professionals need specific psychological capacities to deliver PV in the services they deliver to the public. Employees enter organisations with some psychological capacities and behavioural capabilities and then they are either further developed or are eroded depending on the organisational leadership behaviours in place. Consequently, innovative and empathetic behaviour along with collegial teamwork is either promoted or thwarted. Organisations need to consider promoting, upskilling and performance managing leadership behaviour likely to encourage employees' PSM and subsequent PV.

59

Hierarchical bullying in public healthcare organisations is an entrenched negative behaviour that generates a range of adverse outcomes for staff, including lower levels of wellbeing and productivity. Synthesising Social Exchange and Conservation of Resources theories to generate hypotheses, this study uses multilevel statistical modelling to examine whether team-level compassion moderates the impact of hierarchical bullying.

Multilevel, cross-sectional data from 632 healthcare workers nested within 48 teams, working in one public health district in Australia was examined.

The findings indicate that work teams with higher levels of compassion, have in place a mechanism for reducing the negative effects of hierarchical bullying on employee wellbeing.

An implication is that organizations which invest in developing higher levels of compassion within teams provide a value-adding strategy for mitigating some of the harmful effects of hierarchical bullying on employee outcomes.

32

Contemporary research on perspective-taking at work has challenged our current view of how perspective-taking is presently conceptualized and measured. While individual-level perspective-taking was primarily presumed to be a predominantly intra-individual cognitive phenomenon, recent empirical work has acknowledged the complexity of perspective-taking particularly in delineating perspective-taking's connection with socio-cultural, affective, and organizational practices. In line with Litchfield and Gentry's (2010) conceptualization, we theorize organizational perspective-taking (OPT) as a multi-dimensional construct and an important process that facilities both seeing and believing as well as aiding knowledge integration within the work context. In this conference paper, we aim to build the theoretical foundations of OPT and the consequent potential scale items.

44

Employee organizational identification (OI) has long been proven effective at eliciting positive work outcomes. However, despite the recently raised OI's possible detrimental effects on employees, neither had sufficient research attention been paid to this negative aspect of OI, nor do we know how OI may lead to what unintended consequences for employees. To fully depict and understand OI's harmful side on employees, we build upon the effort-recovery model and propose that OI can disrupt employees' recovery process and threaten their well-being characterized by emotional exhaustion and vitality. We also propose a longitudinal study to test our hypotheses.

23

Project managers are in short supply due to the rapid projectivisation of work. Early career project managers in construction experience high turnover rates, but work readiness can reduce this loss. Therefore, this study explores early career project managers' (ECPMs) perceptions of their work readiness. Semi-structured in-depth interviews were conducted with twenty ECPMs. Informed by self-efficacy theory, the interview questions asked participants to reflect on their transition into their project management roles and how their skill capabilities and gaps affected their early career experiences. ECPMs' strengths were i) communicating with external stakeholders, ii) leading meetings, and iii) project software competency. However, ECPMs felt they were weak in i) understanding career progression, ii) technical knowledge, iii) earning stakeholders' respect and iv) handling bad behaviour. These findings will help inform project-based organisations (PBOs) about ECPMs' training and development needs. Through implementing the recommended initiatives to increase ECPMs' self-efficacy, PBOs can enhance ECPMs' perceived early career work readiness and improve their potential for career advancement and success, better equipping future generations of ECPMs for the profession.

70

Informed by a salutogenic perspective, this study explains how individuals with schizophrenia (SCZ) may exercise human agency to cope with their challenging situation. Drawing on 30 semi-structured interviews with schizophrenic individuals, family members, healthcare professionals and NGO representatives, the findings explicate the underlying mechanism of how SCZ individuals' internal resources connect with external resources for their successful integration in work environment. Findings suggest that a sense of coherence (SOC) and resources such as general resistance resources (GRR) and specific resistance resources (SRR) in the presence of organizational diversity policies may enhance SCZ individuals' self-efficacy belief and enable them to exercise their agency to socially integrate, gain employment and be a productive member of society. Our study proposes a framework that highlights how SCZ individuals may feel confident and efficacious to cope with their condition and gain relative control over their lives.

38

This study investigates factors which foster career resilience amongst project management practitioners (PMPs); a capacity enabling them to thrive in their post Covid-19 pandemic careers. The research addresses the under-researched area of career resilience in project management, whose talent shortages, coupled with the post pandemic environment necessitates adaptable workforces. The Job-Demands Resources (JD-R) theory frames the proposed conceptual model, comprised of proposed factors influencing career resilience; i)individual resilience, ii)career adaptability, iii)job crafting, and iv)mentoring. A sample of N = 148 PMPs working across industries was surveyed online and analyzed using multiple regression. The model explained 47% of variance in career resilience, with career adaptability and individual resilience being significant. Findings will assist PMPs to flourish in their post Covid-19 careers.

45

Leadership is one of the important determinants of employee behavior. Provided its importance, the current paper offers a rigorous systematic review of the available body of knowledge exploring the intersection of leadership and UPB. In so doing, it provides a more nuanced appraisal of the concept of UPB, and at different levels of analysis. In line with the best practices (Short, 2009), this review is based on research articles from quality scholarly forums, selected on the basis of a comprehensive search strategy and a well-devised inclusion criterion. This review paper critically reviews the leadership-UPB research domain from various important theoretical, empirical, and practical aspects. It builds on and complements the current empirical narrative of leadership led UPB in the contemporary organizations and offers research directions for the future research to reposition in a robust and reliable manner.

231

Prior research has explored how identities may be subject to processes of agentic work and structural regulation, particularly in the context of the professions. However, an increasing number of scholars are critical of the overly discourse-centric approach taken towards identity work/regulation, arguing that materiality has been neglected or subsumed within this perspective. In an attempt to move beyond the dualistic, and at times, humanist reliance on identity as discourse, this paper presents a (re)conceptualisation of identity work as practice. Drawing on posthuman-inclined practice theory, we present a research agenda that seeks to overcome recurring dualisms encountered in identity research.

71

Environmental Innovations (EIs) have become more important as environmental pressures increase. However, questions remain about whether and how MNEs can reconcile investments in EI with the competing pressures encountered in their internationalization strategies. Based on an analysis of a sample of 7,273 publicly listed MNEs in 40 economies from 2002 to 2020, we find an inverted U-shape relationship between internationalization and the level of EI by MNEs. Furthermore, we find that advanced economy MNEs (AMNEs) are likely to have a higher level of environmental innovation and will be impacted less by changes in firm internationalization. Emerging economy MNEs (EMNEs) are likely to have a lower level of environmental innovation, which decreases even more as their level of internationalization increases.

194

In this study, we examine how firms' cultural distance and common institutional ownership with supply chain partners affect their organizational resilience. We argue that cultural distance between supply chain partners hinders collaboration and gives rise to inconsistent decision-making, which makes firms less resilient to external disruptions. This effect can be mitigated by common institutional ownership between supply chain partners as common institutional investors act as bridges to facilitate inter-organizational information sharing and collaboration. We test the hypotheses in the context of the COVID-19 pandemic. Based on secondary data collected from 2,177 firms listed in the United States, we find that firms with a high culture distance from their suppliers not only experience more firm value loss after the COVID-19 outbreak, but also take a longer time to recover from the pandemic. The impacts are weaker for firms with high common institutional ownership with supply chain partners

84

The Singapore Government released its White Paper on Singapore women's development in 2022, charting the path towards a fairer and more inclusive society in Singapore. It is the first White Paper addressing women's issues in Singapore. Using Singapore as a case of a country in transition towards a more gender equal society, this conceptual paper aims to explore what it means in terms of the future of work, women's access to leadership roles particularly at the board level, and what it means for leadership in terms of effecting change. The paper concludes with a framework for action which could help ensure that the recommendations contained in the White Paper result in real change for women in Singapore.

79

Digitalization is radically changing the business environment, especially small businesses pursuing growth targets while also building their digital capability. Digital capability enables firms to derive business value from digital technologies linked to their success. Using a dynamic capabilities view of the firm, we investigate the relationship between a firm's strategic orientations (leadership, entrepreneurial orientation, market orientation, learning orientation and absorptive capacity) and its digital capability. A survey of 655 firms suggests the relative combination of strategic orientations required as firms grow in size. Results indicate that digital capability is positively related to firm growth, and increases with firm size. To grow in a digital environment, SMEs need to progressively amend their dominant orientations within a wider set of strategic orientations.

93

Little research has explored the connection between workspace configuration and employee green behaviours and wellbeing. In this paper, we argue that workspace configuration has an impact on employee green behaviours (EGB) and subjective wellbeing. Given the theory of planned behaviour (TPB), we build a moderation-mediated model that investigates the impact of workspace configuration and leadership in the relationship between workspace, EGB and employee wellbeing. Finally, we propose that ethical leadership will moderate the relationships between workspace and EGB, EGB and wellbeing. The theoretical and practical implications of our conceptual model are discussed.

107

Building on the dynamic capabilities perspective, we examine how higher-order dynamic capability and lower-order dynamic capability influence value creation in service firms. We also empirically investigate human resource slack and financial slack as antecedents of higher-order and lower-order dynamic capabilities. Our theorizing builds on the innovation literature to establish service exploration as a higher-order dynamic capability and service exploitation as a lower-order dynamic capability. Using a sample of 61 New Zealand-based service firms, we find that the mediating effect of lower-order dynamic capabilities in the higher order dynamic capabilities–value creation relationship, whilst additionally providing support for the theoretically anticipated relationship of human resource slack and higher order dynamic capability. Our research has important implications for value creation and dynamic capabilities literatures.

121

Neurodiversity describes a spectrum of neurological differences and may impact workplace dynamics and outcomes. This study explores the perceptions of 502 supervisors and employees in the Australian retail industry regarding neurodiversity, its benefits, and challenges. The findings indicate that the Australian retail has low to moderate level of neurodiversity, with supervisors perceiving higher levels of neurodiversity than employees, when autism, ADHD and Dyslexia are more common compared to other neurodiversity conditions. While both supervisors and employees reported their perceptions of benefits and challenges of neurodiversity, the supervisors perceived higher levels of some benefits than did the employees. In addition, knowing neurodivergent people was positively associated with perceived benefits of neurodiversity. We note the theoretical and research contributions and practical implications.

122

The Australian retail industry is facing skills shortages while mature and old age workers are experiencing low representation in retail. We explore age composition and dynamics in the industry. Data were collected from 502 retail supervisors and employees through online survey. The results indicate: a low representation of mature and old age employees in the industry; small organizations have higher representation of employees 55 plus, while large organizations have higher representation of 18-24 years; a significantly higher social inclusion among employees 55 plus vs. employees aged 35-44; a significantly lower turnover intention among employees 55 plus and 45-54 years; a negative relationship between social inclusion and turnover intention in the context of employee age. We discuss theoretical and practical implications

137

This study investigated team antecedents of employee wellbeing for first responders in Australia. Specifically, it examined the influence of colleagues' emotions on the relationship between employee wellbeing and psychological distress. The role of managers in creating an environment in which employees perceive themselves supported and valued was also assessed. Data from 471 first responders was collected and analysed through latent moderated and mediated statistical structural equation modelling. Results show that emotional contagion moderated the relationship between employee wellbeing and psychological distress. Moreover, leader-member exchange fully mediated the relationship between psychosocial safety climate and employee wellbeing. Findings highlight the crucial role of managers and colleagues in supporting wellbeing at work for first responders. Human Resource Management implications are outlined and discussed.

154

Family business self-efficacy (FBSE) can help explain next-generation members' engagement in the family firm, which is critical for intrafamily succession and family legacy preservation. The conceptualisation of FBSE is still at a nascent stage, and its content structure needs to be clarified. Furthermore, we lack a domain-specific measure of FBSE as most studies relied on entrepreneurial self-efficacy. Guided by social cognitive theory, this study aims to clarify the content domain of FBSE and establish its key dimensions based on a review of the literature. We found that FBSE comprises three main dimensions: a) managing relationships, b) performing general managerial tasks, and c) preserving socio-emotional wealth. This study is an important first step towards the development of an FBSE scale.

342

This paper provides preliminary evidence from an Australian regional university on the challenges confronting higher education employees during the early stage of the COVID-19 pandemic, and its impact on employee wellbeing. The study explores the challenges experienced at work during the initial onset of COVID and public health orders and how the consequent changes in work practices affected workers and their wellbeing. Specific attention is given to identifying the job demands mostly impacting employee wellbeing and illustrate the areas identified by the participants as being the key to receiving the support to navigate the often-changing work demands. The study highlights the importance of open and consistent communication channels by senior leaders and more consideration of how changes to work practices impact on workload. The study aims to inform future research on how management can achieve sustainable work practices that support employee wellbeing to flourish in our new normal. The study also sheds light on how senior leaders can respond to staff when dealing with pandemics or significant disruptions in the workplace. Findings from the study will also serve to inform government and policymakers on how to proactively resource educational institutions to withstand the new challenges confronting the higher education sector.

175

In this paper we introduce crisis self-efficacy as a task specific self-efficacy in dealing with external crises. Prior research clearly indicates the importance of entrepreneurial responses to external crisis. We theorize that crisis self-efficacy mediates the relationship between crisis impact and entrepreneurial responses. We also argue that nature of the response varies with the stages of the crisis; that is, we suggest that during a crisis the nature of the response is focused on exploiting the current crisis opportunity whereas post crisis the response is focused on future crises. We illustrate our ideas two waves of survey data for 270 and 222 Danish SMEs in 2021 and 2022 respectively, that covers the period during and the after the COVID crisis. We find support for our hypotheses.

177

This study aims to explore the service encounter engagement in the context of Covid-19 drawing on employees' and customers' perspectives. Through in-depth interviews, this study found three main themes: (i) Service encounter disengagement (ii) Contactless service encounter engagement, and (iii) Service encounter engagement. This study found that masked communication and barriers to service encounter giving rise to different negative service outcomes. Verbal and non-verbal communication during the service encounter engaged customers for different services. However, the findings discovered an upward trend of contactless service encounter that provided a minimal engagement for instant services and service outcomes.

223

Work-family enrichment (WFE) is the positive outcome of engaging in work and family roles. The positive influence of WFE on nurses has been established by several authors, thus making it essential to put structures and systems in place to attain high levels of WFE. This review aims to describe and summarise the research on work-family enrichment among nurses and provide future directions for research. We analysed 51 peer-reviewed articles on nurses' positive interaction between work and family roles. We used the systematic literature review method and identified research gaps through the TCCM, Theory (T), Context (C), Characteristics (C), and Methodology (M) framework. Our investigation states the current trends in research, sheds light on broadly adopted theories, constructs, methods, and contexts, and highlights personal, health and work-related antecedents and consequences of WFE. We finally state practical implications for the nursing profession.

311

Sustainable finance has emerged as an important concept at the intersection of finance and the SDGs. Yet, existing reviews remain limited due to the fragmented insights offered through sub-set rather than the entire corpus. This study analyses the publications that highlight the various dynamics of sustainable finance by conducting an integrative review on a sample of 684 relevant papers retrieved from the Scopus database. First, the integrative review identifies six themes. Second, the study highlights the key aspects arising from the conceptual underpinnings of sustainable investment with the several co-existing dimensions. Third, the study shall highlight the future research agendas proposing theoretical and practical propositions for researchers and policymakers.

190

Drawing upon the theory of conservation of resources, this study examines the effects of environmentally specific servant leaders on voluntary pro-environmental behaviour through the mediating role of green crafting behaviour and green role identity of employees. Results from two-wave data collected from 455 textile industry employees in Pakistan show the role of environmentally specific servant leaders in encouraging their employees' voluntary pro-environmental behaviour. The findings further support the serial mediation effects of green crafting and green role identity in encouraging employees' voluntary pro-environmental behaviour. Additionally, our findings further indicate that there is an interactional effect of a green organisational climate and green crafting in strengthening employees' green role identity. This moderating condition indirectly enhances the voluntary pro-environmental behaviour of employees.

