

THE SOFT SIDE OF SUPPLY CHAIN MANAGEMENT: THE IMPORTANCE OF TRUST

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Profile: Ian Paterson has held various executive positions during his commercial career spanning three decades in Australian agribusiness management. He has worked specifically in the field of international trade and Australian agribusiness from the farm gate to the consumer. Ian holds an MBA and was awarded a Doctor of Business Administration in 2007 from the University of Southern Queensland with a thesis titled "Trust and Technology Adoption in Australian Agribusiness Supply Chains: A Gap Analysis Approach".

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ABSTRACT *The growing need for collaboration between organisations to meet market demand in increasingly turbulent global and virtual business environments has focused attention on the formation of effective relationships between organisations. The increasing lack of formal governance arrangements covering relationships within many of these networks and alliances together with the increasing remoteness of interaction within the virtual environment has emphasised the essential nature of trust between members. Irrespective of the time and attention paid to the 'hard' side of managing these alliances ie the financial and operational issues, success will be very difficult to achieve without significant attention being paid to the 'soft' side of alliance management represented by the development and management of effective relationships. Relationships are built on trust. This paper provides analysis of twelve trust factors, divided into goodwill and competence trust dimensions within the context of two Australian agribusiness supply chains. The two trust dimensions are analysed at overall, industry and sectoral level. Results of the analysis show that within the two supply chains on which the study was based expectations of organisations in relation to both goodwill and competence dimensions of trust were not being met.*

Keywords: *trust, interorganisational relations, networking, supply chain management, virtual organisation, opportunism*

The paradigm shift from the Industrial Age to the Information Age has presented organisations with the challenge of finding ways of improving performance and productivity through adaptation to the knowledge era (Sherman 2003). In the industrial economy vertically integrated corporations provided the basis of economic activity performing virtually all functions in-house because 'the cost, risk and hassle of contracting or partnering with outside firms outweighed the benefits' (Tapscott 2001:24). To these vertically integrated corporations, relationships meant *internal* relationships typified by line and staff relationships typically indicated by an organisational chart. Little attention was paid to relationships with customers and suppliers and supply chains were often adversarial rather than collaborative (Tapscott 2001). Relationships have become much more important in the Information Age as firms face the reality that "the future is not in (their) hands but in the hands of the network of which it is just a single unit" (Poirier 2003).

However network alliances are not always easy to sustain (Cullen, Johnson & Sakano 2000). Cullen et al. (2000:223) suggest that success in these strategic alliances requires a focus on both financial and operational issues (the hard side of alliance management) and development and management of relationship capital (the soft side). Cullen et al. propose that regardless of the effort and expertise applied to financial investment and the hard side of alliance management success will not be ensured without a corresponding focus on the soft side. Drucker in Darling and Russ (2000:14) supports Cullen

et al.'s opinion of the importance of the soft side of alliance management asserting that 'Organisations are no longer built on force, but on trust. Trust between people means that they understand one another. Taking responsibility for relationships is an absolute necessity.'

The relationship between organisations can take many forms as will be discussed below and the soft side of the interorganisational arrangements can be described in terms of social capital, external capital, or relational capital. Trust is critical to each of these concepts and the importance of trust to interorganisational arrangements provides the focus for this paper within the context of two Australian agribusiness supply chains.

INTERORGANISATIONAL RELATIONSHIPS

In order to survive in a marketplace typified by internationalisation, increasingly complex technology and increasing speed of innovation (Dourma 1997) today's organisations need to build and rely upon close relationships with customers and suppliers (Quinn 1999; Quinn & Hilmer 1994; Venkatesan 1992 in Chapman & Corso 2005). The basis of competition for today's organisations has moved from competition between individual firms to competition between alliances/networks of organisations. As firms form alliances to improve profitability and to better meet market needs, the focus on interorganisational relationships transforms from competition to cooperation.

Gulati, Nohria and Zabeer (2000) suggest that in today's business environment a firm's competitive advantage may in fact rest on collaborative business networks described by Chung-Jen and Lien-Sheng (2004) as encompassing horizontal and vertical relationships including strategic alliances, joint ventures, long-term buyer-supplier partnerships and similar collaborative relationships. Todeva and Knoke (2002) provide a list of thirteen interorganisational formations which can emerge when organisations search for new efficiencies and competitive advantages while avoiding both market uncertainties and hierarchical rigidities. The interorganisational arrangements listed by Todeva and Knoke (2002) vary in relation to the degree of formalisation of integration and governance structures.

Wann-Yih (2004) proposes that effective relationships between organisations involved in these interorganisational arrangements are fundamental to the success of networks and alliances. Research by

Madhok (1995) emphasised this point demonstrating that the social dimension of interorganisational relationships is more important for successful collaboration than the contractual dimension.

This point is emphasised by Delerue-Vidot (2006) who explains that, while alliances can be regarded as 'risk reducers', they can also present a dilemma by generating 'relational risk' referred to by Nooteboom (1996) and Das and Teng (2001) (in Delerue-Vidot 2006:737) as 'the probability and consequence of opportunistic behavior by the alliance partner. Opportunism is described by Inkpen and Beamish (1997) as the 'dark side' of inter-organisational relationships. Parkhe (1993b:828) provides the following examples of opportunistic behaviour – withholding or distorting information, shirking or failing to fulfil promises or obligations, appropriation of the partner firm's technology. Delerue-Vidot (2006) and Spekman, Isabella & Macavoy (1996) (in Delerue-Vidot 2006) propose a link between a remarkable lack of success in strategic alliances and opportunistic behavior.