197

Frontline workers such as doctors and policemen came forward and provided adequate resources for the health and safety of the citizens during the Coronavirus outbreak. The other group of frontline workers who worked silently to protect the mental health of many were online counsellors. Counsellors helped and supported family members of the coronavirus victims in dealing with the sudden loss, uncertainty, and grief. During the Pandemic, a significant shift that the mental health industry saw was the rise in the number of individuals willing to take up counselling (Srikanth, 2021). Our study focuses on the experiences of the online counsellors during the Coronavirus outbreak. 9 Indian online counsellors were interviewed to understand their experiences. The results revealed three themes- altruism and shared traumatic reality, De-extinction of the mental health industry and dynamic capacity building. The relationship between the three themes has been explained in the paper.

246

Implementing transformative change in today's business environment requires the ability to manage the dynamic and complex nature of this process. This empirical study explores the real-world experience of change and transformation practitioners working across Australia and New Zealand. Guided by a conceptual framework, findings highlight the need for the strategic goal to be articulated as a 'Target Operating Model', to inform and guide the detailed design for implementation. The study introduces the necessity for planning to manage the 'Delta Effect' resulting from the dynamic nature of the implementation process. Finally highlighting the interdependent and systemic nature of the process, presenting a model that supports dynamic design and delivery for implementing transformative change in today's business environment.

266

The Industrial Relations system faces major challenges during the COVID-19 pandemic. The pandemic affected both employers and employees on a large scale. The government has played an important role in strategically managing and balancing the IR system and economy together. The current study aims to analyze the shifting or changing paradigms in IR. The current study is a qualitative meta-analytical review of 19 qualitative research and 20 newsletters as the primary data. The study finds that the government plays an essential role in the IR by involving in the process of bargaining and negation. Thus, tripartite engagement is the best approach to managing and balancing the IR system during a crisis.

283

The purpose of the paper is to provide a foundation framework for future research on strengths used to achieve overall valuable outcomes in an organizational environment. The theoretical paper is rooted in self-determination theory which focuses on competence, autonomy and relatedness needs. The study proposed a conceptual model to empirically test the relationship between strengths-based psychological climate and job crafting with the moderating role of a sense of control, the components of organizational commitment and job crafting. The study significantly contributes to the 'strengths use' literature and provides insight into the organizations.

288

The purpose of the current paper is to explore the relationship between leadership and organisational agility using the multilevel model. Only a few previous studies have examined leadership styles' impact on organisational agility. However, there is a need to explore and examine the relationship using a multilevel model. The current paper aims to fill this research gap by proposing a theoretical model by exploring the relationship between four leadership styles, namely, transactional leadership, transformational leadership, instrumental leadership, and servant leadership and organisational agility, using the multilevel model.

251

The hospitality industry is one of the fastest growing industries in Australia. However, with growth comes a wide variety of complexities and challenges due to the labour- intensive nature of the industry. Australia's hospitality industry is struggling to attract and retain employees, especially in the post-Covid economy. This study explores the relationship between leaders' emotional intelligence, employees' psychological safety and performance - a relationship that is largely under-investigated in the hospitality industry. The paper reviews the literature to better understand the connection between theories of emotional intelligence, leadership, and psychological safety. By exploring this link, this study aims to identify knowledge gaps that can guide future research. Implications are drawn for human resource practitioners and managers in the hospitality industry.

248

Covid-19 significantly impacted all aspects of life, including work and the workplace, forcing many full-time employees to work remotely. While it created enormous difficulties and challenges, it also provided huge scope for reimagining the future of work and the workplace. There are scant research insights on how technology and perceived workplace culture impact remote work practices. With this background, the present study utilizes social exchange theory and social shaping of technology theory to understand how technology and organization culture influence remote work. We conducted semi-structured interviews with 16 full-time remote employees and using Gioia's method, our findings reveal that technology and organizational culture have positive and negative impacts on remote work in the context of covid-19.

293

Small and growing businesses (SGBs) need both finance and advice, but they are stuck squarely in the gap between microfinance and traditional banking, what may be called as the most missing middle of enterprise finance. Moreover, women-led enterprises receive a disproportionately small percentage of the already limited financing available for SGBs and consequently grow at significantly lower rates than those led by men. A number of social intermediaries thus provide capital and/or capacity development to SGBs, but the aggregate impact (in terms of both economic and social indicators) they generate has not been properly assessed in the literature. This study, based on the data collected from Myanmar and Ghana, undertakes a rigorous assessment to see the aggregate impact, gendered impact, and relative impact of providing capital or a combination of capital and capacity to SGBs. The findings provide interesting insights to researchers and policymakers. The insights from this inclusive and comparative impact assessment are also helpful for development practitioners to understand and select the right approach for making interventions, particularly in the context of developing countries.

253

Our review uses 478 articles from Scopus and Web of Science databases on ride hailing to provide clusters of current research on ride hailing service in term of their contributions, methods, theories, and country of analysis in existing scholarly publications. We demonstrate six clusters of current literature: Supply Side – worker in ride hailing (drivers) and its implication to ride hailing business; Demand Side – customer in ride hailing and its implication to ride hailing business; Algorithm maximization and pricing; Ride hailing business model and strategy; Ride hailing regulation; and Ride Hailing and its impact in other fields and general well-being. We suggest future research topics about ride hailing stakeholders, cultural context, and distinction of intermediary platforms outside ride hailing.

287

The vulnerabilities of rural communities across Australia feature heavily in national economic discussions. Significant research has been conducted into fostering their resilience in the disaster context, however, an opportunity exists to investigate the discursive construction of resilience itself. As part of ANU's ASCEND challenge investigating social cohesion, this study maps resilience discourse landscapes and explore conceptualisations of resilience by community entrepreneurs, through a case study of Northeast Victoria. Using the 'What is the Problem Represented to be' approach, we analyse interview data and pre-existing documents examining both 'community' and 'government' perspectives to explore how community initiatives can strengthen rural resilience beyond a purely neoclassical economic paradigm. Such insights will have implications for policymakers and community organisations.

299

Family businesses are characterized by unique family resources and stressors. In this study we adopt a stewardship perspective and link it with family business coping resources to uncover the psychological factors and supportive behaviors of what we term 'emotional stewardship'. We show that emotional stewards offer support to family members and help them deal with family business stressors. Through thematic analysis of more than fifteen hours of interview material collected from twelve participants across five family wine businesses in Australia, we found that emotional stewardship is a unique coping resource in family businesses that buffer the impact of stressors on individual member's psychological wellbeing. Our study informs the recently growing literature on stewardship and psychological wellbeing in family businesses.

236

In this paper, I analyse antagonistic discourses of two academic managers from Australia and the UK. Using a collaborative autoethnographic approach, I seek to deepen our understanding of leadership in universities. Our own dialogue as members of the academy that have crossed the academic/administrative divide highlighted issues of identity and belonging. More importantly, we draw attention to two areas that universities could improve on to strengthen leadership capability: 1) for senior leadership positions, drawing on a wider cohort of staff including those normally deemed 'professional staff', and 2) ensuring that academic staff have in-depth and long-term leadership development programs. This paper also contributes to the use of nondominant methods and how collaborative autoethnography can contribute to deep understandings of habitus and doxa.

108

Remote working caused by the COVID-19 pandemic has eroded boundaries between work and home, necessitating the need to evaluate the long-term impacts of these changes. To do so, we reviewed and examined work-life research published since the start of the pandemic. The review yielded a sample of 318 work-life scholarly articles, with three common themes: (1) work-life boundaries have become more permeable, with behavior-based and time-based work-life conflict emerging as the more salient forms of work-life conflict; (2) technical work demands have increased, as employees grapple with techno-invasion, techno-overload, and techno-complexity; and (3) psychological and emotional work demands have intensified. Based on these key findings, we call for multi-level and multi-agency responses to deal with the complex, diverse nature of work-life demands.

264

This study aimed to find the effect of brand development stages on brand equity and to examine the mediating effect of brand marketing strategies, specifically, the effect of brand performance and brand resonance amongst young consumers of the Pakistani sports industry. A total of 310 surveys were completed by customers (students) of educational sectors who use sports brands. The data was analyzed using structural equation modeling. The results of the study indicate a strong relationship among variables by confirming brand performance as well as brand resonance as mediators between the relationship of brand development stages and sport brand equity. In addition, brand judgment showed a negative impact on brand equity. Limitations and future guidelines have been discussed.

213

The increasing skills shortage in the construction industry is a concern worldwide. Construction needs to effectively attract and retain women to continue its growth and significant economic contribution. This study explored the factors that attract and retain women based on their ages (below 35, 35-44 years, and 45 plus) and role levels (managers, professionals and non-managers). A total of 655 responses were collected through a nationwide survey of women in construction in Australia. It was found that to attract women, career opportunities must be emphasized, and career advising, salary/wages and available training must be highlighted to attract young female talent. Further, working conditions are important factors for managerial and professional women when considering leaving the industry, particularly for younger women.

244

Managing transport infrastructure projects involves managing multiple stakeholders with conflicting stakes. This article illustrates how evaporating cloud, a tool in the theory of constraints thinking process can be used to analyse stakeholder conflicts. Employing a New Zealand transport infrastructure project as a case, the evaporating cloud is used to dissect different stakeholder conflicts; analyse their explicit actions, requirements, goals; and surface the implicit assumptions underlying the conflicts. The article also illustrates a mechanism to reach a core conflict through a synthesis of three separate stakeholder conflicts in the case. Overall, this study provides an improved method for analysing stakeholder conflicts in transport infrastructure projects.

169

Global crises affect food systems and disrupt the world's food security. In mitigating food insecurity, the focus has been on increasing crop yield and productivity. However, social scientists argue that there is enough food to feed everyone if losses and waste are minimised through the use of entrepreneurial activities. This study aims to explore such entrepreneurial activities undertaken by organisations across the globe to reduce food waste/loss and improve food security. We used systematic literature review technique and identified 100 articles and ten themes using NVivo 12. These themes mainly reflect the environment, innovation, community action, and technology associated with food security. The entrepreneurial actions reflect collaborations across the food supply chain, enhancement of technology, development of capabilities, and establishment of industry and infrastructure to better address food losses and waste. These findings provide academic, managerial and policy implications.

21

Drawing on the concept of 'dirty work', this mixed-methods study aims to examine whether workers who challenge stigmatising discourses surrounding their work may buffer themselves from the psychological costs of occupational stigma. A content analysis was used to differentiate 'challenge' from 'no challenge' discursive responses that workers (n=184) spontaneously employed when prompted to talk about stigma ascribed to aged care work. Independent-groups t-tests were employed to test whether workers' mental health outcomes differed between these two response categories. Findings revealed that workers (n=94) who discursively challenged stigmatising discourses were more likely to experience lower internalised stigma and psychological distress than those who did not challenge stigma (n=90). Thus, workers' discursive responses helped mitigate psychological costs associated with performing 'dirty work'.

174

We present a model of how work motivation affects team member's tacit and explicit knowledge sharing via the quality of team-member exchange (TMX). Key variables in our theorizing are intrinsic and extrinsic work motivation, interactional and distributive organizational justice, tacit and explicit knowledge sharing, relationship-oriented and task-oriented TMX, organizational rules, organizational climate for trust. Importantly, we present parallel but contrasting models of the factors determining explicit versus tacit knowledge sharing. Thus, while explicit knowledge sharing depends upon extrinsic factors such as extrinsic work motivation, task oriented TMX, distributive justice perceptions, and organizational rules; tacit knowledge sharing dependent upon intrinsic factors such as intrinsic work motivation, relationship oriented TMX, interactive justice perceptions, and perceptions of an organizational climate for trust.

158

Extant management literature posits that professionals of Asian origin offer cultural diversity and exhibit a transformational leadership style that may strengthen the top-management-team (TMT) and enhance organisational resilience. However, in Australia, professionals of Asian origin are under-represented within corporate leadership. Through a critical review of literature, this paper explores the barriers and enablers that may explain this imbalance. Findings show that Australian leader hegemony, implicit leadership, and separation acculturation strategies adopted by Asian-Australian professionals themselves are the key barriers to their leadership ascension. To overcome these barriers, leaders should embed diversity-management strategies across their organisation. Additionally, changes in acculturation and self-promotion by Asian-Australian professionals can demonstrate their value at this level. Implications are drawn for future researchers and management practitioners.

331

This paper revisits some of the territory traversed by Treuren, Vishnu and Manoharan (2019) and presents an alternative method of determining intersectional pay gaps. Whereas that earlier paper analysed the 2009-2011 Continuous Survey of Australian Migration (CSAM) data through two-way Analysis of Covariance estimation, this paper analyses the most recent CSAM recent data (2013-2018), using the Jackson et al.'s (2016) intersectional approach and the Oaxaca-Blinder decomposition technique. A migrant's ESB/NESB background explained more of the gender pay gap than gender differences, and language proficiency and age of arrival were the major factors explaining the gender pay gap differential.

141

Working from home (WFH) significantly increased during the COVID-19 pandemic. This paper reports the findings of a small study examining WFH among ICT professionals. Adopting template analysis, we evaluated semi-structured interviews (n=10) with ICT professionals from across Australia. While individual factors influenced the success of WFH, greater emphasis was placed on organisational factors such as management style, technological maturity, and stigma of WFH. This paper contributes to the growing human resources management literature on WFH, identifying factors which supported and challenged successful WFH and how management and HRM practices can be improved to increase success in the future. This knowledge will be important for developing people leaders and effective human resource management strategies for the 'new normal' and beyond.

43

This conceptual paper explores why and how lawyers resist retirement. The Legal Profession is ageing yet little attention has been paid to the retirement of lawyers despite growing evidence of retirement resistance resulting in negative outcomes for the individual, profession, and firms. This paper builds on the retirement literature by offering conceptual clarity about the less researched phenomenon of retirement resistance. I delineate what distinguishes retirement resistance and propose a model of individual factors (i.e., work centrality, professional identity, workaholism, living a calling, and cognitive impairment) that support the study of retirement resistance. Finally, I propose a research agenda that I hope will encourage scholars to examine this phenomenon in future empirical work and suggest practical HRM policy implications.

16

A fearless organisation depends on organisational learning through a free flow of knowledge and enabling employees to learn, express ideas, and share knowledge. While there is little doubt that a fearless organisation is an ideal place to work in, there remains key questions on how fearless organisations are created, and what plays a critical role in creating a fearless organisation. Past research suggests that leaders play a crucial role in creating an organisational climate that allows for engagement, interaction, and learning. Although prior studies have examined psychological safety as a key factor to create fearless organisations, climate for initiative has not been given much attention. Drawing upon social learning theory, this study examined the association between inclusive leadership and organisational learning behaviour, as well as the mediating effect of psychological safety and climate for initiative. Using a sample of 317 full-time employees, the study found support for its hypotheses. Specifically, this research showed that inclusive leaders create psychological safety and a climate for initiative, both of which subsequently result in enhancing organisational learning behaviour. Study implications and limitations are discussed.

115

Humans are at the heart of the future of work. For employees and subsequently companies to thrive, organizations need to create a meaningful work. Drawing upon self-determination theory, this study investigates whether inclusive leadership creates meaningful work and examines the mediators (psychological safety and learning from errors) in the relationship. We tested our hypotheses using an experimental vignette methodology with 440 participants. Study findings support the hypothesized mediation model and suggest that inclusive leaders enhance employees' meaningful work mediated through psychological safety and learning from errors. Our experimental analysis also revealed that when working for an inclusive leader, respondents were 2.5 times more likely to find their job activities to be personally meaningful to them, 7.4 times more likely to think it would be safe to take a risk in their organization, and 2.7 times more likely to think mistakes would help them to improve their work compared to those working for a non-inclusive leader.

159

In this multi-country study, we examined the effects of living a calling on psychological well-being, career satisfaction and workaholism through the dual pathways of harmonious and obsessive passion. We carried out a two-wave online survey of 478 full-time financial planners located in Hong Kong, Indonesia, Malaysia and Singapore, countries that represent different levels of industry development. Findings from a structural equation modelling analysis revealed that the relationships between living a calling, and psychological well-being and career satisfaction were partially mediated by harmonious passion, while that between living a calling and workaholism was partially mediated by obsessive passion. Our theoretical contributions are three-fold. First, we employed the dualistic model of passion, a motivational lens to strengthen the Work as Calling Theory (Duffy et al., 2018) framework. Second, our cross-national study empirically tested a parallel mediation model, filling the void for more research in a non-western setting. Third, we extended the application of calling to an occupation that has a unique employment context – one that has characteristics of employment and self-employment. Finally, other implications of our findings are discussed.

6

Drawing from Bandura's (1986) social cognitive theory, this study aims to examine the cognitive mechanism of e-coaching on employee performances. Specifically, we explore the mediating effects of three types of self-efficacy, task-specific, learning and emotional self-efficacy on the relationships between e-coaching style and three work role performances (i.e., proficiency, adaptivity and proactivity). Data from a 3-wave longitudinal field study with 163 manager-subordinate pairs in China was analyzed with structural equation modelling. Results show that four e-coaching behavior, namely verbal guidance, non-verbal guidance, verbal facilitation, and non-verbal facilitation, relate differently with self-efficacy and work role performance. Only task-specific and learning self-efficacy partially mediated the e-coaching-performance relationships. Theoretical and practical implications of e-coaching on employees' self-perception and performance are discussed.

196

Organisations adopt employee assistance programmes (EAPs) as a part of HRM to help employees address work and life concerns. Although most research concentrates on direct consequences for employees and organisations, studies have begun exploring the potential strategic functions of EAPs. This study contributes to the discussion by examining the EAPs' impacts on employee resilience and openness to organisational change based on the data from 513 Chinese employees. The results demonstrate that EAP is positively related to well-being and resilience. Furthermore, resilience plays a mediating role in the relationship between EAP and openness to organisational change. Finally, the moderated mediation suggests that perceived organisational justice crowds out the indirect positive impact of EAP on openness to organisational change through resilience.

95

Considering the nexus of women entrepreneurship and ecofeminism (inclination of women towards natural environment), the paper explores participation of women in green entrepreneurship. The paper delves into challenges faced by women entrepreneurs in general, and women green entrepreneurs in particular, at the macro, meso and micro level representing institutional, firm and individual level challenges respectively. The conceptual exploration of this paper is followed by a proposed study that envisages use of 'bricolage' to investigate unique behaviour and operating strategies of existing women green entrepreneurs who have thrived despite the challenges. The study provides practical toolkits to aspiring women green entrepreneurs and makes several suggestions for policy. It also imparts credence to women green entrepreneurship as a distinguished domain; and a platform for future research.

268

Intergenerational programs are devoted to bringing older adults and children together because of the mutual benefits such as reduction of ageism, relationship building, and shared learning. This intergenerational practice program included high school children and residents at an over 55's retirement village. The aim of this study was to develop an intergenerational, shared learning program during COVID-19, using a hybrid model of face-to-face and videoconferencing technology. As a result of the video analysis, researchers observed participant interactions and engagement during face-to-face and video conferencing sessions. Findings highlighted the importance of a program structure that adapts to the changing environment and recognises that the different settings (video and face-to-face) require different relationship-building activities. In addition, co-collaboration in the development of the program structure was essential to facilitate shared learnings.

Keywords: Intergenerational learning, Intergenerational connection, Intergenerational relationships, COVID-19, video analysis, socially distanced learning

305

The paper studies the perceptions of followers for paradoxical and non-paradoxical leader behaviour for five dimensions: treating employees (uniformly/as individuals/both), centeredness (self/other/both), decision-making (decision control/autonomy/both), adaptation (enforcing work requirements/flexibility/both) and distance (distant/close/both) in the context of organizational change. The paper entails five studies following a between-subject experimental design and studies the impact of leader behaviours on follower perceptions of effectiveness, efficiency, and ethicality along with the leader's likeability, follower willingness to continue working with the leader, commitment to the leader and commitment to the organization. The paper contributes to the new direction in the leadership domain- paradoxical leadership by empirically investigating the concept in an organizational change situation.

297

The purpose of the paper is to explore the existence and characteristics of multiple logics that exist in the online food delivery business. Primary (unstructured interviews) and secondary (online reviews and blogs) sources of data have been used to study the dynamics of online food delivery businesses. The paper highlights the gig work logics and precarious work logics, that are competing and simultaneous logics existing in the online food delivery business often forming a web of deception among four major stakeholders (customer, restaurant, aggregator, and delivery agent) in the food delivery business where deception transcends to micro, meso and macro levels with the use of different tactics at each level to deceive the other party involved in any dyadic relationship.

247

Islamic schools in Australia are not-for-profit entities governed by boards of directors and receive significant government funding for the education and care of Muslim children. However, issues of non-compliance raised questions about registration and funding continuity in some schools. While the traditional elements of compliance, accountability, transparency and leadership encourage good governance practices, they fail to navigate the behaviour of directors on school boards. This paper investigates the professional identity of directors in Islamic school boards through an identity framework. Data collection through semi-structured interviews and a thematic analysis informed by an Islamic worldview suggest the need for a faith-based governance framework. Investigating the connection between professional identity and governance underlines the need to renew governance frameworks in Islamic schools.

156

The Indian IT industry is the embodiment of professionalization and their association with traditional voice mechanisms are seldom heard of. However, IT professionals are a subset of a society encompassing a larger workforce that is mostly traditional. The Indian workforce is familiar with traditional unionism and they identify with the same on account of the precedence set by other established sectors in India. In our paper, we look at the mélange of any IT professional's dilemma between the need to collectivize in times of crisis and the need to uphold international standards of professionalism. Our study is stemmed from the Social Identity Threat Theory and we anatomize the crucial latent antecedents of contemporary voice mechanisms in the Indian IT space.

301

Theoretical explanations for the positioning of firm boundaries have developed from a range of literatures including transaction cost economics and firm-level capabilities. To build a more dynamic understanding of how firm boundaries alter over time and the triggers that drive such changes (the 'adaptation problem') we present the case of the UK Pension Industry. Relying upon template and matrix analysis of the qualitative data, we build a dynamic model of firm boundary choices that incorporates feedback loops and a recognition of both firm-level and industry-level determinants. Firms alter their design on the basis of organizational specificity as well as how they engage with the market in-line with the potential for gains from specialization and gains from trade.

27

This paper examines the under-explored demand-side of active labour market programs that aim to transition people without jobs into employment. The paper draws on in-depth qualitative interviews with employers in Australia to analyse their perceived benefits of engaging in programs. Drawing on a framework from extant scholarship (Simms, 2017). The paper finds that for most employers 'HR logics' provided the most compelling benefit of engagement, followed equally by CSR logics and financial logics. However, by contrast the data illustrated that employers largely perceived benefits from one logic or the other, rather than recognising both logics as reinforcing each other. The findings contribute to and expand upon existing literature by examining the demand-side of employment programs and more specifically, by exploring Australian employers' experiences.

226

This paper aims to investigate how data-driven healthcare supply chains can use key performance indicators to transform their processes. Healthcare Supply Chain Management (SCM) has been an important topic for both academics and industry professionals in recent years but even more so since the start of the COVID-19 pandemic as there has been additional strain on healthcare systems. This pandemic has highlighted the long-existing challenges with global supply chains but has further highlighted an additional urgency to improve healthcare supply chains as there have been many consumable shortages in hospitals worldwide. This research will address healthcare supply chain transformation and conclude with the presentation of a digital supply chain transformation framework.

9

Historically, the higher education curriculum in business degrees has contained little or no Indigenous content. With the increase in awareness at the societal level, Australian business schools should change and design the curriculum so that students graduate with awareness and capability to be able to engage with Indigenous individuals, businesses, and the wider communities. Indigenisation of the tertiary curriculum is therefore a warrant step forward to reflect such change. This paper explores the experiences of educators following the initial Indigenisation of the business curriculum. Educators were asked for their views on the transformative changes that were introduced. Information gathered from the research can be used to support curriculum Indigenisation which requires an ongoing process of adjustment and refinement.

284

Online learning is not new, but it is perhaps more pronounced than it once was due to the COVID pandemic. This paper explores online learning generally and the flipped classroom specifically. Within some flipped classrooms, the online instructional lecture video assumes a great degree of importance because it replaces the face-to-face lecture as the communicative means of delivering the unit/course/class content. This use of instructional videos seems well and good; however, evidence exists that students are not engaging with these instructional videos. This paper suggests that the failure to watch these instructional videos is an issue of engagement or the lack thereof. Following from this claim, this paper explores engagement generally and engagement with instructional videos specifically.

36

How does business group identity affect affiliate performance? Integrating organizational identity theory and social embeddedness theory, we first argue in this paper that the business group identity perceived by affiliates creates group embeddedness. We go on to investigate the interfirm (expressed as external and internal business ties) and intrafirm embeddedness (expressed as the trust among employees) of an affiliate. A research model is proposed to explain the relationships among the various forms of embeddedness with performance of affiliates. We verify the proposed model with a survey on 192 firms affiliated with 38 business groups in Taiwan using moderated mediation regressions. Results supported a mediating effect of internal business ties between perceived business group identity and affiliate performance. The mediating effect of external business ties is supported only when the trust among employees is high. Finally, a moderating effect of the trust among employees on the direct relationship between perceived business group identity and affiliate performance is supported. Implications to research on business group, organizational identity, and embeddedness are discussed.

73

In emergencies, authorities expect that households would manage on their own and even contribute to community response and recovery. However, people do not always consider themselves to be responsible for emergency preparedness or response. We investigated factors that impact unorganised, private citizen volunteering in an emergency situation. 1019 Finnish participants completed an online survey. Unexpectedly, demographic variables did not impact volunteering intentions, but those who trusted authorities and trusted that others would help them were more likely to volunteer, both on their own volition and when asked. Further, those higher in other-focused values were more likely to volunteer. Expectations of reciprocity and concern for others appear to promote unorganised volunteering in crises. Implications for emergency management are discussed.

50

Mentoring is a developmental mechanism traditionally used to transfer knowledge across generations. This transfer is vital to preserving the family wisdom, which is one of the primary sources of the family firm's competitive advantage. This study aims to shed light on how intra-familial mentoring evolves through different activities which impact family wisdom. Following a grounded theory approach, we performed 35 interviews with family members working together in 21 family firms in New Zealand. Our findings show four different intra-familial mentoring activities: translating, experimenting, role expansion, and self-actualization, which enable the transfer, rejuvenation, and/or co-creation of 'family wisdom. Implications for practitioners and researchers are discussed based on the findings.

61

Attracting new employees is an important strategic challenge for organisations with most organisations now finding that attracting new employees is increasingly difficult. Research shows that the way organisations advertise their jobs influences whether people find a job attractive. In this study we draw on signalling theory to examine whether the use of humour, a tool suggested to be helpful in business and work, makes a job posting more attractive. Findings from an experimental study show that the use of humour makes a job less attractive compared to advertisements that do not use humour. Furthermore, humorous advertisements make an organisation's HR practices appear less professional. Implications and future research directions are discussed.

292

Researchers argue that as the knowledge economy develops, the importance of 'outstanding talent' will continue to increase. In the COVID-19 crisis, the methods of attracting, motivating, and retaining talented people, known as talent management, have changed. It is important to understand the key mechanisms through which talent management practices work or fail to achieve their effects in this 'new normal' so that organisations can enhance their performance. Using signaling theory, this research shows how top-level management's intention and approach in this unprecedented crisis send signals or cues to employees that affect their performance. Talent management research is dominated by US and European researchers in their contexts. Talent management practices in Bangladesh context, which is different from the US and western contexts in terms of socio-economical and cultural factors, is rarely studied. This study examines how managers in organisations adopt and shape talent management practices in this pandemic in the emerging economy context of Bangladesh. Using multiple case study method, data were collected from six Bangladeshi organisations that vary in size and nature of their business. Based on 37 in-depth interviews from these six organisations, the results reveal that work from home, elevated responsibility of HR managers in managing 'talents' and the humanitarian approach of top-level managers in this COVID-19 situation are the significant changes in talent management practices. This research explores the challenges and changes in talent management practices with empirical evidence, which is the main contribution of this research.

67

This research is focused on the perspectives of people who have either waited for spots in the MIQ (managed isolation and quarantine) or have been through the MIQ facilities designed by the Ministry of Health (MoH) to prevent the spread of Covid-19 from the people travelling from overseas to New Zealand. The paper also includes my own perspective as I spent 10 days in the MIQ facilities. I travelled from Sydney to Auckland on 2nd Feb 2022 and had to pass through the specially designed immigration check process. I can say that MIQ facilities were safe with plenty of support for people. Now that the MIQ facilities have come to closure, some key learnings and important issues need to be discussed. As a result, this paper highlights some of the important issues related to the pre-and post-MIQ environment. The paper has included the key steps of the MIQ environment and sentiment analysis based on the tweets or stories of various people waiting overseas to get spots in the MIQ facilities and who were directly or indirectly affected by the MIQ spot allocation process and operations. The sentiment analysis reveals three types of emotions including positive, negative, and mixed or pragmatic through various tweets and personal stories. In a nushell, most of the tweets were in favour of MIQ facilities, but the personal stories indicate outright opposition to the MIQ system and its operations.

97

Rare-High-Impact-Events (RHIEs) can have a significant impact on organisations and can lead to long lasting environmental and social consequences. This paper aims to unpack the forgetting process after RHIEs, like the Brisbane Floods of 2011 and 2022. Organisational forgetting refers to the process of losing knowledge already acquired by the organisation, which differs from the notion of not learning. We identify relevant literature to device a multilevel framework to understand how learning and forgetting unfolds over time after RHIEs. We then propose a new program of research into organisational forgetting from RHIEs in which we will source secondary data on the Brisbane floods to test the theoretical framework described in this paper. Proposed contributions from this study will inform the design of systems to minimize forgetting of lessons learned after RHIEs.

208

Gender inclusion and diversity is a human resource activity for companies globally and within Australia. Organisational leaders may be inspired to improve inclusion and diversity of female employees but there is a gap in practical advice identifying the steps to drive progress. This study uses document analysis to explore publicly available data on the inclusion and diversity programs and gender equity outcomes for ten mining companies in Western Australia. The findings highlight organisations face a significant challenge retaining female employees. In addition, there is a lack of female representation in Executive and Trades roles and an overrepresentation of women in traditional feminised roles. Results demonstrate that companies which undertook the most gender equity action achieved the best overall female representation.

281

This study explores an unexplored career gap at a mid-level classification for female academics in Australia. Employing a novel arts-based research method developed for this study to access narratives and experiences that may be challenging to convey verbally, this study sought to identify career inhibitors specific to these interrupted trajectories. Drawing on standpoint theory our findings provide support for female academics' bifurcated consciousness and demonstrate how this tension impacts career progression. Findings indicate that opposing role expectations ensue in a deliberate avoidance of work/life conflict and a lack of self-confidence. Additionally, the imbalanced distribution of administrative duties, referred to as 'academic housework', contribute to women's stalled academic careers. Ultimately, these identified impediments require addressing to advance gender equity in academia.