Gulati (1995) supports this viewpoint stating that fears of opportunistic behavior can be counteracted by trust. A number of authors including Zajac and Olsen (1993), Ring and VandeVen (1994) and Nooteboom (1996) have claimed that trust is the key to high level performance and sustainability of alliance relationships and that trust can be regarded as a critical facilitator of relationships (DeiOttati 1994; Jap & Anderson 2003; Madhok 1995). A high level of trust between organisations may negate the need for formal governance and contractual arrangements. To the extent that trust substitutes for more formal control mechanisms, such as written contracts, an alliance can reduce or avoid paying several types of transaction costs by basing collaborations on a self-enforcing foundation of interfirm trust (Gulati 1995).

It is possible that the lower the level of formalisation of the collaboration between organisations and the more independent the governance structures the more important the soft issues such as trust become to the sustainability of the relationship between organisations. In informal alliances the risk of opportunistic behavior could be deemed to be higher because of the lack of formal mechanisms controlling the relationship between member organisations. As networks and alliances become more 'virtual' and more global in nature, trust increases in importance as a result of the increasing 'remoteness' of the relationship.

Effective interorganisational relationships between firms represent a valuable intangible asset. The value of these relationships is referred to in the literature as relational capital. This paper focuses on trust as an element of relational capital within supply chain networks.

SUPPLY CHAIN MANAGEMENT

The literature contains a wide range of definitions of supply chain management. Vasileiou and Morris (2006:318) describe supply chain management as the process of both ‘understanding and improving the effectiveness and efficiency of all activities undertaken by networked organisations to progress goods and services from initial procurement and use of inputs in primary production through to delivery to end users’. This definition is supported by Fearne and Hughes (1999), Gattorna and Walters (1996), Harland (1996) and vanderVorst et al. (1998). The supply chain has also been defined as ‘combination of all the activities associated with the flow, transformation and distribution of goods necessary for the firm to achieve its objectives (Manuel & Tomićs 2006). Simchi-Levi (2000) (in Wann-Yih 2004:323) provides a more operational definition in stating that supply chain management represents ‘a set of approaches utilised to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time’. Supply chain management alters the strategy of companies and how they interact.

More and more retailers are looking to create direct links with preferred suppliers in their supply chain network (Fearne 1998; Fearne & Hughes 1999; Grimsdell 1996; Hingley 2005; Hughes 1996; Hughes & Merton 1996; Lindgreen 2003; O’Keeffe 1998; O’Keeffe & Fearne 2002; Parker, Bridson & Evans 2006; Starkey & Carberry-Long 1995; White 2000; Wilson, N. 1996). Spekman, Kamauff Jr., & Myhr (1998) (in Paterson 2006) set out the main criteria for selecting supply chain partners. These criteria include the supply chain partners being trustworthy, having a high degree of integrity, and knowing about each other’s business. The factor of trust in building alliances and partnerships has been considered one of the hardest factors to achieve in supply chain management (O’Keeffe 1998 in Paterson 2006).

Australian agribusiness supply chains provide a strong example of the move to interorganisational relationships. Australian government policy has removed and deregulated many of the statutory bodies which had marketed farm produce, leaving the private agribusiness sector, in most cases, to market

Australia's agricultural products (Paterson 2006). This has resulted in traditional relationships between retailer, manufacturer, distributor and farmer beginning to change, with moves toward partnerships and alliances that have a greater emphasis on supply chain management (Thompson 2001).

Technology is also impacting upon interorganisational relationships. Many supply chains across a wide range of industries are becoming virtual networks. Tarn, Yen & Beaumont (2002) suggest that recent initiatives in 'resource planning, electronic commerce and extended supply chain management' are allowing organisations to move to a fully integrated supply chain allowing information sharing amongst supply chain partners to minimise transaction cost. This trend toward virtual organisations is particularly apparent within Australian agribusiness in response to industry deregulation and increasing demand for traceability from 'paddock to plate' (MLA 2003).

In an overall summary of the future of supply chain management Monczka & Morgan (1997 in Lummus & Vokurka 1999:11) believe that:

Supply chains, not firms, compete and that those who will be the strongest competitors are those that can provide management and leadership to the fully integrated supply chain, including external customers as well as prime suppliers, their suppliers, and their suppliers' suppliers.

Manuel and TomÄÿs (2006) propose the following structure for today's supply chain (figure 1)

<insert figure 1 here>

Figure 1 clearly indicates the importance of relationships (outsourcing, relational capabilities and associative advantage) in achieving competitive advantage for the network of organisations involved in the supply chain. Vasileiou & Morris (2006:318) propose that an effective supply chain requires 'trust, shared values and mutually beneficial relationships amongst participants as a means of reducing business risk and transaction costs, removing the need to negotiate contracts for individual transactions'. The importance of network relationships will be further investigated in the next section of this paper.

SOCIAL, RELATIONAL, EXTERNAL CAPITAL

Robson, Skarmeas & Spyropoulou (2006) cite research by Inkpen and Birkenshaw (1994), Kauser and Shaw (2004), and Parkhe (1993a) which proposes that the success of international strategic alliances depends more on the 'informal processes that encapsulate presence of goodwill between the (social) actors involved in the alliance exchange than upon any formal set of arrangements'. This proposition

could be applied to alliances and networked organisations in general and reflects the 'soft' side of alliance management involving the development of 'socio-psychological or behavioural' attributes such as trust and commitment which underpin such working relationships (Morgan & Hunt 1994). The relationship between organisations involved in networks or alliances can be referred to in different terms including *external*, *relationship* or *social* capital.

A range of definitions of *external* capital suggest that it comprises (a) only customer relationships (Edvinsson & Malone 1997), (b) customer relationships plus supplier relationships and alliances with partners and other stakeholders (Roos et al. 1997) and (c) customer and supplier relationships plus brand equity (Sveiby 1997).