279

Much research on public service motivation (PSM) over the last two to three decades has explored either the positive effects of PSM for public servants and government institutions, or the damaging effects of low PSM for individuals and organisations. At the same time, a number of influential studies have highlighted PSM's conceptual ambiguities, including debates on whether it is trait-based or a fixed orientation, driving much needed critique on PSM's nature and origins. Through a mixed method study utilising Latent Profile Analysis (n=222), this developmental paper explores the nature of PSM further, and assesses whether PSM itself has multiple forms, or 'profiles'. We find that PSM reveals four unique profiles. In particular, we find there to be a distinct profile of individuals who have high PSM, and are able to enact it through their work processes. Interestingly, we find that there is another profile of individuals also with high PSM, but who do not appear able to enact this motivation to serve through their work processes. We term these two opposing profiles 'Enacted PSM' and 'Thwarted PSM'. Practical and scholarly implications are discussed.

155

This working paper explores how participation in the gig economy, this new form of employment relationship, affects workers' attitudes, perceptions, and behaviours. Specifically, we examine these from two distinct perspectives, namely that of full-time gig workers and side-hustlers. In this paper we draw from interviews with, and observations of, food delivery couriers in a British city to understand how the nature of their participation in the gig economy, i.e. whether full-time or side-hustling is impacting on their attitudes, perceptions and behaviours. We explore in depth aspects of job satisfaction, how individual differences impact on the decision to take up gig work and individuals' lived experiences of work in the gig economy.

259

Trust between negotiators is considered to be always beneficial for negotiation effectiveness. However, empirical evidence is missing on the role of dyadic similarity and dissimilarity between negotiators on the dispositional propensity to trust and its role in facilitating joint gains. Negotiations are dyadic interactions where the congruence and incongruence between partners on their trait propensity to trust is likely to influence how they share their positions and make trade-offs to achieve joint gains. Drawing on trust congruence theory and emerging evidence on the bright side of low trust, the present study proposes that negotiation dyads which have congruence on low propensity to trust, are more likely to have joint gains as their skepticism will push them to spend time identifying each other's interests rather than making premature trade-offs based on the face value of initially shared information. Using a sample of 80 negotiation dyads engaged in a job negotiation simulation, results from polynomial regression and response surface graphs show that joint trade-off gains are the highest when dyads have a similar and low propensity to trust and lower for dyads where there is a dissimilarity between partners or when they are both similarly high on the propensity to trust. Our research pushes the thinking in both the personality and negotiation literature and provides theoretical and practical suggestions for selecting partners in negotiation contexts.

118

When organizations turn to microfinance models to address locally rooted wicked problems such as poverty by applying market-based solutions, they often become inherently paradoxical. Drawing on comparative qualitative analysis of 26 Nepalese microfinance, we advance paradox theory by extending on emergence of salient paradoxical tensions. We show how a leader's professional ties involve interactions and learning from overseas organizations (i.e., embeddedness to global professional network) construct paradoxes by facilitating elaboration of mental schema about microfinance model. As our study finds a link between leaders' direct participation in global institutions and paradoxical tensions that shapes organization's practices, we show importance of considering multi-level mechanism (i.e., both macro-level and individual level) in understanding how organizations address social and commercial objectives simultaneously.

10

The idea that occupying central network positions enhance knowledge transfer has been widely accepted and empirically verified in business research. Yet, extant social network literature lacks clarity on the impacts of different centrality conceptualizations (i.e., activeness, prominence, and core-ness) on knowledge transfer, and the possible boundary conditions for these relationships. Extending social network theory, this study compares the effects of the three centrality concepts on knowledge transfer using a meta-analysis incorporating 138 effect sizes from 79 empirical studies. We find that among the three centrality concepts, activeness matters more for knowledge transfer followed by prominence, with core-ness having the least effect. Moreover, level of analysis and nature of knowledge transferred (i.e., explicit versus tacit) moderate which centrality concept matters more for knowledge transfer.

105

Despite significant inroads into increasing the representation of women in Science, Technology, Engineering and Mathematics (STEM) related industries through gender diversity initiatives, there is still an evident lag in the progression of women into executive and senior leadership positions across the same industries. We examine two relevant literature on the challenges facing women in STEM organizations and STEM entrepreneurship to outline the socio-culture, institutional/organizational and individual factors perpetuating the underrepresentation of women in STEM leadership roles. This paper calls for a research agenda to understand what happens during early, often rapid, phases of growth in STEM firms, post-startup, that fosters or inhibits the future representation of women in executive roles.

210

This paper investigates how Saudi women academics exert their agency in traversing career barriers within a context of Islam, a restrictive national culture, segregated workplaces, and competitive organisational culture. The research is based on interviews with 30 women academics employed in business schools across three public universities in different regions in Saudi. The paper moves away from traditional Western representations of Muslim women as powerless victims toward individuals with distinct forms of agency exercised within the structural and religious contexts in which they live and work. Hence, the reference in the title to 'reversing the gaze' from a focus on Western practices to Saudi Arabia, where the influence of religion and culture is paramount.

330

While drawing its theoretical foundations from Marx's alienation & Roger's protection motivation theories, authors of this paper have tried to develop a comprehensive theoretical framework which expands our existing knowledge/ understanding of why employees generally have to create false representations while at work. Based on an extensive review of the literature, the study presents two new antecedents of creation of facades of conformity in organisations (i.e Person Group Fit and Person Supervisor Fit) alongside Person- Organisation Fit which has been adequately addressed in the literature already.

Based on strong theoretical foundations, our study suggests, when employees perceive a lack of fit between their own values and those of their organisation or colleagues (supervisor, peers etc), in either case, they will be inclined to create false representations at their workplace.

Furthermore, while dealing with such difficult situations, though all employees are likely to engage in some level of surface level acting, employees with higher perceived alternative job opportunities are less likely to create false representations and are more likely to quit the organisation instead (in near future) as compared to their counterparts who may perceive to have lesser alternative job opportunities available to them (elsewhere) and therefore are more likely to wear those desirable personas, while they are at work.

Advancement of theory in the domain of FOC is likely to inform new research findings which in turn will help managers in addressing contemporary workplace challenges created by increasing "War of Talent" between organisations and growing "Protean Career" orientation among employees.

180

It has been claimed that leadership styles that support followers are beneficial for followers and organizations. However, emerging evidence suggests that practicing these positive and supportive leadership styles might hurt leaders' own well-being. Drawing on the ego-depletion theory, we argue that leaders' engagement in adaptive leadership will be positively associated with their ego depletion level, which in turn promotes their emotional exhaustion. We also argue that leader humility will bring a buffering effect on the association between adaptive leadership engagement and ego depletion. We rely on a multi-waved, multi-sourced survey in Argentina to test our hypotheses. Our research conclusion should benefit leaders and organizations promoting adaptive leadership behavior, as well as contribute to the literature on leader's well-being.

157

The current paper is a conceptual attempt to explore a proactive search process for implementing resource allocation strategy in the context of digital transformation activities undertaken by firms. Most existing studies investigate the financial (capital & investments) resource allocation process arising due to firms' need for local or distant problem-solving requirements. Literature is limited in exploring whether organizations can undertake a proactive search process to deal with prolonged uncertainty in the business environment, as presented by digital transformation of businesses. Digital transformation offers a complex, dynamic, and rapidly changing technology landscape for firms to navigate in its survival. Also, it is uncertain in outcome. The study attempts to provide insights to researchers and practitioners by integrating existing literature on resource allocation, dynamic capabilities, and the technology evolution landscape to offer perspective on a suitable search process. In proposing recombinant search as a proactive search process for implementing digital transformation, it also highlights the possibility of better utilization of slack with effective adoption of artificial intelligence for a more guided decision-making process. The conceptual paper posits that recombinant search could be an effective real option for organizations attempting to build new capabilities during digital transformation.

309

Flourishing and maximising health and well-being are the goals and desired outcomes of rehabilitation health professionals in assisting people adjust to their new normal. Recent research indicates that the benefits that design thinking has contributed to the broad health sector are now beginning to be explored in rehabilitation settings. This paper reports the process and outcomes of a workshop where rehabilitation health professionals were introduced to design thinking. Our findings demonstrate this group's engagement with design thinking, their openness to new ideas, and growing interest in exploring and experimenting with design thinking. We assert that generating new ideas and implementing human-centred solutions will enable the flourishing of patients, in connected health and community systems, with implications for practice.

144

We use the context of the COVID-19 pandemic to examine how different coping strategies employed by expatriates affect their psychological wellbeing and through that impact important expatriation outcomes such as expatriation satisfaction and host country withdrawal intention. We test our theoretical ideas on a sample of 453 expatriates living and working in the United Arab Emirates (UAE). We collected data for this study in May-June 2020 when the pandemic was at its peak in the UAE and heavy quarantine measures were put in place. Our results suggest an intriguing diversity in the effects of different coping strategies on expatriates.

322

The paper attempts to review the effectiveness of the two crucial and most observed negative emotions, i.e., anger and anxiety in the negotiation process. Positive and negative emotions have been studied in contrast with each other believing to elicit distinct outcomes. In this review, I explore when, how and what intensity of these negative emotions elicits desirable negotiation outcomes such as greater concession, cooperation, and information acquisition etc. This review reveals how emotions can be used as a source of information to do effective decision making in a negotiation process and when expressing them could be detrimental. It also provides an insight on how emotional inconsistency and variability can alter a perceiver's behavior and attitudes towards a negotiator, provided they find the expression of negative emotions as appropriate and genuine. This paper also mentions future avenues of research and conceptualizes frameworks in the context of negative emotions by using the theories of EASI and attribution.

Keywords: Anger, Anxiety, Positive Outcomes, Distributive Negotiation, Integrative Negotiation, EASI theory, Attribution Theory

325

Understanding organizational decision-making, and the influence of conflict on decision-making is critical in the increasingly multinational workforce. Organizational decisions are rarely unilateral, are often made in groups, and during this process conflict is often inevitable (Kellermans et al., 2011). One form of organizational conflict that has received intense attention is workplace bullying. As dissent can be perceived as a form of conflict, it is important to consider the potential for dissent to be perceived as a form of bullying. Thus, the current study builds from this line of work and examines the extent to which organizational dissent, as a form of organizational communication, predicts perception of workplace bullying.

265

Despite the burgeoning number of studies showing imprinting effects from CEOs' prior experience impose significant influence on business practice and performance, most of them ignored the multi-faced firm-level implications of individual imprints. We consider the multi-dimensional imprint utility by studying how the CEO's military experience simultaneously affects firm innovation novelty and patent infringement. We draw from imprinting theory to argue that the military experience imprinted CEOs with obedience characteristics which may hamper innovation novelty while simultaneously mitigating patent infringements. We further argue that high military rank would moderate the relationship between CEO military experience and innovation novelty as well as patent infringement. We attempt to find empirical support for our arguments examine CEOs of 1659 listed firms and 9037 firm years observations from 1999 to 2017. Our study advanced imprinting theory by discussing the multi manifestation of imprints and demonstrating the heterogeneity in the imprinting process across individuals.

119

Organizations across the globe today are deliberating on the future of work, whether to call the employees to work from the office, make them work remotely, or even offer them flexibility through hybrid working options. In this wake, we studied job demands, viz., techno-invasion, and electronic monitoring that could impact the performance and turnover intentions of the employees in the presence of an intervening construct cyberslacking. Based on the study's hypotheses, we designed and administered the survey during the extended remote working in two phases (n=1446). We empirically examined the relationships by employing PLS-SEM, where we established the partial mediation of cyberslacking on all the proposed relationships. The findings further the literature on telecommuting and provide crucial implications for employers.

296

The current transition to Industry 4.0 via digitalisation and adoption of advanced technologies is the primary focus of government policies and funding schemes, education and training efforts, and organisational strategy in the manufacturing sector. Although some Australian companies have successfully transitioned to Advanced Manufacturing/ Industry 4.0, many of the small and medium enterprises (SMEs) that comprise the bulk of Australia's manufacturing industry are facing challenges in transitioning that may have their basis in a lack of enabling leadership capabilities. This study draws on an embedded case study of advanced manufacturing, with the embedded cases comprising two advanced manufacturing companies and stakeholders supporting the manufacturing sector. The case study highlights the management and leadership capabilities necessary for companies to successfully transition to Industry 4.0, including change management, business planning, data analysis and security, and scale up capabilities. It provides insights for the leaders of manufacturing SMEs to compare their existing against desired capabilities.

345

The COVID-19 pandemic brought about significant changes to Higher Education (HE) in both Australia and New Zealand. The work from home mandates and the lockdowns forced teaching as we had known it into an online space creating both opportunity and concern. Coupled with border lockouts, which projected doom and gloom for HE institutions with the significant losses of international students, the response for many HE institutions was a reconfiguration of processes and to find efficiencies to cut costs. Resulting in significant workforce losses across the sector. Within the complexity of the response to the changes, were the middle managers, who for all intents and purposes were the managers of the well-being of the coal face employees and the deliverers of bad news. This paper explores the lived experiences of Deans, Heads of Departments/Schools from within Business faculties, who managed through such a critical crisis. The results shed light on the struggles of the person and of the staff.

33

The extant literature provides contradictory evidence regarding the role of empathy and moral obligation in social entrepreneurial intention (SEI). This study sought to advance our understanding of how they relate to SEI. Applying the PLS-SEM, our analysis of the 307-surveyed data reveals that empathy and moral obligation influences social entrepreneurial intention indirectly through social entrepreneurial self-efficacy and perceived social support. The core of our findings indicates that a person with a feeling of compassion and moral responsibility to help others will not start a social venture unless they feel competent and supported to start and run the venture. This finding provides a novel perspective to the social entrepreneurial intention research that is believed to have implications for people, in particular, who are in a position to make their career decision.

2

Social bricolage as a processual concept and mechanisms of social entrepreneurs' identity work that enhance social value creation are little understood in the under-researched contexts of emerging economies. Based on an abductive study with 19 social entrepreneurs in Kenya and Rwanda, our findings show that identity work significantly influences the scaling of social bricolage and, thus, social value creation. While each social entrepreneur who practices social bricolage is involved—albeit at varying degrees—in organizing and critically reflecting on identities, it is a social entrepreneur's ability to redefine and amplify its identity which stimulates the transition toward greater social value creation. The findings contribute to social bricolage and identity work concepts through a contextualized lens on social entrepreneurs' social responsibility.

229

In this paper, we are interested in educators' first-hand experiences of the benefits and challenges of teaching entrepreneurship and innovation in an integrated way. The debate about why and how entrepreneurship and innovation can or should be integrated has recently re-appeared, with tensions experienced at the individual level hinted. Taking a knowledge integration perspective and employing a relationally reflexive approach, we explore the varying experiences of eight educators teaching E&I better understand each other's practices. Initial findings indicate benefits and challenges for individual educators, students, and the organization.

136

Women in patriarchal societies are prone to experience extensive family-to-work conflict (FWC) because they perform multiple domestic duties as daughters, daughters-in-law, wives and mothers, which often interfere with their career progression. To investigate the impact of work social support (WSS) on women's careers, two studies are planned to be conducted in the patriarchal context of Bangladesh. While Study 1 will focus on developing a scale to measure WSS from private domain, Study 2 will examine how WSS from public and private domains influence women's job and career attitudes in patriarchal contexts through the mediating roles of FWC and psychological capital. This work-in-progress paper seeks feedback from conference attendees to make improvements in three areas: contribution, theoretical model and measures.

250

The push for age friendly communities, increased workforce participation across all populations and the emergence of intergenerational practice has increased the pressure on the care industry to provide quality outcomes for our most vulnerable populations. At the same time, the supply of these workforces has decreased, despite desperate attempts by providers and the introduction of government interventions to improve supply. This has resulted in both sectors reaching a crisis point where supply no longer meets the demand, resulting in quality outcomes being impacted. Consequently, there is a need to explore new innovative ways of attracting staff to the care sector. Drawing on the career's literature, this study explored the motivators to employment of current staff and the impact that an intergenerational practice intervention had on career intentions. A total of 21 pre and 18 post interviews were gathered with participants of a intergenerational practice trial in Australia. Results revealed three pathways to employment were undertaken, and those who had direct networks within the sector and no previous experience were provided paid opportunities whereas those who did not, were offered a volunteer pathway to employment. Furthermore, participating in an intergenerational practice trial provided additional insight into the opposite sector and opened the possibility of a hybrid workforce for some participants, where staff work across aged care and childcare or as an intergenerational facilitator. This study has important implications for the care sector moving forward as it provides new insights into employee attraction pathways and future career possibilities.

64

CSR is the result of embedded corporate agency – that is, a firm's agency to adopt certain CSR meanings and practices is embedded in broader institutional environments where this firm originates from and operates. A resulting variety in CSR meanings and practices across firms and broader institutional environments requires a more contextually reflexive institutional approach that focuses on peculiarities of firms' embeddedness in institutional environments under consideration. CSR research has begun drawing on the institutional logics perspective to offer a concept of 'an institutional logic of CSR'. Yet, existing conceptualisations are problematic as they view an institutional logic of CSR as rather dis-embedded than embedded agency, meaning that they do not explicitly recognise a firm's agency and its embeddedness as ontologically distinct yet interrelated entities. In this study, I fill this gap by developing an operationalizable, temporal and dynamic concept of a 'critical realist view of an institutional logic of CSR'.

336

Climate change presents unprecedented leadership and governance challenges (Boston & Lawrence, 2018). Managed retreat, defined as the strategic withdrawal of people, assets, and activities in order to reduce risk to place-based, climate change harm (Hanna et al., 2021), will be one of the most vexing. This is because of the deep uncertainty and profound social, environmental, economic, and cultural disruption(s) that will be caused by relocating communities. In this session we present work in progress on how in order to achieve positive managed retreat leadership must take a place-based, long-term stakeholder perspective that is focused on cross-sectoral collaboration (Kempster & Jackson, 2021).

134

Work passion receives increasing interest from scholars and practitioners due to passion's positive individual and organisational outcomes. The work environment has been suggested as a major antecedent to work passion, while leaders are seen as main actors shaping the work environment. Leadership is a major work passion predictor but leaders' own passion and its impact on employees is underexplored. This paper aims to investigate leaders' role in employee work passion by examining work passion transmission from leaders to employees. First, this paper provides a literature review on work passion and its transmission. Second, this paper suggests role modelling as potential mechanism for work passion transmission as inspired by social learning theory. Third, this paper suggests an agenda for future research.

91

Organisations have increasingly used teams to advance innovative potentials. Therefore, finding the leverages and processes leading to team innovation is of significant interest. This study examines how the changes and timing of team interactions during a team's life are related to team innovation – examines team compassion in different phases of team innovation processes. Using the data collected throughout three-month innovation projects of 87 organisational teams, we found that team compassion would dynamically facilitate team integrative complexity – whereby team members differentiate and integrate multiple perspectives – which, in turn, produce team innovation. Additionally, the activation of team integrative complexity in the later phase of a team's life, compared to the early and midpoint, would likely promote team innovation. We discuss implications and offer directions for future studies.

328

Strategic Management is fundamentally concerned with improving the long-term performance of organisations, yet clear and defined articulation of Strategic Management Principles (SMPs) is not yet refined in the literature. We argue that SMPs can benefit Micro and Small Businesses (MSBs) enabling growth and prosperity. This critical analysis paper argues that SMPs are a governing chain of reason, an overarching set of models, frameworks, and best practice rules and tools that guide an organisation to become resilient and effective to sustain competitive advantage. We demonstrate that SMPs involve strategy concepts, including decision-making and planning as common themes that continue to develop. Substantially contributing to the economy MSBs represent the largest number of organisations in regional areas, creating economic and social benefits.

178

Inter-organizational boundary spanning requires actors on both sides of boundaries to work collectively to ensure proper alignment of objectives and achievements of organizational goals. Acceptance of these goals that further accelerate sustainable operations in the form of organizational practices depends on employees' causal inferences and their behavioral consequences. However, how the boundary-spanning behavior of actors facilitates employees' perceptions is unclear. This qualitative study of actors in multinational organizations demonstrates how the boundary-spanning behavior of actors impacts the employees' attributions of the effectiveness of HR interventions suggested by external boundary spanners. This article contributes to the extant literature by providing a unique abstraction of the duality of boundary-spanning behavior of internal and external boundary spanners that leads to positive perceptions and better coordination.

228

Workforce analytics is a human resources management tool that represents the application of social science research methods to work-related data, allowing company leaders to optimise human resources planning and utilisation. Despite the potential that workforce analytics has to enhance the remote workforce management, the current literature on workforce analytics tends to focus on the benefits of workforce analytics in traditional work environments. By critically reviewing the literature on workforce analytics and remote working, this paper highlights knowledge gaps associated with application of workforce analytics in remote working contexts. Future research directions and opportunities for extending the study of workforce analytics in the context of remote workforce management are also discussed.

34

This study provides an in-depth understanding of how director independence influences corporate social responsibility (CSR) decisions and performance from the perceptions of directors which has remained under-researched. The qualitative data were collected through semi-structured interviews of 19 directors from 14 organizations operating in Australia. The findings indicate that independent directors contribute to board CSR decisions in two major ways: they bring an outsider view to the board, and they monitor managers in taking decisions considering the interests of the broader stakeholder groups. The in-depth analysis highlights the structural and behavioural aspects of director independence and CSR relationship. The study provides insights into the 'black box' of boardroom dynamics highlighting important contextual factors influencing director independence and CSR relationship.

195

The management literature suggests that diverse experiences, perspectives, and backgrounds are crucial to the innovation and developing new ideas in modern organisations. However, in practice, distinctive background, experiences and perspectives may be subject to discrimination, which can act as barriers to securing employment. This paper discusses the fairness and discrimination diversity climate in Australian organisations, specifically, the access discrimination that ethnic minority skilled migrant job seekers may face and the organisations' effort to promote pro-diversity climates in recruitment. The findings from this study which involved 62 in-depth interviews, 50 with skilled migrants and 12 with recruiters, indicate that the level of tolerance for differences among Australian recruiters was low, and resources were not sufficiently deployed to enhance organisations' diversity climate.

35

Drawing on the behavioral theory of the firm, we examine how foreign firms allocate their attention to nested social reference groups. We propose that in addition to taking all-industry peers as the reference group, foreign firms identify with a more focused reference group based on their foreign identity. By analyzing a dataset of foreign manufacturing firms operating in China, we find that performance comparison with foreign peers in the same industry has a greater effect on their strategic change than comparison with all industry peers does. Additionally, such effect differential is moderated by contributing factors of liability of foreignness, including unfamiliarity, discrimination, and relational hazards that foreign firms face.

214

The paper reports on interviews with 44 Australian and 22 New Zealand Financial Advisers as part of a research project on the wellbeing status of financial advisers. The financial advice industry has faced major disruptive change in the last few years and has faced new regulations, education requirements and compliance demands. Findings were that the financial advisers interviewed diverged in relation to their responses. The responses ranged between acceptance, including seeing the change as an opportunity, to anger and despair, leading to exit of the industry. The findings are discussed in relation to psychological capital, psychological flexibility and adaptive performance positively impacting adviser response to change. Implications are discussed, and recommendations are made for individual advisers and the industry.

207

Dynamically changing work settings and uncertain work environments define modern organizations. Such work conditions can influence employee voice, often aiding in changing the status quo. We provide an affect-based model of perceived organizational politics (POP) and its effect on employee voice behavior. An experimental virtual reality study was undertaken with working professionals in India. Drawing on psychophysiological measures of emotion arousal and self-report measures for the study, we found a mediating effect of negative emotions in the link between perceived politics and employee voice. Further, a moderated-moderated-mediation of emotion arousal and regulation on the indirect link between perceived politics and voice is also evidenced. The theoretical and practical implications of our findings are presented.

Keywords: perceived organizational politics, emotion regulation, negative affect, emotion arousal, employee voice

168

ABSTRACT: There is more food waste in Australia than can reach hungry people. Not-for-profit (NFP) organisations collect food that would otherwise go to waste and distribute it to needy people through a network of partnering charities. Despite the potential to increase capacity, enhancing the processes involved is complex. The literature focusing on unique challenges associated with the distribution side of the food relief supply chain is incomplete.

This research seeks to understand the challenges faced by NFPs when enhancing their capacity and engagement. We have used Foodbank and its partnering charities as a case study. This involved collecting data from documents and 12 semi-structured interviews. We incorporated three theories to identify key operational and interpersonal challenges and present associated propositions.

Keywords: Food waste, Stakeholder engagement challenges, Foodbank Australia, Partnering charities, Not-for-profits.

241

The success of corporate mergers and acquisitions is largely determined by the outcome of the integration process. While there is increasing attention paid to the emotionality of integration, management scholars have yet to establish the mechanism of how emotions influence this process. We posit that the high number of affective events after the announcement and during the post-merger integration drains the self-regulatory resources of individuals, while the heightened activity during the same periods does not allow for their replenishment. As a result, the organization suffers both from performance deterioration and increased tension owing to unregulated emotions. The proposed theoretical approach allows for a better managerial understanding of the inevitable emotionality of mergers and acquisitions, and thus for better managerial actions.

206

This conceptual study theorizes the time dynamics of firms' corporate social responsibility (CSR) that connects the past, the present, and the future. Using signaling theory, this study theorizes the underresearched time element in signaling theory and focuses on flow signal (historical patterns) rather than the widely studied point signal (current state). I conceptualize two properties of flow signals—propensity and reversal—to describe the movement directions. Further, drawing on the key factors of signaling quality, I develop a range of propositions predicting firms' CSR time dynamics. This study extends signaling theory by increasing the descriptive and predicative power of signaling theory. It also contributes to CSR literature by advancing the understanding of the time dynamics of CSR

153

Despite corporate initiatives for employee well-being, workplace pressures continue to daunt women. Multifarious studies on women's well-being notwithstanding, little is known about how workplace politics intersect with self-concept to influence well-being. We draw on Job Demands-Resources theory to examine how workplace politics affect women's well-being. We employed an explanatory-sequential mixed-method involving quantitative and qualitative studies. Study 1 (n=463) used experimental scenarios to establish the link between organizational politics and well-being; Study 2 (n=12) entailed semi-structured interviews to elucidate the findings. Voice was found to mediate the relationship between workplace politics and well-being, with self-concept moderating this link. Furthermore, results show how 'relational' self-concept mitigates debilitating influence of workplace politics on well-being. We discuss how practitioners can positively influence employee experiences.

Keywords: workplace politics, employee voice, self-concept, well-being, women

263

This paper aims to understand the differences between Indigenous and non-Indigenous world views and how these differences affect management and implementation of the Whanganui River settlement, namely Te Awa Tupua Act 2017. The paper looks at the intentions and drivers of both Māori and the Crown over the management of the Whanganui River through discussions held with eight key informants involved in the settlement and design of the new act. The paper looks at how the intentions and drivers have been translated into legislation and its potential implications for management and implementation of settlement obligations within Māori and non-Māori organisations.

290

The trust violations such as severe delay or even the cancellation of the flight happen frequently and that could damage the consumer trust. The need to restore the trust of airline consumers is top priority for airline companies. With this realization, our study investigates how coping strategies (affective and substantive repair) work together with the causal attributions (locus, stability and controllability) to restore the relationship between the consumers and organizations after breach of trust in air transportation. An experimental scenario-based survey with 355 passengers via structural equation modeling reveals that coping strategies fully mediate the relationship between causal attributions and post trust. The findings suggest that coping strategies effectively rebuild the consumer trust after different kind of violations in services.

Keywords: Trust, Consumer Trust, Trust Repair, Apology and Compensation, Causal Attribution.

185

We extend the literature on professional skepticism (PS) by developing a model that examines perceived organizational support (POS) as a focal predictor of auditors' intentions to engage in skeptical action. We test our model on a sample of 198 auditors in the Philippines. We predict and find that organizational identification mediates the relationship between POS and intentions to engage in skeptical action. We also found that the conditional indirect effect of POS on auditors' intentions to engage in skeptical action via organizational identification is stronger for non-Big 4 firms than for Big 4 firms. The results highlight the importance of providing a supportive environment to encourage auditors to form intentions to engage in skeptical action.

254

Research argues that voice is considered risky behaviour based on the cost-benefit framework. Nevertheless, employees still engage in voice behaviour, showcasing our limited understanding of the factors that influence voice behaviour in situations when it is costly to do. Drawing from the theory of normative social behaviour (TNSB) and social cognitive theory (SCT), we argue that descriptive norms increase voice behaviour via voice efficacy. We expect this mediated relationship is moderated by perceived cost. We tested these hypotheses using data collected from 272 employees. Results showed that descriptive norms increased voice behaviour by increasing one's confidence to speak up, and the strength of this mediated relationship is strongest when perceived cost is high as opposed to when it is low.

202

The complex nature of business ethics means that it is a notoriously tricky topic to teach. This paper presents a case of a culturally informed multi-dimensional approach to Transformative Learning of business ethics in a first-year undergraduate subject delivered in the Middle East affiliate of an Australian university. We highlight how this study extends Transformative Learning to a culturally informed approach. Following Communities of Practice, we present our teaching approach first at the individual level stimulating the integration of individual competencies leading to self-reflection, second at the inter-individual level facilitated by a social interaction-based teaching approach leading to conversational learning, and finally at the socio-cultural level.

212

Applying the social exchange and social identity theories, this paper explores the mediating effect of managerial support on the relationship between presenteeism and employees' affective commitment. Presenteeism is attending work while ill and appears as more prevalent than absenteeism. A sample of 200 Australian employees was collected through an online survey, and hypotheses were tested using structural equational modelling and bootstrapping technique. The results suggest that presenteeism and managerial support significantly influence employees' affective commitment. More importantly, the direct impact of presenteeism on affective commitment was partially mediated by managerial support. Accordingly, this paper suggests that organisations expecting to increase employees' affective commitment will get favourable outcomes despite presenteeism by extending their managerial support and increasing awareness of employee wellbeing.

209

Work-from-home (WFH) during the COVID-19 pandemic has become a common strategic choice for organisations to continue their day-to-day office work. Now, organisations need to be critical about the future implication of WFH. This paper aims to examine employees' sentiments regarding WFH during the pandemic by analysing Twitter posts. Using ScraperWiki, it collects and archives random Twitter data spanning 755882104 tweets regarding employee attitudes and opinions about WFH across 245 pandemic days. Results explore that WHF has the positive and supportive potential as a remote work strategy to increase workplace flexibility and effectiveness for greater employee engagement and organisational sustainability. This paper will help scholars and practitioners understand how to better manage workplace flexibility by applying WFH in challenging times.

238

This paper shares our experiences on introducing Indigenous Māori business content into the management curriculum. We identify three themes as critical in the success of introducing Māori curriculum into our programmes – Māori research-led teaching, cultural competency of faculty and the purposeful development of curriculum that is both pluralist and just in nature. Our approach to these themes was influenced by five Māori concepts – manaakitanga (respect and care), whanaungatanga (relationality), kotahitanga (collaboration), auahatanga (learning) and whakamana (empowerment). We reflect on the meaningful progression of management curriculum development that is inclusive and respectful of Indigenous Māori knowledges, values, histories, identity and aspirations.

171

This study examines relationships among servant leadership, employee job satisfaction, and multiple measures of well-being. Responses from employees (n=1019; response rate 52%) of a multinational company showed that those who perceive their supervisor as a servant leader reported greater job satisfaction, less stress, increased subjective and psychological well-being, and fewer sick days. Comparisons between regions, job categories and departments yielded additional insights and implications for theory and practice.