Relational capital is defined by DeClerq and Sapienza (2006) as the level of trust, social interaction and shared norms or goals within interorganisational arrangements while Cullen et al. (2000) claim that trust and commitment are the essential components of relational capital. Gulati and Singh (1998) provide a slightly different view of relational capital i.e. 'the value of a firm's network of relationships with its customers, suppliers, alliance partners and internal sub-units'.

Todeva and Knoke (2002) cite the following definition of *social* capital provided by WorldBank (1999) - 'Social capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions. Social capital is not just the sum of the institutions which underpin a society – it is the glue that holds them together.' The World Bank definition can be equally well applied to business networks. Woolcock (2001) in (HiÅÿ 2006:12) supports the application of the World Bank definition to business network level claiming that social capital is a valuable resource in the form of membership within a network and a set of shared norms and values. Woolcock's statement that 'It's not what you know, it's who you know' can be applied equally well to individuals and organisations. Chung-Jen and Lien-Sheng (2004) stress the importance of social relationships as valuable capital in business networks. Social capital is particularly important in informal business networks such as the supply chain where expected deliverables and behaviours are not specified within a formal contract. Todeva & Knoke (2002) refer to the concept of *corporate social capital* which they propose can be generated by interorganizational networks in the form of prestige, reputation, status and

brand name recognition. Todeva and Knoke suggest that trustworthiness could be seen as a basic type of corporate social capital when an organisation develops and maintains a reputation for fair dealing and reliability in fulfilling promises relating to quality and service. Trust and trustworthiness are also seen as important components of social capital by Fukuyama (1995), Gambetta (1988), and Ostrom and Ahn (2003).

There are many common elements across the definitions of external, relational and social capital. This paper will focus principally on relational capital as defined by DeClerq and Sapienza (2006) as the level of trust, social interaction and shared norms and values between members of networks and alliances. Relational capital is underpinned by trust and the importance of trust to the establishment of strong relational capital amongst supply chain members forms the rationale for this paper.

TRUST

Success within interorganisational networks and alliances has been shown to be dependent upon the development of relational capital, the basis of which is trust.

Trust relates to the willingness of two or more partners to take the risk of relying on the exchange of another partner with whom they have confidence (Batt 2003; Kwon and Suh 2005; Mayer, Davis & Schoorman 1995; Moorman, Deshpande & Zaltman 1993; Sahay 2003; Selnes 1998; Wilson, 1995; Wu et al. 2004; Zineldin & Jonsson 2000). Trust has been proposed as a key factor in (a) improving the performance of alliance relationships (Zajac & Olsen 1993; Ring & VandeVen 1994; Nooteboom 1996) and (b) enhancing the strategic flexibility of an alliance (Young-Ybarra & Wiersema 1999) and (c) reducing both negotiation costs and conflicts in alliances (Zaheer, McEvily & Perrone 1998).

The literature suggests that interorganisational trust is a multi-dimensional concept. Nooteboom (1996:990) proposes a two dimensional perspective on trust stating that trust may concern either (a) a partner's *ability* to perform according to agreements (competence trust) or (b) their *intentions* to do so (goodwill trust). This is in line with Todeva & Knoke's (2002) two dimensional perspective on interorganisational trust which proposes that the dimensions differ in relation to their relative emphasis on the objective or subjective elements in the relationship which could also be referred to as the

rational dimension and the emotional dimension as proposed by Kramer (1999), and by Moorman, Deshpande & Zaltman (1993). Todeva and Knoke's objective or business-risk view which suggests that partners' trust is based on confidence in the predictability of their expectations could be compared to Nootboom's competence trust while Todeva and Knoke's alternative 'psychological conceptualisation' or subjective view of trust which views trust as partners' confidence in the goodwill and moral integrity of other members of the interorganisational arrangement equates to Nootboom's goodwill dimension. Cullen et al. take a slightly different view of the two dimensions of trust which they see as highly correlated and developing in parallel. Cullen et al. refer to the an organisation's beliefs about their partners' reliability and ability to deliver on time as the credibility dimension and beliefs relating to their partner acting with good intentions as the benevolence side of trust. Sako (1992) proposes three types of trust i.e. competence trust, contractual trust and goodwill trust whilst Styles and Hersch (2005) propose personal trust as a fourth type of trust. The common thread amongst the various perceptions of the dimensions of trust is that the two aspects of trust relate to (a) belief in partners' ability to deliver on promises and (b) partner's goodwill towards the partnership.

Irrespective of how trust is viewed the concept is becoming an increasingly important element in assisting to solve a number of challenges which are faced in attempting to form effective, mutually beneficial relationships within increasingly global and virtual interorganisational networks and alliances. The first challenge is that the possible range of intraorganisational and national cultures of the member organisations can pose challenges to effective communication and cooperation within networks and alliances. The establishment of trust between member organisations may help reduce these intercultural difficulties. Secondly, members of interorganisational networks or alliances increasingly retain their independence. Such independence may increase doubts/fears that other members of the network will not act to the mutual benefit of other members. In the absence of a legal framework, trust may reduce the relational risk resulting from such opportunistic behaviour by acting as 'a substitute for traditional control mechanisms' (Ariss 2002; Jagers, Jansen & Steenbakkens 1998; Kasper-Fuehrer & Ashkanasy 2001). The third challenge to all organisations but particularly to virtual organisations relates to the fact that many networks and alliances comprise individuals and organisations

linked not by face-to-face relationships but by sharing information through electronic networks. This increasing lack of personal contact needs to be combined with a high level of trust between entities if communication is to be effective.

Paterson (2006) undertook a search of the literature to assess appropriate trust factors to be utilised in a study investigating trust as part of a larger study within the context of Australian agribusiness supply chains. This investigation revealed twelve trust factors well supported in the literature as being appropriate to trust in this context. Support for these factors is illustrated in Table 1.

<insert Table 1 here>

For the purposes of this paper Nootboom's (1996) two-dimensional view of trust was employed to divide these twelve factors into six 'goodwill' factors and six 'competence' factors. This provided the ability to assess the relative importance of the two dimensions of trust within the case study organisations employed in the larger study.

TRUST IN AUSTRALIAN AGRIBUSINESS SUPPLY CHAINS

The following discussion of trust within organisational networks/alliance is based on research undertaken by Paterson (2006) into two Australian agribusiness supply chains as part of a larger study relating to trust and technology adoption within the supply chain. The context is particularly suitable to the focus of this paper because of problems relating to trust within Australian agribusiness. For example at the time of Paterson's larger study the issue of trust in the Australian horticulture industry had decayed to the extent that the Australian federal government had intervened to implement a mandatory code of conduct governing the trading arrangements between growers and wholesalers (Farmonline 2006).

Paterson's study involved 36 case studies, 18 from each of the meat and horticulture supply chains. Face-to-face interviews were conducted with senior managers of organisations representing each of the six sectors within the two supply chains. Interview questions related to each of twelve trust factors which, for the focus of this paper were grouped into competence trust factors (work standard, experience and qualifications, reliability, timeliness, customisation and POS information) and goodwill trust factors (confidentiality, honesty and integrity, friendliness, politeness, shared values and information sharing). Responses to each factor were ranked on a 7-point Likert scale ranging from 1=Extremely Low to 7=Extremely High.

Over two thirds of the respondent organisations had reported having informal partnerships with suppliers and almost three-quarters reported having informal partnerships with customers. This high level of informal relationships within the two supply chains indicated that extremely high levels of trust would be necessary for effective interorganisational relations.

In the larger study interviewees were asked firstly to rate their perceptions of (a) the *importance* of each of the twelve trust factors to their organisation and (b) the *current level* of their experience in relation to each of those factors. Their responses are summarised in Table 2.

<insert Table 2 here>

Respondents ranked the three most *important* trust factors as honesty and integrity, reliability and work standard while the trust factors perceived to be operating at the highest *level* included experience and qualifications, politeness and honesty and integrity. The problems alluded to earlier within the meat and horticulture supply chains were evidenced by the fact that, in the overall sample, there was a statistically significant difference between *importance* and *level* of every one of the twelve trust factors with the most serious differences relating to information sharing, reliability and point of sale information. When comparisons were made between the meat and horticulture supply chains, independent sample t-tests revealed few statistically significant differences between perceptions of *importance* and *level* of trust across the two supply chains. The meat industry rated the *importance* of work standard, shared values and experience and qualifications significantly higher than the horticulture industry and the *level* of work standard was also rated significantly higher in the meat industry. When the data on the twelve factors was investigated across the six sectors in each supply chain again significant differences existed between perceptions of *importance* and *level* of trust for all factors with the exception of POS information.

Having highlighted results from the previous study showing that there were strong differences between perceptions of *importance* and *level* of individual trust factors, the factors were then grouped to form the two dimensions of trust previously discussed in this paper i.e. goodwill trust and competence trust. The aim of this analysis was to assess the relative *importance* and *level* of the two dimensions throughout the

two supply chains and the sectors making up those supply chains. Means for perceived *importance* and perceived *level* of goodwill and competence trust for the overall sample are provided in Table 3.

<insert Table 3 here>

Table 3 shows how strongly the respondents rated the *importance* of both dimensions compared to the perceived *level* at which those dimensions were operating. A one-sample t-test found no significant differences within the overall sample between the perceived *importance* of goodwill and competence trust or between the perceived *level* of these two trust dimensions. Tests were then conducted at industry and sectoral levels. At industry level an independent sample t-test found no significant differences between perceived *importance* or perceived *level* of the two trust dimensions across the meat and horticulture supply chains and means for the four dimensions of trust for the meat and horticulture industry are shown in Table 4.

<insert Table 4 here>

When the overall trust dimension data was broken down to sectoral level (Table 5) a Kruskal-Wallis test revealed no significant differences in perceptions of *importance* or *level* of competence trust across the sectors. However, when this test was rerun to test for significant differences within each of the sectors a significant difference was found in relation to competence trust within the meat industry (Chi-square = 12.079, df = 5, Asymp. Sig = .034).

<insert Table 5 here>

The data to date had established that both industry supply chains and the sectors within those supply chains rated goodwill and competence trust as extremely *important* (overall mean 6.18 for importance of each dimension). Table 3 showed that lower ratings were applied to perceived *levels* of each dimension (overall mean 5.27 for goodwill trust and 5.25 for competence trust). Paired sample t-tests were run to test whether differences between *importance* and *level* were significant for the two trust dimensions at overall, industry and sectoral levels. Significant differences were found at all levels and results are provided in Table 6.

<insert Table 6 here>

The results outlined in Table 6 suggest that there may be considerable difficulty in establishing relational capital within the Australian meat and horticulture supply chains. While earlier data identified that respondents weighted the importance of the goodwill and competence dimensions of trust equally and that there was no significant difference between overall means for levels of the two

dimensions, Table 6 shows that many organisations perceive that both the goodwill and competence dimension of their relationships were not fulfilling expectations. Significant differences were found between importance and level of the goodwill and competence dimensions at overall level, within both industry supply chains and within four of the sectors operating within the two supply chains. The data provided within Table 6 acts as a strong rationale for extending the study of competence and goodwill trust across other supply chains and within other cultural settings. While differences between perceived importance and level of these two dimensions of trust are likely to create problems for supply chain alliances, the relative importance of the competence and goodwill dimensions may prove even more important for cross cultural alliances.