111

In this paper, we argue that it is critical to minimize the risk of data breaches to promote employee productivity and wellbeing. Especially, we build a moderating-mediating conceptual model where hybrid work is proposed to directly lead to poor employee productivity and wellbeing while triggering increased risk of cybercrime (e.g., data breaches). Data breaches are also proposed as leading to reduced employee productivity and wellbeing. Additionally, we expect that the relationship between hybrid work, employee productivity and wellbeing will be mediated by the risk of data breaches. Finally, we propose that the relationships between hybrid work and data breaches and between data breaches, employee productivity and wellbeing will both be moderated by employee cyber security and compliance behaviors. The implications are discussed.

150

The recent extension of the JD-R model calls for integration of individual behavioural strategies, such as job crafting and avoidant coping, to better explain the mechanisms of burnout development. This study investigates the relationship between job demands and burnout, and the mediating effect of job crafting and avoidant coping. We ground our study in the Chinese education context. Structural equation models on data from 552 teachers in China demonstrate that job demands (student's exam performance, role ambiguity, and workload) are positively related to teacher burnout. Furthermore, job crafting negatively mediates the relationship between job demands and burnout, while avoidant coping positively mediates the relationship between job demands and burnout.

188

Perceived developmental human resource management (PDHRM) has been discussed without making a clear distinction between it and perceived organizational support (POS). This ambiguity has prevented meaningful theoretical advancements of employees' perceptions of developmental HRM. We draw on a social information processing perspective to provide a conceptual framework for the independence of PDHRM and POS and explicate how key outcomes—fit perceptions and work attitudes—relate to PDHRM and POS, respectively. Using time-lagged data collected from 227 Korean employees, we demonstrate that PDHRM has a significantly stronger association than POS with person-organization and person-job fit perceptions, while POS is more strongly associated with work attitudes (job satisfaction and affective commitment) than PDHRM. This article helps understand how PDHRM and POS differ and why such differences matter.

57

Faced with a highly dynamic future of work, employees and pre-workforce students increasingly need different learning mindsets for both employment and employability in an era of protean careers. Using data from two samples of Singaporean undergraduates, we develop self-report measures of Continuous Learning for Upgrading and Employability (CLUE) and Learning as a Means for Employment (LAME). We find that CLUE correlates with protean/boundaryless career attitudes, lifelong learning, perceived employability, career-focused work orientation, and a growth implicit theory of working, while LAME correlates with low-organizational mobility preference, job-focused work orientation and a destiny implicit theory of working. Management research and practice implications of this research are discussed in view of increasing policy-level concerns with (and overlaps between) traditional boundaries of education and employment.

80

Post-Covid 19, the need for sustainable tourism behaviour is observed. The goal of this study is to identify dynamic trends, academic collaborations, and research hotspots in the field of tourism behaviour post-Covid 19 through an integrative evaluation that combines bibliometric and manual analysis of 564 publications. We were able to identify important themes and subthemes in various eras by extracting thematic maps using R software tools. Tourism behaviour adapts to new viewpoints in meeting Sustainable Development incorporating ecotourism, adaptive management, and sustainable tourism. Our findings suggest that governments need to take certain preventative measures to ensure a long-term ecological system.

112

Prior literature on foreign direct investment (FDI) has mainly focused on how the inflow of FDI affects the productivity or innovation of local firms. We extend this stream of literature by examining the impact of FDI on local firms' political activities. Based on spillover, competition and corporate political activity (CPA) literature, we propose that FDI has a U-shaped impact on political activity of local firms. Besides, we argue that institutional development and market diversification moderate the mentioned U relationship. Typically, the effect of FDI on CPA is less pronounced in regions with a high level of institutional development and for firms with a high level of market diversification. The results of a panel data set of Chinese listed firms from 2009 to 2017 largely support our predictions. These findings enrich our understanding of the outcomes of inward FDI.

304

This study tests emotional intelligence (EI) as a predictor of employees' safety performance. It examines the mediating effect of situational awareness on the relationship between EI and safety performance and the moderating role of EI in the relationship between situational awareness and safety performance. One hundred and seventeen pilot trainees from two flight schools participated in a two-wave survey. Results showed that EI enhanced individuals' situational awareness, which in turn improved safety performance. In addition, the effect of situational awareness on safety performance was found to be stronger for those individuals with lower EI. Furthermore, for low-EI individuals, compared to their high-EI counterparts, the effects of EI on safety performance were more likely to be mediated by situational awareness.

128

The COVID-19 pandemic has disrupted traditional education settings and opened new opportunities for e-learning innovation. This paper: a) carries out a rapid bibliometric analysis of Online Short Courses (OSCs) in the literature, b) conducts a rapid environmental scan of the magnitude and scope of business-related OSCs offered in Australia, and c) assesses the potential of OSCs to foster Business Education for Sustainable Development (BESD). The contributions of this paper are two-fold. First, it demonstrates that e-learning is one of the key themes in the OSCs literature. Second, it paints a picture of the business-related OSCs landscape in the post-pandemic era. Based on these findings, the paper highlights the need for Australian universities to harness opportunities associated with OSCs to foster BESD.

275

The rapid "Fall of the Neoliberal Order" post the 2009-11 Global Financial Crisis (Gerstle, 2022) foregrounds the economic and social-moral legitimacy of a much wider group of stakeholders (Harrison, Barney & Freeman, 2019). A common characteristic of the stakeholder perspective is that stakeholders often hold conflicting interests relative to the neoliberal simplicity of shareholder primacy. This quantum increase of complexity from a dominant if not primary shareholder orientation to recognising the legitimacy of multiple stakeholders presents a challenging imperative for enterprises, leaders and, not least, management education. Trust by a diverse range of stakeholders becomes an imperative for an organisation to flourish - as exemplified in this 2022 ANZAM Conference theme. We argue that building trust with any stakeholder, let alone a diverse group of stakeholders, requires, inter alia, previously under-appreciated forms of political expertise. Foremost, it means challenging the default "top-down" practices of working with stakeholders. Instead, what is required is to build trust through dialogue with a diverse group of stakeholders. This involves more time as enterprises have to address conflicting situations regarding diverse stakeholder aims and or limited resources, and thus calls for greater negotiation tolerance. These are inescapable conditions for an enterprise to have a social licence to operate (CSIRO, 2020).

In this work-in-progress paper, we aim to develop a gap-exposing approach ("aporia", Frank, 2018) to help build trust through substantive dialogue (i.e., taking seriously Greek roots of "shared understanding"), with implications for both political-moral agency and management education, drawing from ancient and early modern sources.

49

Understanding actors' perceptions of quotas provides an indication of how debate and action relating to board gender composition in Australia may progress. This research investigates actors' attitudes towards gender quotas for corporate boards in Australia. Semi-structured interviews were undertaken with 27 actors including ASX 200 directors, civil servants, investors, journalists, executive search firms, shareholder, and advocacy organisations. Reflexive thematic analysis was used to analyse the interview data. The research uncovered a stark polarisation between actors "for" and "against" board gender quotas. Quotas remain an emotive topic where actors appear to find reasoned debate and discussion difficult.

163

The potential for superannuation funds to promote sustainability through their investment decisions is significant. It has become increasingly mainstream for funds to consider environmental, social and governance (ESG) factors when making investments. Australia's superannuation system is unique in that many funds grew out of industrial action and are democratically worker co-controlled. We explore whether the governance structure of these industry funds facilitates sustainable investment. We interview trustees of 15 industry funds and find that both legal and political factors have constrained the ability of funds to pursue a strong ESG agenda.

164

In contrast to team-level diversity, which sees the team as the storage space for diversity experiences, a slowly growing literature has emerged proposing that diversity may also be stored inside individuals. This literature has however largely focused on intrapersonal diversity relating to work experience. Based on evidence from neuroscience research showing that the brain is very susceptible to environmental influences until adolescence, we first argue that diversity experiences during earlier childhood are likely to be of relevance. Specifically, we propose the managers' childhood experiences of having educationally diverse parents as an important measure of intrapersonal diversity and analyze how it affects firm-level innovation behavior often decades after the original diversity experiences were made. Our second goal is to clarify the relationship between parental educational diversity and team-level educational diversity. In specific, we argue that parental educational diversity provides access to a stock of diversity experiences, which can help team members bridge the fields of expertise existing in the team. We argue that this bridging capability is, however, specific in the sense that the effects are largest if there is overlap between the set of parental educational backgrounds and the team-level educational backgrounds. To test our propositions, we compile a linked employer-employee-parents panel dataset for Sweden in the period 2004–2014. Our results show that parental education diversity of Top Management Team (TMT) members is positively associated with firm-level innovation spending. This relationship is strengthened if there is an overlap between the parental and team-level educational diversity.

126

There are various benefits and calls to move towards increased sustainability within both the mining and supply chain industry, however, there is limited research available in the field of supply chain sustainability in the WA Mining Industry. The mining industry is responsible for generating profits, providing employment opportunities and facilitating economic growth in low-income countries. The industry is also responsible for the extraction of large amounts of non-renewable resources, which furthermore, presents a direct and significant impact on all three dimensions of the Triple bottom line (environment, social and economic) currently and in the future. There is thus a responsibility upon the industry to produce with less waste, adopt sustainable practices/technologies, advocate towards the wellbeing of local communities, improve safety and take responsibility for environmental stewardship. Thus, in the interest of the current and future world environment, it is in the best interest of everyone to better understand how changes can be implemented to foster increased sustainability within the mining industry supply chain practices. This study will present a better understanding of Sustainable Supply Chain Management practices in the West Australian mining industry using the Triple Bottom line framework. There are three focus areas. Firstly, this study aims to explore what sustainable practices are implemented and adhered to. Secondly, to gain an understanding of the motivational drivers towards the adoption of these practices. Lastly, the study aims to understand what challenges are faced during the transition to an increased level of sustainability

22

Building upon the Conservation of Resource theory, the main objective of this study is to examine the mediating roles of different aspects of adaptive career behaviors in the relationship between work-life balance and turnover intention. A multi-wave questionnaire survey was conducted to collect data from working adults (N = 350) in private-sector organizations. This study adds to the career literature by uncovering that individuals' state of work-life balance relates differently to their direction of adaptive career behaviors (internal career planning or external career exploration) and the subsequent turnover intention. Implications and directions for future research are also discussed.

245

Purpose: This research aims to empirically test the multi-level effect of mental illness on employment, including individual employee level (suicidal ideation) and organizational level (absenteeism and sickness absence), with the implication of disclosure climate recommendation.

Design/ Methodology/ Approach: Using secondary data from the 2020 US National Survey on Drug Use and Health (NSUDH), this quantitative study is analyzed using multivariate binary logistic regression analysis and ordinary least square analysis.

Findings: The results indicate that in-patient mental health care is significantly associated with suicidal ideation and affects the number of sickness absences and absenteeism recorded by the organisation. The results also indicate that out-patient mental health care is significantly associated with suicidal ideation but does not significantly affect the number of absent sick days and absenteeism recorded. Lastly, alcohol and drug use effects on suicidal ideation, absenteeism and sickness absence were partially supported.

Research limitations/ implications: This research presents a fundamental justification to HRM for the importance of implementing a disclosure climate. The HR department should proactively build an open and supportive ecology to foster more disclosure from employees with mental illness. Likewise, HR managers should be able to orchestrate the workplace stakeholders to create a disclosure-friendly environment.

Originality/ value: This study contributes to the development of HRM literature on occupational mental health management by presenting multi-level impacts of mental illness on the workplace (individual and organizational level) using the lens of conservation of resource (COR) theory

Keywords: disability, disclosure, HRM, mental illness, OHS, substance abuse, suicidal ideation

289

Overqualification is experienced in both work and family contexts. Currently, overqualification literature has accounted for work contexts, this study seeks to include family context in building a more consolidated picture of the overqualified employee. We conducted qualitative interviews (58) in analysing how and why employees experience being overqualified, how they became overqualified, and how family perspectives shape these experiences. Further, how overqualification may, in turn, impact the family. Our findings suggest that depending on how employees view their overqualification (i.e. involuntary or voluntary) shapes their manifestations and behaviours in both work and family domains. Voluntary overqualified employees redirected their underused resources to contribute positively to family life, whereas involuntary overqualified employees felt frustrated and withdrawn both at work and home.

233

Research on workforce planning in the public sector is generally limited, and especially at the Australian state government level. This is perplexing given public service commissions in Australia emphasise the advantages of workforce planning to government departments and agencies. This paper explores workforce planning in the New South Wales government. While the NSW Public Service Commission has continually expressed concern about the status of workforce planning in NSW agencies for many years, little or no improvement has been identified. This case study highlights the risks to public finance when workforce planning is not prioritised by government agencies.

219

This study explores the relational dynamics that develop and maintain Community of Practice type arrangements when face-to-face interactions are limited. We employed a reflexive, collaborative autoethnography to understand how our geographically dispersed research group dealt with the effects of the COVID-19 pandemic on our typical ways of interacting and collaborating. Our findings suggest four modes of togetherness and related maintenance practices that mutually constitute each other and sustain long-lasting togetherness in Communities of Practice. Our contributions include discerning four modes of togetherness, each underpinned by different clusters of practices, and highlights the importance of reflexively enacting maintenance practices that support the (re)creation of a group that balances work and friendship.

165

The final report of the Truth and Reconciliation Commission of Canada calls to action post-secondary institutions and Canada's corporate sector, however six years after the release of this report, there is no overarching document identifying actions taken by post-secondary institutions or specific faculties. In this paper we draw on the concepts of reconciliation, principles of responsible management education (PRME), hidden curriculum and Blasco's (2012) integrated framework for assessing responsible management goals to assess business school reconciliation actions to date. The research design comprises an in-depth gathering and analysis of website data of Canadian business schools. This environmental scan shows that 51 percent of Canadian business schools identify using at least one message site to support reconciliation with Indigenous Peoples.

8

Paradoxical leadership, the integration of leadership behaviors that are seemingly contradictory, but nevertheless interdependent, is becoming increasingly important in today's complex and turbulent business environments. Despite evidence for the positive consequences of paradoxical leadership, little research has examined how and when leaders can effectively integrate or reconcile opposing leadership behaviors. Two of the most fundamental paradoxical challenges that leaders face include the need to integrate control and empowerment, as well as reconciling collective rules with followers' individual needs. In this article, we advance a circadian theory of paradoxical leadership that outlines how leaders can combine episodic thinking with circadian principles to achieve a dynamic equilibrium between the opposing poles of these two leadership paradoxes. Our temporal framework explains how leaders can effectively structure paradoxical leadership episodes that leverage their own and their followers' circadian processes within a broader framework of situation-driven leadership. In doing so, we contribute to future research by providing a novel circadian perspective on how paradoxical tensions in organizations can be reconciled within the constraints of situational demands.

273

COVID-19 pandemic has created an unprecedented threat to businesses and organisations worldwide. This paper aims to analyse the existing literature on corporate social responsibility (CSR) to conceptualise the impact of CSR on employee commitment to the organisation in the new normal. Using the scoping review, this paper critically reviewed the published articles on CSR and employee commitment, how they were theoretically supported and conceptualised for a comprehensive understanding of future research directions. During the time of new normal where employee attraction and retention is widely discussed as a critical survival factor, this paper analyses the conceptual, theoretical and research studies to explore how perception towards external CSR (directed towards external stakeholders) and perception towards internal CSR (directed towards the own employees) can influence organisational identification and commitment levels.

25

We focus on employee work engagement and emotional exhaustion due to both being critical employee outcomes. We explore High-Performance Work-Systems (HPWS) at time 1 as a sunk cost and test that towards COVID-19 reactionary practices, specifically working-from-home-support (WFHS) and perceived organizational support (POS). Using a latent growth model approach on 210 New Zealand employees matched across three time periods, this study investigates (1) pre-lockdown, (2) in-lockdown, and (3) post-lockdown work experiences. The study finds that HPWS sunk costs enabled workers to manage the COVID-19 lockdown better, and enabled firms to engage more readily in reactions across this time. The study highlights how future planning for such crises might start with HPWS as a sunk cost. Further, WFHS and POS all shape employee engagement and well-being.