CONCLUSION

Successful interorganisational relationships are critical to effective and efficient supply chain management. Many of these relationships are not formalised in contract form and many are becoming increasingly virtual in nature. Trust has therefore become absolutely essential to establishing working relationships between the organisations making up the supply chain – trust in the abilities of partners to deliver on promises and trust in the goodwill of partners not to partake in opportunistic behaviour. The concept of relational capital between supply chain partners is similar to the concept of the psychological contract between employee and employer in that partner firms create their own understanding of what they will contribute in respect to the ‘soft’ side of supply chain management and what other partners will contribute. When expectations are not met as demonstrated in the two supply chains described in this study, partners may choose to work at improving the relationship or to withdraw or choose to display opportunistic behaviour or industry may step in to attempt to stabilise the relationship. Organisations wishing to improve their level of relationship capital can be guided by addressing the twelve trust factors outlined in this study to improve both goodwill and competence trust.

REFERENCES

- Ariss, SN, Nykodym, N and Cole-Laramore, A A 2002, 'Trust and technology in the virtual organisation', *S.A.M. Advanced Management Journal*, vol. 67, no. 4, pp. 22-6.
- Batt, PJ 2003, 'Building trust between growers and market agents', *Supply Chain Management: An International Journal*, vol. 8, no. 1, pp. 65 - 78.
- Chapman, RL & Corso, M 2005, 'Introductory paper. From continuous improvement to collaborative innovation: the next challenge in supply chain management', *Production Planning & control*, vol. 16, no. 4, pp. 339-44.
- Chung-Jen, C & Lien-Sheng, C 2004, 'Dynamics of business network embeddedness', *Journal of American Academy of Business, Cambridge*, vol. 5, no. 1/2, pp. 237-41.
- Cullen, J, Johnson, J & Sakano, T 2000, 'Success through commitment and trust: the soft side of strategic alliance formation', *Journal of World Business*, vol. 35, pp. 233-41.
- Darling, J & Russ, D 2000, 'Relationship Capital', *Executive Excellence*, vol. 17, no. 5, p. 14.
- Das, T & Teng, B 2001, 'Trust, control, and risk in strategic alliances: an integrated framework', vol. *Organization Studies*, no. 22, p. 2.
- DeClerq, D & Sapienza, H 2006, 'Effects of relational capital and commitment on venture capitalists' perception of portfolio company performance', *Journal of Business Venturing*, vol. 21, no. 3, pp. 326-47.
- DeiOttati, G 1994, 'Trust, interlinking transactions and credit in the industrial district', *Cambridge Journal of Economics*, vol. 18, pp. 529-46.
- Delerue-Vidot, H 2006, 'Opportunism and unilateral commitment: the moderating effect of relational capital', *Management Decision*, vol. 44, no. 6, pp. 737-51.
- Dourma, MU 1997, *Strategic Alliances, Fit or Failure*, Dukkerimj Elinkwijk BV, Utrecht.
- Edvinsson, L & Malone, M 1997, *Intellectual Capital*, Harper Business, New York.
- Farmonline 2006, *Mandatory code for horticulture trade gets Cabinet approval - at last*, Farmoline, viewed 19 September 2006, <http://www.farmonline.com.au/news_daily.asp?ag_id=37391>.
- Fearne, A 1998, 'The evolution of partnerships in the meat supply chain: insights from the British beef industry', *Supply Chain Management: An International Journal*, vol. 3, no. 4, pp. 214 - 31.
- Fearne, A & Hughes, D 1999, 'Success factors in the fresh produce supply chain: insights from the UK', *Supply Chain Management: an International Journal*, vol. 4, no. 3, pp. 120 - 31.
- Fukuyama, F 1995, *Trust: The Social Virtues and Creation of Prosperity*, Hamish Hamilton, London.

- Gambetta, D 1988, 'Can we trust trust?' in Gambetta D (Ed.), *Trust: Making and breaking cooperative relations*, Blackwell, New York, pp. 213-37.
- Gattorna, J & Walters, D 1996, *Managing the supply chain: A strategic perspective*, Macmillan Press, Basingstoke.
- Grimsdell, K 1996, 'The supply chain for fresh vegetables: what it takes to make it work', *Supply Chain Management: An International Journal*, vol. 1, no. 1, pp. 11 - 4.
- Gulati, R 1995, 'Does familiarity breed Trust? The implications of repeated ties for contractual choices in alliances', *Academy of Management Journal*, vol. 38, pp. 85-112.
- Gulati, R & Singh, H 1998, 'The architecture of cooperation: Managing coordination costs and appropriation concerns in strategic alliances', *Administrative Science Quarterly*, vol. 43, pp. 781-814.
- Gulati, R, Nohria, N & Zabeer, A 2000, 'Strategic Networks', *Strategic Management Journal*, vol. 21, no. 3, pp. 203-315.
- Harland, C 1996, 'Supply chain management relationships, chains and networks', *British Journal of Management*, vol. 7, no. Special issue, pp. S63-S80.
- HiÅÿ, SB 2006, 'Does corporate social responsibility need social capital?' *Journal of Corporate Citizenship*, no. 23, pp. 81-91.
- Hingley, MK 2005, 'Power imbalanced relationships: cases from UK fresh food supply', *International Journal of Retail & Distribution Management*, vol. 33, no. 8, pp. 551 - 69.
- Hughes, D 1996, 'Reversing market trends: the challenge for the UK fresh fruit sector', *British Food Journal*, vol. 98, no. 9, pp. 19 - 25.
- Hughes, D & Merton, I 1996, 'Partnership in produce: the J Sainsbury approach to managing the fresh produce supply chain', *Supply Chain Management: An International Journal*, vol. 1, no. 2, pp. 4 - 6.
- Inkpen, A & Birkenshaw, J 1994, 'International joint ventures and performance: an interorganizational perspective', *International Business Review*, vol. 3, no. 3, pp. 201-17.
- Inkpen, A & Beamish, P 1997, 'Knowledge, bargaining power, and the instability of international joint ventures', *Academy of Management Review*, vol. 22, no. 1, pp. 177-202.
- Jagers, H, Jansen, W & Steenbakkens, W 1998, 'Characteristics of virtual organizations', paper presented to Proceedings of the VoNet-Workshop 'Organizational virtualness", Bern, Switzerland.
- Jap, S & Anderson, E 2003, 'Safeguarding interorganizational performance and continuity under ex-post opportunism', *Management Science*, vol. 49, no. 8, pp. 1684-701.
- Kasper-Fuehrer, EC & Ashkanasy, NM 2001, 'Communicating trustworthiness and building trust in interorganizational virtual organisations', *Journal of Management*, vol. 27, pp. 235-54.

- Kauser, S & Shaw, V 2004, 'The influence of behavioural and organizational characteristics on the success of international strategic alliances', *International Marketing Review*, vol. 21, no. 1, pp. 17-52.
- Kramer, R 1999, 'Trust and distrust in organizations: Emerging perspectives, enduring questions', *Annual Review of Psychology*, vol. 50, pp. 569-98.
- Kwon, IW, G. & Suh, T 2005, 'Trust, commitment and relationships in supply chain management: a path analysis', *Supply Chain Management: An International Journal*, vol. 10, no. 1, pp. 26 - 33.
- Lindgreen, A 2003, 'Trust as a valuable strategic variable in the food industry: Different types of trust and their implementation', *British Food Journal*, vol. 105, no. 6, pp. 310 - 27.
- Lummus, RR & Vokurka, RJ 1999, 'Defining supply chain management: a historical perspective and practical guidelines', *Industrial Management & Data Systems*, vol. 99, no. 1, pp. 11 - 7.
- Madhok, A 1995, 'Opportunism and trust in joint venture relationships: an exploratory study and a model', *Scandinavian Journal of Management*, vol. 1, pp. 57-74.
- Manuel, Rg-Da & TomáŸs, FE-Rg 2006, 'Redesigning the supply chain: reengineering, outsourcing, and relational capabilities', *Business Process Management Journal*, vol. 12, no. 4, pp. 483-502.
- Mayer, RC, Davis, JH & Schoorman, FD 1995, 'An integrative model of organizational trust', *The Academy of Management Review*, vol. 20, no. 3, pp. 709-34.
- MLA 2003, *Speaking a common language - security and savings for the red meat industry with EAN*, Meat and Livestock Australia, Sydney.
- Monczka, R & Morgan, J 1997, 'What's wrong with supply chain management?' *Purchasing*, vol. 122, no. 1, pp. 69-73.
- Moorman, C, Deshpande, R & Zaltman, G 1993, 'Factors affecting trust in market research relationships', *Journal of Marketing*, vol. 57, no. 1, pp. 81-101.
- Morgan, R & Hunt, S 1994, 'The commitment -trust theory of relationship marketing', *Journal of Marketing*, vol. 58, pp. 20-38.
- Nooteboom, B 1996, 'Trust, opportunism and governance: A process and control model', *Organization Studies*, vol. 17, no. 6, pp. 985-1010.
- O'Keefe, M 1998, 'Establishing supply chain partnerships: lessons from Australian agribusiness', *Supply Chain Management: An International Journal*, vol. 3, no. 1, pp. 5 - 9.
- O'Keefe, M & Fearn, A 2002, 'From commodity marketing to category management: insights from the Waitrose category leadership program in fresh produce', *Supply Chain Management: An International Journal*, vol. 7, no. 5, pp. 296 - 301.
- Ostrom, E & Ahn, T (eds) 2003, *Foundations of Social Capital*, Edward Elgar, Cheltenham, UK.
- Parker, M, Bridson, K & Evans, J 2006, 'Motivations for developing direct trade relationships', *International Journal of Retail & Distribution Management*, vol. 34, no. 2, pp. 121 - 34.