24

This study explores effects on employee well-being leading up to, and during the Covid-19 lockdown period. Using Conservation of Resources (COR) theory, we hypothesize that changes due to Covid-19 shape job insecurity perceptions leading to poorer well-being. Using N=628 employees' sample, we explore pre- and post-lockdown outcomes and find non-significant differences in well-being and job-insecurity, but significant increases in Covid-19 job changes. Using a follow-up N=323 sample we compare relationships using change-over-time analysis. We find stable well-being with life-satisfaction dropping significantly, with Covid-19 job changes increasing significantly. Structural equation modelling shows that Covid-19 job changes influence job-insecurity, and this, in turn, influences well-being, and this holds for both data sets, including the change-over-time data. We discuss these findings using COR principles.

131

Knowledge hiding at the firm-level has only recently been empirically confirmed. The present study extends this emerging literature by exploring knowledge hiding climate (KHC) towards product and process innovation with human capital and firm size as moderators. Using a sample of 510 firms, we find KHC is negatively related to both innovation types, supporting that a high KHC limits firms' ability to innovate. However, these effects are not equal. Large-sized firms with higher human capital can off-set KHC and achieve superior product and process innovation. Large-sized firms with low human capital report the worst innovation. The study highlights the danger of KHC to firm innovation, and how human capital – especially in large-sized firms can off-set the detrimental effects.

75

ABSTRACT: Considering the weight of the Napoleonic legacy, this study investigates the effect of PSM (public service motivation) on performance across the mediating effects organisational citizenship behaviour and leader-member exchange. A sample of 308 Executive Director of Services (EDS) in local governments is used to examine the hypothesized relationships. Specifically, we try to understand the resolutory mechanism existing between EDS's PSM and his performance, including the characteristics of citizenship behaviour and EDS-mayor's relationship. Our results showed that the link between PSM and performance is mediated by the leader-member exchange and organisational citizenship behaviour. As a result, the current research contributes to the literature by the way of revealing how PSM and organisational behaviours can affect performance in the French public sector.

Keywords: public service motivation, performance, administrative tradition, local governments, organisational citizenship behaviour, leader-member exchange.

192

The purpose of this study is to investigate how distributed leadership affects team effectiveness through the neglected perspective of team cognition, team motivation, and team coordination in startup companies using a multi-level analysis. We investigated the study variables through the lens of 42 teams in 18 startup organizations operating in India using Mplus software. It was found that distributed leadership has a positive relationship with team effectiveness and team cognitive processes, team motivation, team coordination mediates the association between distributed leadership and individual perception of team effectiveness. To the best of our knowledge, previous studies have failed to empirically address how distributed leadership drives team effectiveness by uncovering the impact of team cognitive processes, team motivation, and team coordination in the Indian start-up context.

193

Drawing upon trait and resilience theories, two studies were conducted among frontline employees of quick service restaurants .In Study 1(N=558), mediation hypothesis was tested using the data from frontline QSR employees of metro and mini metros cities of India (tier 1 cities).Study 2(N=533) replicated and extended Study 1 by examining moderated mediation model using sample from the non-metro cities (tier 2 cities).The data was analysed using AMOS and PROCESS macros of SPSS. Across both studies, it was found that neuroticism and dysfunctional impulsivity negatively predicted COVID-19 compliance behaviour across both the studies. In Study 2 support was found for psychological resilience which reduced the positive effect of neuroticism on dysfunctional impulsivity and negative effect of neuroticism and COVID-19 compliance behaviour. Even though past studies have revealed that neuroticism enhances dysfunctional impulsivity, it appears that no account is taken about the potential role neuroticism leading to compliance behaviour via dysfunctional impulsivity, especially in the hospitality context.

18

This study uses signaling theory to analyze corporate misconduct as a negative signal and to link misconduct severity to market reactions. Specifically, we argue that severity is the basis for investors' rational judgments, which determines signal strength and subsequently increases the magnitude of market reactions. Further, we theorize that perceptual biases skew investors' perceived severity by exploring how the effect of severity is moderated by certain reputational signals, i.e., moral, technical, and leadership capital. Based on a sample of 344 Chinese listed firms that engaged in financial misconduct during 2009–2019, we find that higher severity of misconduct leads to more negative market reactions. This relationship is weakened when the firm has a higher level of moral and technical capital.

252

Vehicle technology is rapidly developing to meet connected transport infrastructures of tomorrow. Additionally, global institutions have publicly concurred that transport is central to sustainable development. This signifies the importance of understanding how vehicle technological advancements may impact sustainable futures. This study uses an innovative approach to understand how technological developments within the vehicle industry may relate to the sustainability framework. A systematic review was conducted exploring academic peer-reviewed and industry-related grey literature forming an overarching focus of the industry sector. Subsequently, a thematic analysis of articles explored the emerging concepts and elicited themes. Findings illustrated that interrelated complexities exist between various technologies with some areas underrepresented. Challenges and opportunities were discovered surrounding future transport evolutionary cycles from an industry perspective.

260

COVID 19 has impacted the how and place of work while presenting challenges to the onboarding processes in organizations. In this article, we propose a conceptual model of an effective onboarding process in response to the new environment created by COVID 19. Specifically, we propose that differing types of onboarding program (e.g. face to face delivery, digital delivery) will impact learning transfer and employees' job performance. We also examine the mediating and moderating factors that link onboarding program types to learning transfer and employees' job performance. We discuss implications of the conceptual model for theory, research and practice in organizations.

276

Climate change is perhaps the more significant pressing grand challenge facing global society today that requires urgent systemic and transformational change. This paper seeks to understand the ways in which organisations are preparing or creating readiness for such systemic change. The research draws on a series of case studies in the construction industry in Aotearoa New Zealand developed through qualitative interviews and secondary material. The research analyses how these orgaisations are conceptualising and creating readiness for mitigating and adapting to climate change. Finding that the organisations are embedding climate change in their organisations a 'cultures' model is used to suggest that organisational readiness is being created through climate cultures that are driven by the values in organisations.

320

This study investigates the impact of multiple directorships on the firm performance while taking into account the board meeting attendance as a mediator and firm growth as moderator. Based on a unique dataset of PSX-Listed (Pakistan Stock Exchange) firms and by using moderated mediation model, we found that multiple directorships have negative effect on the firm performance and board meeting attendance mediates this negative effect. Further, we also found that negative effect of multiple directorships is mitigated by the firm growth and thus, as firm growth increases, the indirect negative effect of multiple directorships on firm performance became less negative.

17

This paper provides an account of lived experiences regarding a cohort of South African women who hold senior leadership positions in South African corporations enact leadership.. We begin by explaining the legislative frameworks and the impact of history, the legacy of apartheid, and structured leadership development training on leadership style. The findings from our research indicate that legislations and gender reporting frameworks are inadequate in increasing the proportion on women in senior leadership positions. Systematic socio-cultural change at the organisational and societal level is necessary. The impact of leadership development programs and mentoring relationships were found to be a significant contributor to leadership style. The findings also confirm the presence of gender-based stereotypes at the executive level.

Key words: Africa, leadership, ubuntu, diversity, gender, development

181

Convergence as the blurring of boundaries between hitherto unrelated fields of science, technology, markets and industry has become one of the cornerstones of technological innovation and new product or service development. Prominent convergent products and fields are smartphones in the information and communication technology, probiotic yoghurt in nutraceuticals and functional foods or radio-frequency identification (RFID) tags in printed electronics. But the rapid growth of attention in practice comes uncoupled from a robust development of theoretical foundations. Unpacking the phenomenon of convergence promises insights into complex and dynamic technological change and the subsequent shifts in market and industry structures. For this purpose, this study develops a literature-based framework of drivers, impact and heterogeneity of convergence. Using a meta-analysis of convergence settings, the framework provides a valuable starting point unraveling the drivers and patterns of convergence, i.e., why and how convergence unfolds under different circumstances in varying environments. Further, the framework includes a dynamic element to get a glimpse into how convergence settings evolve with increasing maturity.

349

The international mobility of highly skilled human capital has increased in the last few decades. Countries, such as Australia, have designed migration policies to attract skilled migrants and restrict entry of lower skilled migrants. This demand driven approach assists in addressing identified skill shortages, boosts the economy, advances workforce competitiveness and results in a workforce and society that is culturally diverse. However, for many skilled migrants arriving in Australia the journey to successful and meaningful employment outcomes that are commensurate with their qualifications and experience is not always positive or fully understood. In particular, women face multiple barriers while sourcing, securing and sustaining employment in the host country. This paper presents a work in progress towards a PhD.

40

Although research has focused on the consequences of supervisor bottom-line mentality (BLM) for subordinates, knowledge about how such mentality impacts supervisors remains limited. Drawing from the theory of self-conscious emotions, we present a self-enhancing and reparatory response model that clarifies the emotional and behavioral consequences of BLM for supervisors. We used an experience sampling study, surveying 87 supervisors and their direct reports for ten consecutive workdays. Our results indicated that supervisors' daily BLM was associated with supervisors' feelings of pride that motivated task-oriented leader behavior. Supervisors' daily BLM was also associated with feelings of guilt that motivate people-oriented (viz., servant) leader behavior. Furthermore, supervisors' moral identity weakened and strengthened the extent to which supervisors' BLM elicited feelings of pride and guilt. We discuss our findings' theoretical and practical implications and offer directions for future research.

7

This study explores experiences of 27 Chinese senior executives to understand how job resources such as managerial power and organisational procedure are used in collective coping with work stress. Using a Critical Incident Technique, the paper finds that Chinese senior executives more actively use collective problem-focused coping than collective emotion-focused coping strategies. Three main problem-focused coping strategies were identified: seek colleagues' instrumental support to resolve problems, use organisational procedure to involve colleagues to share accountability, and exercise managerial power to create new organisational policies. For collective emotion-focused coping, they passively receive emotional support from colleagues rather than proactively sharing their emotional distress with others. This asymmetric pattern of collective coping is discussed with its potential influenced by Chinese social and organisational factors.

82

Employers want to avoid fluctuation, especially when qualified personnel is involved. This raises the question of whether promoting qualified employees into leadership positions with supervisory responsibility helps to retain them. While social exchange theory predicts that in the short run, employees have lowered turnover intentions due to reciprocal feelings, human capital theory posits that in the long run supervisory responsibility increases an employee's turnover intentions due to the general skills acquired in the leadership position. This article additionally argues that human resource management practices that enhance an individual's internal career development counteract this long-term turnover-increasing effect by offering employees internal advancement opportunities. This study empirically tests these predictions using German linked employer-employee data. The results confirm the predicted short-term turnover-reducing and the long-term turnover-increasing effect of supervisory responsibility. The results also reveal that for long-term supervisors appraisal interviews and development plans counteract this by reducing an employee's intention to quit.

88

The contemporary disruption of supply chain networks is fundamentally problematic for the specialisation advantages of large firms. This challenge is most keenly felt for those in organisations who role it is to negotiate the supply and procurement of direct materials critical to the firm's ongoing profitability and viability. This paper presents the results of a qualitative study which explores buyers' negotiation training and negotiation preparation in a disruptive environment. Interviews were conducted with nine experts who specialised in negotiation training, coaching and consulting in Procurement. The research focused on identifying the critical factors impacting on, and resulting changes in, negotiation training and preparation routines and transfer, and key aspects in training, supporting individual employee (negotiator) and organisational learning. The resulting outcome is differentiated from the perspective of two expert groups and showed that consulting firms are better tuned for disruptions. This conclusion may support companies in which situation to choose an external training provider to improve the negotiation skills of buyers as the primary target and when to choose an external consulting firm focusing on concrete cost-efficiency programs and projects to generate better purchasing results.

187

The purpose of the study is to investigate the role of social license to operate (SLO), social value creation (SocialVC), and environmental value creation (EnvironmentalVC) in the relationship between economic value creation (EconomicVC) and sustainable practise. The study looks into the sustainable practises of 211 organisation participants. PLS structural equation modelling (PLS-SEM) is used to test the hypotheses of the intended model. The findings indicate that SLO act as a mediation between externally related corporate sustainable practises and EconomicVC. Furthermore, there is no direct relationship between EnvironmentalVC and SLO, although this relationship is mediated through SocialVC.

262

Employee wellbeing represents a salient topic within the extant literature, however, although widely studied, there appears to be a lack of consensus surrounding what it means to be well. The literature presents various definitions, conceptualisations, and models of employee wellbeing; however, we appear to be no closer to a unified agreement. Through a qualitative, phenomenological approach to inquiry, this study asked 20 employees from a large hospitality organisation how they conceptualise employee wellbeing. Semi-structured interviews were conducted, and data was analysed using thematic analysis. This study presents several key contributions in furthering our understanding of employee wellbeing through the presentation of a novel Authentic Model of Employee Wellbeing.

257

Supply chain sustainability has today reached the status of a business imperative. Organisations that do not take the issue of sustainability seriously or actively are very likely to lose their licence to operate. This is not a threat; it is rather a present-day reality. Unfortunately, however, there are still many supply chains that struggle with sustainability and are not sure of where or how to start with this essential initiative.

This paper, after providing subject context, a definition of supply chain sustainability, and a literature review, proceeds to outline a practical starting guide towards the real and genuine achievement of supply chain sustainability that has been employed by a case example.

186

To address environmental constraints, companies rely on information technologies such as Big Data Analytics (BDA) to improve decision making and achieve environmental performance. A systematic search of the articles was performed in the scientific database. This systematic literature review aims to determine the scope of the use of BDA in the field of SCM, including all of these departments such as purchasing, production, logistics and procurement and the human factor as a catalyst to overcome the challenges of implementing BDA.

Thus, the goal of this research is to gain a comprehensive understanding of the current perspectives of this technology, its analysis techniques, its application but also its integration.

1

Herman Tse; Neal Ashkanasy; Peter Jordan; Kevin Lowe; Ashlea Troth

Emotions and Cognitions in the rough

The Emotions and Cognitions in the Rough workshop (ECR) provides an excellent opportunity to discuss your research in an informal and collegial roundtable setting. ECR is intended to help PhD students, ECRs and senior scholars develop a research paper in the field of management (e.g., OB and HRM). Each roundtable will have 2-3 facilitators to give feedback on 2-3 early-stage research papers, allowing plenty of time for discussion. Regardless of whether you are a senior or a more junior researcher, this workshop offers you an invaluable opportunity to receive detailed feedback from scholars who are often editors or on the editorial board of top A* journals in the field of management. In particular, many past ECR participants have emphasized how much they have benefited from their participation in the workshop in terms of developing their theoretical models and their planned methodology. This feedback has been instrumental in helping them further develop and polish their research for publication in top academic journals. Whether this is your first major research project or your fiftieth, this is a chance you won't want to miss! You are invited to submit an extended abstract of 400 to 500 words describing your research project/study as well as a cover sheet with the paper title, author(s), affiliations, and contact details.

2

Roslyn Cameron; Xanthe Golenko; Farveh Farivar; Heinz Herrmann; Matt Xerri

Mixed methods research in business and management

Mixed Methods Research (MMR) is considered the third methodological movement. The workshop will provide global updates on developments from within the MMR methodological movement. This workshop will cover the applications of MMR across business and management disciplines and sub-disciplines and will also showcase some foundational concepts in MMR, useful field instruments along with MMR prevalence studies in sports management, health management, project management, operations management and accounting. Innovations in MMR will also be presented and includes: Systematic Science Mapping, Multi-Level MMR, MM Action Research, QCA in MMR and Adaptive MMR for Complexity.