- Parkhe, A 1993a, 'Messy research methodological predispositions, and theory development in international joint ventures', *Academy of Management Review*, vol. 18, no. 2, pp. 227-61.
- 1993b, 'Strategic alliances structuring: a game theoretic and transaction cost examination of interfirm cooperation', *Academy of Management Journal*, vol. 36, no. 4, pp. 794-829.
- Paterson, I 2006, 'Trust and technology adoption in Australian agribusiness supply chains: A gap analysis approach', DBA thesis, University of Southern Queensland.
- Poirier, CC 2003, *The Supply Chain Managers Problem Solver: Maximising the Value of Collaboration and Technology*, CRC Press
- Quinn, JB 1999, 'Strategic outsourcing: Leveraging knowledge capabilities', *Sloan Management Review*, vol. 40, no. 4, pp. 9-21.
- Quinn, JB & Hilmer, E 1994, 'Strategic outsourcing', *Sloan Management Review*, vol. 35, no. 4, pp. 43-55.
- Ring, P & VandeVen, A 1994, 'Developmental processes of cooperative interorganizational relationships', *Academy of Management Review*, vol. 19, pp. 90-118.
- Robson, MJ, Skarmeas, D & Spyropoulou, S 2006, 'Behavioral attributes and performance in international strategic alliances', *International Marketing Review*, vol. 23, no. 6, pp. 585-609.
- Roos, J, Roos, G, Dragonetti, N & Edvinsson, L 1997, *Intellectual capital*, Macmillan Business, Basingstoke.
- Sahay, BS 2003, 'Understanding trust in supply chain relationships', *Industrial Management & Data Systems*, vol. 103, no. 8, pp. 553 - 63.
- Sako, M 1992, *Prices, quality and trust: Interfirm relations in Britain and Japan*, Cambridge University Press, Cambridge.
- Selnes, F 1998, 'Antecedents and consequences of trust and satisfaction in buyer-seller relationships', *European Journal of Marketing*, vol. 32, no. 3/4, pp. 305 - 22.
- Sherman, AJ 2003, 'Protecting, leveraging and auditing your company's intellectual capital', *Fast-Track Business Growth*, p. 367.
- Simchi-Levi, D, Philip, K., Edith, S.L. 2000, *Designing and managing the supply chain: Concepts, strategies, and case studies*, Irwin/McGraw-Hill, Boston, MA.
- Spekman, R, Isabella, L & Macavoy, T 1996, 'Creating strategic alliances which endure', *Long Range Planning*, vol. 29, no. 3, pp. 346-57.
- Spekman, RE, Kamauff Jr., J, W & Myhr, N 1998, 'An empirical investigation into supply chain management: a perspective on partnerships', *Supply Chain Management: An International Journal*, vol. 3, no. 2, pp. 53 - 67.
- Starkey, MW & Carberry-Long, M 1995, 'The renewed case for co-operation in marketing British apples', *British Food Journal*, vol. 97, no. 4, pp. 3-8.

- Styles, C & Hersch, L 2005, 'Executive insights: Relationship formation in international joint ventures: Insights from Australian-Malaysian international joint ventures', *Journal of International Marketing*, vol. 13, no. 3, pp. 105-34.
- Sveiby, K 1997, *The new organisational wealth*, Berrett-Koehler Publishers, San Francisco, CA.
- Tapscott, D 2001, 'Help firms work with suppliers', *Computerworld*, vol. 35, no. 34, p. 24.
- Tarn, J, Yen, D & Beaumont, M 2002, 'Exploring the rationales for ERP and SCM integration', *Industrial Management & Data Systems*, vol. 102, no. 1, pp. 26-34.
- Thompson, G 2001, *Supply Chain Management: Building Partnerships and Alliances in International Food and Agribusiness*, Rural Industries Research and Development Corporation, Canberra.
- Todeva, E & Knoke, D 2002, 'Strategic alliances and corporate social capital', in Allmendinger J & Hinz T (Eds), *Sociology of Organizations*.
- VanderVorst, J, Beulens, A, DeWit, W & van Beek, P 1998, 'Supply chain management in food chains: improving performance by reducing uncertainty', *International Transactions in Operational Research*, vol. 5, no. 6, pp. 487-99.
- Vasileiou, K & Morris, J 2006, 'The sustainability of the supply chain for fresh potatoes in Britain', *Supply Chain Management*, vol. 11, no. 4, pp. 317-27.
- Venkatesan, R 1992, 'Strategic sourcing: To make or not to make', *Harvard Business Review*, vol. November/December, pp. 98-107.
- Wann-Yih W, C-Y, C, Ya-Jung Wu, Hui-Ju, T 2004, 'The influencing factors of commitment and business integration on supply chain management', *Industrial Management and Data Systems*, vol. 103, no. 4, pp. 322-33.
- White, HMF 2000, 'Buyer-supplier relationships in the UK fresh produce industry', *British Food Journal*, vol. 102, no. 1, pp. 6 - 17.
- Wilson, DT 1995, *An integrated model of buyer-seller relationships*, Io-1995, Pennsylvania State University, University Park.
- Wilson, N 1996, 'Supply chain management: a case study of a dedicated supply chain for bananas in the UK grocery market', *Supply Chain Management: An International Journal*, vol. 1, no. 2, pp. 28 - 35.
- Woolcock, M 2001, 'The place of social capital in understanding social and economic outcomes', *Isuma: Canadian Journal of Policy Research*, vol. 2, no. 1, pp. 11-7.
- WorldBank 1999, *What is Social Capital*, viewed 11 June 2007, <wwwi.worldbank.org/prem/poverty/scapital/whatsc.htm>.
- Wu, W-Y, Chiag, C-Y, Wu, Y-J & Tu, H-J 2004, 'The influencing factors of commitment and business integration on supply chain management', *Industrial Management & Data Systems*, vol. 104, no. 4, pp. 322 - 33.

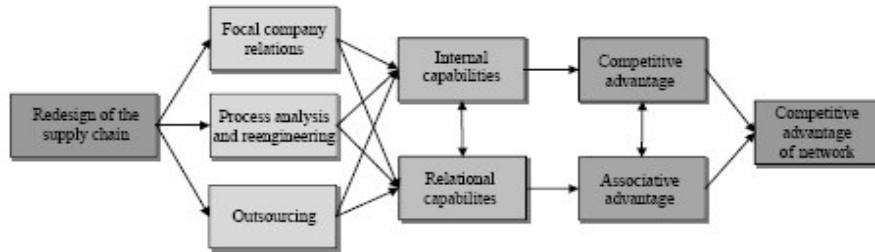
Young-Ybarra, C & Wiersema, M 1999, 'Strategic flexibility in information technology alliances: the influence of transaction cost economics and social exchange theory', *Organization Science*, vol. 10, no. 4, pp. 439-59.

Zaheer, A, McEvily, B & Perrone, V 1998, 'Does trust matter? Exploring the effect of interorganizational and interpersonal trust on performance', *Organization Science*, vol. 9, pp. 141-59.