3

Laramie Tolentino; Carys Chan; Rebecca Mitchell; Patrick Garcial; Paula Brough; Ashlea Troth; Kate Hutchings; Katrina Radford; Hataya Sibunruang

Workplace wellbeing in the rough

Workplace Wellbeing in the Rough paper development workshop is a joint initiative between the Health and Wellbeing Research Unit (HoWRU) at Macquarie University and the Centre for Work, Organisation, and Wellbeing (WOW) at Griffith University. It offers an opportunity for wellbeing researchers and ANZAM members to discuss their work in a supportive environment and receive constructive feedback from leading scholars in the field of management and psychology. Participants will submit a near final manuscript on workplace wellbeing and related topics for review. The invited leading scholars and editors will act as mentors who will provide guidance on how to navigate challenges related to publishing high-impact research. The organisers and panel of mentors have strong publication records and experience as journal editors and editorial board members (e.g., Journal of Organizational Behavior, Journal of Vocational Behavior, Work and Stress, Stress and Health, International Journal of Stress Management, Group and Management Organization, Australian Journal of Management, Journal of Management and Organization).

4

Fara Azmat; Mehran Nejati; Chamila Perera

Integrating and embedding sustainable development goals for deliverying responsible management education

This workshop is structured around three core themes that allow an in-depth discussion of how sustainable development goals may be integrated into curriculum, research, and student engagement to facilitate responsible management education across business schools in Australia. Assoc. Prof. Azmat (Deakin University) will lead a discussion on how Business Schools can embed SDGs across curriculum and research drawing upon the SDG blueprint developed by the PRME community in 2020 as a practical guide. The SDG blueprint lays out a number of frameworks, guidelines, examples and suggestions that can support Business Schools in their efforts to integrate the SDGs. The second discussion facilitated by Dr. Mehran Nejati (Edith Cowan University) will take a comparative approach to evaluating SDG integration in PRME-signatory business schools across Australia and Canada. It will share a summary of the findings from a comparative research study, funded through the Association of Commonwealth Universities, providing an overview of the current practices, and discussing opportunities and challenges for institutionalisation of sustainability and responsible management education. The final theme led by Dr. Perera (Swinburne University) will explore how carbon literacy can be integrated into business school curriculum, focusing on key issues such as student engagement. It will share experiences of developing integrated, specialised and trans-disciplinary approaches that empower and emancipate students' willingness to engage in climate actions.

5

Marissa Edwards; Erin Gallagher; Stuart Middleton; Elizabeth Nichols; Hafsa Ahmed

"Stop making the quizzes so difficult, B*TCH": Teaching Evaluations and Effects on Early Career Academics' Wellbeing

Student evaluations of teaching are widely accepted as an important measure of educators' performance and used widely at higher education institutions throughout the world. While popular with university administrators, there are significant concerns about their validity. For example, researchers have demonstrated that student evaluations of teaching are subject to gender and racial biases, and that factors such as students' grade expectations influence overall evaluations of the course. Despite these findings, teaching evaluations are still seen as a measure of instructor effectiveness and used in tenure and promotion decisions; we suggest that this can lead to significant stress for educators, especially early career academics. It is therefore unsurprising that emerging research suggests that teaching evaluations have the potential to negatively affect faculty well-being. In this workshop, we reflect on the experience of receiving teaching evaluations. Along with the facilitator, presenters have varying degrees of teaching experience in different countries and we believe that this will contribute to a rich and vibrant discussion. The purpose of the proposed workshop is two-fold: First, we seek to explore experiences with teaching evaluations through sharing our individual stories. Here, we will focus on how we are evaluated at our institutions, the kind of evaluations we have received in the past, and how student feedback has influenced us as educators. Then in wider discussions with workshop participants, we will consider different teaching evaluation methods and how we have coped with receiving negative evaluations. Overall, participants will be equipped with coping strategies to use if they receive negative evaluations and gain an understanding of effective evaluation methods. This topic has received relatively little attention in the management literature, and we hope that this workshop will contribute to ongoing discussions and encourage future research.

6

Justine Ferrer; Gerry Treuren; Peter Holland; Tim Bartram

HRM at the crossroads

The purpose of this workshop/research symposium is to bring together HRM/OB and ER researchers to review, discuss and debate HRM within the context of a post covid environment. Using the State of HR profession 2022 research and an ideation process, the workshop will present the key findings about the current state and present the concerns or future areas of growth for the HR profession in the next five years. The workshop will then initiate 'ideate' as the next step to brainstorm with the attendees the current gaps for the profession and future research agendas. The session will engage key scholars in HR/OB and ER research to identify some possible ways forward for HR research on/in the profession. The collective voice will enable a robust discussion to share ideas, make connections and provide critical thinking around HRM.

7

Anna Carmella Ocampo; Neal M. Ashkanasy; Peter Jordan; Kevin Lowe; Ofer Zwikael; Herman Tse; Remi Ayoko

Why I rejected your R&R

The revision process can be a daunting task. Authors must convince the review team of the theoretical significance and technical adequacy of their research. The process of converting a risky R&R to a published article, however, requires a compelling rejoinder letter. The lack of guidelines on the prescribed structure of rejoinder letters makes the task especially intimidating. The purpose of this workshop is to demystify the review process by understanding the decision points that editors consider when weighing the merits of an R&R. In this workshop, we bring together seasoned Australian editors to discuss the costly mistakes that authors make in their rejoinder. To address these objectives, each participant will be required to read and respond to a preassigned review letter. Participating editors will then provide actionable feedback to help participants leverage their rejoinders to succeed in the revision process.

8

Diane Ruwhiu; Mark Jones; Cassino Doyle; Sharlene Leroy-Dyer; Ella Henry; Pauline Stanton; John Burgess; Mark Rose

Navigating Academic Constructs: Non-Indigenous Supervisory Practice with First Peoples and Māori HDR Candidate

This workshop focuses on the experiences of First Peoples and Māori higher degree candidates and Indigenous / non-Indigenous academic supervisors in the management disciplines in Australia and Aotearoa / New Zealand universities. We share our experiences in navigating the student-supervisor relationship, identify challenges and opportunities and share strategies enacted to facilitate a successful HDR journey for the Indigenous student and supervisor. The workshop will highlight the perspectives of First Peoples and Māori candidates and supervisors in the HDR journey and their interactions with the Academy. Our community collective of accomplices include a Kartiya (white) from Australia and a Pākehā (non-Māori) from Aotearoa who provide insights into their supervisory practice learnings and experiences with Indigenous candidates.

9

Farveh Farivar

ANZAM Educator of the Year Workshop: Work digitalisation and Graduates' work readiness: What business schools can do?

In response to the COVID-19 pandemic and travel restrictions, the importance of global virtual teams and working remotely has increased dramatically. This raises the question of how business schools can increase students' employability in hybrid and remote working environments. This workshop will discuss an innovative teaching method that allows students to work in international virtual teams. This technique was adopted to reshape the HRM major at the Tasmanian School of Business and Economics in 2019. The case will be explained in the workshop.

10

Paul Hibbert; Stuart Middleton; David Jones

Publishing management learning and education scholarship

Understanding the distinctive focus of the main journals in the management education domain is vital in enabling potential submitters to decide which is most suited to their topic and research approach. This includes understanding that the difference between three journals is not just a little tweaking of a manuscript but a contribution to the different methodological, philosophical, theoretical and practical orientations and traditions of the journal through engaging with work previously published. Understanding also entails appreciation of the topics and areas where journal editors, reviewers and readers have an interest in seeing further research develop. Authors may have more than one option when considering where to place their work, but an awareness of editorial remit and journal readership can provide guidance. The workshop will help scholars to position their work thoughtfully in the overlapping spaces occupied by the different management learning and education journals, namely Academy of Management Learning & Education, the Journal of Management Education, and Management Learning. This workshop brings together editors and associate editors of these three leading journals in the field of management learning and education. In the first part, the editors will introduce their journals and discuss with the audience how to understand and relate to the differences between them. In the second part, workshop participants will receive specific individual feedback on their work-in-progress and paper ideas, through engagement with editors and associate editors.

11

Jorgen Sandberg; Victoria Lister

The art of developing interesting and impactful research

Developing interesting and impactful research typically involves two core ingredients: the construction of novel research phenomena to investigate, and the development of theories about those phenomena. However, despite its centrality, what characterizes a research phenomenon more precisely, and how research phenomena are generated and established in research, are rarely discussed in the literature. Instead, the process of defining and constructing research phenomena are often neglected and reduced to a simple choosing of some given, already established phenomena, such as 'authentic leadership', 'strategic decision making', and 'trust'. Similarly, despite a key goal for research is theory development, researchers often have a poor understanding of what theory is and stands for. Expressions such as 'theory development', 'theory building', and 'theoretical contribution' are frequently used in research texts as if the meaning of 'theory' is obvious to researchers. This, however, is not the case. This is problematic because without a clear understanding of what theory means and stands for beyond a celebratory term, it is difficult to develop and evaluate theories, and ultimately to advance human understanding beyond mere empirical description and hypothesis testing. This workshop has two interrelated purposes: First, to propose and elaborate a framework that enables researchers to generate and establish research phenomena other than the ones currently available for grabs in their specific subject area of interest and, based that, produce more imaginative and impactful research. Second, to propose and elaborate a typology that clarifies the meaning of 'theory', which enables researchers to develop and assess knowledge in more varied ways and for a broader set of purposes than is typically recognized.

12

Toby Newstead; Joey Crawford; Albert Amankwaa; Desmond Ayentimi; Melanie Bryant

Flourishing in leadership

Leadership behaviours, values, and attitudes manifest across formal management roles and informal relationships. Indeed, individuals often occupy both formal roles (e.g., manager, subject convenor), volunteer leadership roles (e.g., football captain), and informal relationships as followers. This workshop draws on these relationships to build a sense of leader awareness needed to craft a leadership philosophy. Understanding our leadership philosophy is particularly relevant to academic staff and practitioners as universities and organisations increasingly engage in distributed leadership models that require heightened responsibility and accountability at all levels of the organisation. It is also important to understand the virtues that compose our character that can serve as a cornerstone for our leadership practice and philosophy. For example, virtues such as justice, wisdom, and courage compose good character and enable individual and collective flourishing (Aristotle, 350BCE/1962; Peterson & Seligman, 2004), particularly in organisational contexts that require adaptability and agility. This workshop will provide participants with the opportunity to practice and experience leadership, and to identify the virtues that inform their unique/individual leadership philosophy. To do so, attendees will participate in the collaborative Adaptability Bridge Building team activity. Throughout this fun and interactive activity, participants will work in teams across various scenarios to build and identify leadership skills as well as other skills including creativity and innovation, adaptability, and collaboration. On completion of the exercise, participants will be provided with an opportunity to reflect on their leadership practices and philosophies, the virtues that guide these, and how these influence our behaviours as leaders and followers.

13

Gordon W. Cheung; Helena D. Cooper-Thomas

Moderated Mediating Effects in Management Studies – Types and Best-Practice Analytical Procedures

In recent years, many management researchers have proposed models integrating moderation and mediation to investigate whether a mediating effect differs across the level of another variable (moderator). However, many studies fail to use the correct analytical procedures to test their moderated mediation hypotheses, resulting in lower power tests, attenuated estimated parameters, and incorrect conclusions. We will distinguish three types of moderated mediation based on the moderator's nature and suggest the appropriate analytical procedures for each type. The first type involves a categorical variable moderator, typically analyzed with a multiple-group analysis. However, the traditional approach based on constrained and unconstrained models fails to estimate the effect size of moderated mediation. We recommend using the direct comparison approach (Lau & Cheung 2012) that compares the mediating effects across groups.
The second type involves a continuous latent variable as a moderator, typically analyzed with PROCESS to estimate the moderated mediating effects. Cheung and Lau (2017) demonstrate with simulations that regression procedures (including PROCESS), which ignore measurement errors, result in biased estimates of the confidence intervals for testing moderated mediating effects. We recommend using the latent moderated structural equations modeling (LMS) approach that provides accurate estimated parameters and confidence intervals. For analyzing more complex models, we will demonstrate the reliability-corrected single indicator LMS (RCSLMS) recommended by Cheung, Cooper-Thomas, Lau, and Wang (2021), which lowers the computing requirements. The third type involves a variable at a higher level as a moderator, which is usually referred to as cross-level moderated mediation. We will explain the best- practice analytical procedures based on the study by Lau, Cheung, and Cooper-Thomas (2021) that examines a higher-level variable moderating the mediating effects at both the lower and higher levels. Finally, we will explain the analytical procedures for testing a moderated mediating effect that involves variables at multiple levels.

14

Geoffrey Chapman

Designing the perfect escape plan: Creating engaging activities in management education through gamification

The modern student cohort is characterised by a desire for enjoyment and fun, with little tolerance for boredom. This is particularly the case in online classrooms, which often suffer from reduced student engagement. Accordingly, and exacerbated by the recent shift towards a heavier reliance on online education following the COVID-19 pandemic, there is a pressing need for management educators to develop innovative ways to improve student experience, both in the physical classroom, and in online learning environments. To address this engagement deficit, various examples of gamification and game-based learning (e.g., simulations or role plays) have been developed for use in educational settings. Escape rooms are becoming increasingly popular recreational activities around the world, but they have only recently been applied to education. The ability to modify nearly every element of an online escape room (e.g., the content of the puzzles, the context of the scenario, the degree of interactivity, the extent of game elements used, etc.) makes it ideal as a form of technology-enhanced learning. With a high degree of flexibility, individual educators can determine the most suitable way to deliver their learning content. In this workshop we will demonstrate how escape room activities can be used in both physical and virtual learning environments. Attendees will be invited to develop their own lesson plans join a growing community of practice and develop their own versions of technology-enhanced learning activities.

15

Bill Harley; Tine Köhler; Leisa Sargent; Dan Caprar; Alex Luksyte

Different models of career success

The COVID-19 pandemic has challenged Australian and New Zealand higher education and disrupted academic careers, often very profoundly. As the situation moves back towards
'COVID normal', it is timely to consider the possibilities for career success. We all want to be successful academics. But what does that mean? And how should we pursue success? It is common to be told that success is measured in publications, citations, grants and prizes, and that the best way to achieve it is to prioritise work over everything else and to be ruthlessly competitive and instrumental. But is that the only, or even the best, way to define success? And is that the best way to achieve success? This symposium will consider the problems inherent in subscribing to this kind of conception of success and the different ways that we can understand what a successful career is and how to achieve it. In doing so, participants will be encouraged to think about what they want from their careers and provided with insights and resources to help them pursue different dimensions of success.

16

Greg Bamber, Kerry Brown, Nic Beech, Katy Mason, Silviya Svejenova, Sergio Wanderley

How are universities, business schools and academics being managed? International ANZAM-IFSAM session

This conference is on the 20th anniversary of the ANZAM-IFSAM (International Federation of Scholarly Associations of Management) World Congress hosted by Griffith University at the Gold Coast in 2002. Since then there have been many changes to the ways in which universities, business schools and academics are managed. We consider international trends that are shaping our industry and how we may better facilitate flourishing in our new normal. The workshop aims to discuss how we may foster transparent decision making, academic freedom, decent work, workplace wellbeing, fair career prospects and conflict resolution, while avoiding employment precarity, micro-management, discrimination, wage theft, work intensification, bullying, harassment, cronyism, surveillance, and health (including mental health) challenges for academics. What are the key institutional changes in 'neo-liberal' universities? What are the implications of the use of new technologies? What is the future of work for academics' roles and voices in universities? What are the causes and consequences of such transformations? How should we frame our analyses in terms of theory? Distinguished international professors will lead the workshop from IFSAM and the British Academy of Management (BAM). BAM was a founder member of IFSAM. At IFSAM General Assemblies, ANZAM currently has observer status via Zoom.