Zajac, E & Olsen, C 1993, 'From transaction cost to transaction value analysis: implications for study of interorganizational strategies', *Journal of Management Studies*, vol. 30, pp. 131-45.

Zineldin, M & Jonsson, P 2000, 'An examination of the main factors affecting trust/commitment in supplier-dealer relationships: an empirical study of the Swedish wood industry', *The TQM Magazine*, vol. 12, no. 4, pp. 245 - 66.

Figure 1: Structure of the redesigned supply chain



Source: Manuel Rodriguez-Diaz and Tomas's F Espino-Rodriguez, 2006, 'Redesigning the supply chain: reengineering, outsourcing, and relational capabilities', *Business Process Management Journal*, Vol 12, No 4, p 484

Table 2: Mean response for perceived importance and perceived level of individual trust factors – Combined Sample

Perceived importance and Perceived current level of Trust Factors – Combined sample						
Factors	Importance		Level		Difference	
	Mean	Ranking	Mean	Ranking	Mean	Ranking
Confidentiality	6.00	10	5.25	9	-0.75	10
Honesty and integrity	6.53	1	5.58	3	-0.94	5
Work standard	6.00	3	5.36	5	-1.08	4
Friendliness	5.83	11	5.06	10	-0.78	9
Shared values	6.22	7	5.31	6	-0.92	6
Politeness	6.19	8	5.64	2	-0.56	12
Experience and qualifications	6.42	4	5.81	1	-0.61	11
Reliability	6.47	2	5.28	7	-1.19	2
Timeliness	6.36	5	5.53	4	-0.83	8
Customisation	6.14	9	5.28	8	-0.86	7
Information sharing	6.28	6	4.81	11	-1.47	1
POS information	5.42	12	4.28	12	-1.14	3
Overall mean of the factors	6.19		5.26		-0.93	

Table 3: Perceived importance and level of goodwill and competence trust – combined sample

Means – goodwill and benevolence dimensions of trust - Overall				
	N	Minimum	Maximum	Mean
Importance of goodwill trust	36	5.33	7.00	6.1759
Level of goodwill trust	36	3.50	6.67	5.2731
Importance of competence trust	36	5.20	7.00	6.1778
Level of competence trust	36	4.17	6.83	5.2546

Table 4: Perceived importance and level of goodwill and competence trust – industry level

Importance and perceived level of trust dimensions	Meat Industry				Horticulture Industry			
	N	Mean	St Dev	Std Error Mean	N	Mean	St Dev	Std Error Mean
Importance of goodwill trust	18	6.22	.46089	.10863	18	6.13	.47677	.11237
Level of goodwill trust	18	5.31	.82910	.19538	18	5.24	.67694	.15956
Importance of competence trust	18	6.27	.63985	.15081	18	6.09	.39540	.09320
Level of competence trust	18	5.27	.64204	.15133	18	5.24	.66476	.15668

Table 5: Perceived importance and level of goodwill and competence trust – sectoral level

	Goodwill Importance	Goodwill Level	Competence Importance	Competence Level
Meat industry supply chain				
MP [Beef producer]	6.22	5.17	6.00	5.11
MF [Meat feedlotter]	6.28	5.89	5.87	5.89
MA [Meat abattoir]	5.78	4.50	6.13	4.61
MW [Meat wholesaler]	6.39	4.72	6.07	4.72
MB [Meat butcher]	6.17	5.83	6.80	5.83
MR [Meat restaurant]	6.50	5.70	6.73	6.00
Meat industry mean	6.22	5.31	6.27	5.27
	Goodwill Importance	Goodwill Level	Competence Importance	Competence Level
Horticulture industry supply chain				
HNS [Horticulture nursery & seeds]	6.33	5.22	5.80	4.94
HG [Horticulture grower]	5.83	4.89	6.00	5.33
HP [Horticulture processor]	6.22	4.50	6.44	4.67
HW [Horticulture Fruit market agent]	5.94	5.83	5.80	5.61
HF [Horticulture fruit retailer]	6.17	5.17	6.20	5.17
HR [Horticulture restaurant]	6.28	5.83	6.45	5.72
Horticulture industry mean	6.13	5.24	6.09	5.24

Table 6: Significant differences in importance and level of goodwill and competence trust across overall sample, industry and sector

Trust dimensions compared	t	df	Sig
Overall Sample			
Goodwill importance and goodwill level (1)	-8.299	35	.000
Competence importance and competence level (1)	-8.989	35	.000
Industry Level			
Meat industry supply chain			
Goodwill importance and goodwill level (2)	-5.645	17	.000
Competence importance and competence level (2)	-7.460	17	.000
Horticulture industry supply chain			
Goodwill importance and goodwill level (3)	-5.748	17	.000
Competence importance and competence level (3)	-5.379	17	.000
Sectoral Level			
MP (Beef producer)			
Competence importance and competence level (4)	-4.756	2	.041
MA (Meat abattoir)			
Goodwill importance and goodwill level (4)	-6.379	2	.024
MB (Meat butcher)			
Competence importance and competence level (5)	-29.000	2	.001
HNS (Horticulture nursery and seeds)			
Goodwill importance and goodwill level (5)	-7.559	2	.017
Goodwill level and competence level (1)	5.000	2	.038
HG (Horticulture grower)			
Goodwill importance and goodwill level (6)	-17.000	2	.003
HP (Horticulture processor)			
Goodwill importance and goodwill level (7)	-31.000	2	.001
Competence importance and competence level (6)	-15.554	2	.004
HW (Horticulture fruit market agent)			
Competence importance and competence level (7)	-4.715	2	.042

