Critical success factors of knowledge management in higher education

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ABSTRACT: Despite their role in the creation, development, and communication of knowledge, knowledge management within universities is poorly understood. There is a relative dearth of theory to inform the ways these and other institutions define, cultivate, and exchange knowledge, within and beyond their organisational contexts. This can have considerable implications for those who manage these institutions, academics, and students. This conceptual paper addresses this issue by arguing the need to identify the critical success factors required for sound knowledge management within (and potentially beyond) universities. More specifically, the paper demonstrates how the seminal work of Nonaka and colleagues can be extended to incorporate critical success factors. This extension will provide a robust theoretical foundation to elucidate knowledge management within university settings.

Keywords: Knowledge management or transfer; learning organisations; management effectiveness; organisational effectiveness

Knowledge management represents an important organisational strategy for educational institutions, like universities (Hossain, Ouedraogo & Rezania, 2013; Ramachandran, Chong & Wong, 2013; Sohail & Daud, 2009). Developing, managing, and sharing knowledge can promote learning, optimise the efficient use of limited resources including time, and contribute to organisational performance.

Despite the importance of knowledge management within universities, it is poorly understood, poorly executed, and not always achieved (Ramachandran et al., 2013). This might be partly due to two reasons. First, many studies on knowledge management to date largely focus on industrial and business settings (Berraies, Chafer & Yahia, 2014), findings from which might not be readily translatable to academic settings given the importance of context (Nonaka & Takeuchi, 1995). Second, although many consider Nonaka and Takeuchi’s (1995) research on knowledge-creating companies as seminal to improve innovation (Ramirez & Kumpikaite, 2012; Sankowska, 2013); it is difficult to translate their lessons into practice. This is largely because of contextual variation among different organisations.
To better understand and ultimately promote knowledge management within universities, this conceptual paper argues for a different approach – one that extends current understandings of knowledge management. More specifically, the paper demonstrates how the seminal work of Nonaka and colleagues (Nonaka, 1994; Nonaka & Takeuchi, 1995; Nonaka, Von Krogh & Voelpel, 2009) can be extended to incorporate critical success factors to accommodate organisational variation. This extension will provide a robust theoretical foundation to elucidate knowledge management, particularly within universities.

This paper commences by defining knowledge and relatedly, knowledge management. Following this, it presents an overview relevant literature. The paper then describes the dynamic theory of organisational knowledge creation and the critical success factors of knowledge management. It concludes by elucidating a theoretical framework that brings together the dynamic theory of organisational knowledge creation and the critical success factors, with direction for future research.

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Reflecting extant literature (Nonaka, 1991; Nonaka & Von Krogh, 2009), three elements help to define knowledge. First, it is said to represent reasonable true belief. The truthfulness of our beliefs is justified by our communication and interaction with the world – for instance, observing objects and events helps us to form beliefs, which are then factualised when communicated to others. Second, knowledge is shaped by our behaviours as we describe, arrange, shape, and learn to solve a task or problem. Third, knowledge – like energy – is continuously reforming, fluctuating between explicit forms (like language and documents), implicit forms (like experiences and rules of thumb), and tacit forms (like insights).

Ostensibly, knowledge management is the organisation and use of our reasonable true beliefs and experiences, all of which oscillate between explicit, implicit, and tacit forms. However, the literature offers refined understandings. Ramachandran and colleagues (2013) for instance, defined knowledge management as:
A systematic and deliberate attempt to devise and implement knowledge practice… supported by the key knowledge management strategic enablers. The knowledge practices consist of a series of processes by which the knowledge of academics is generated, captured, codified, stored, shared, and applied. The implementation of these practices is supported by a series of key strategic enablers such as strategy and leadership, organisational culture, IT, and performance measurement (p. 77-78).

Similarly, knowledge management is understood as a structured and systematic approach to create, use, store, share, transfer, and retrieve knowledge to improve organisations performance (Arntzen, Worasinchai & Ribière, 2009). Reflecting these and other definitions (Berraies, et al., 2014; Brătianu, 2011; Moghaddam, Mosakhani & Aalabeiki, 2013), knowledge management is here defined as the capacity to build a set of activities or processes to sustain an environment conducive to the creation and sharing of knowledge.

Knowledge management within educational institutions can promote the exchange of different knowledges, which in turn can facilitate research, curriculum development, student services, administration, and strategic planning (Kidwell, Vander Linde & Johnson, 2000). For instance, channels for knowledge sharing between academics – like an academic conference – can promote knowledge exchange. Despite the apparent value of knowledge management, not all universities have effective or efficient ways to manage their knowledge (Ramachandran et al., 2013). This can have considerable implications for those who manage these institutions, academics, their students, and those who hold the public purse.

**DYNAMIC THEORY OF ORGANISATIONAL KNOWLEDGE CREATION**

The dynamic theory of organisational knowledge creation was devised to better understand the ways knowledge is converted from tacit to tacit, tacit to explicit, explicit to explicit, and explicit to tacit forms (Nonaka, 1994; Nonaka & Takeuchi, 1995; Nonaka, Von Krogh & Voelpel, 2009). These processes involve socialisation, externalisation, combination, and internalisation (SECI, see Figure 1). Socialisation is the process of sharing tacit knowledge between those who work within and understand
the same environment (Berraies et al., 2014). Nonaka and Takeuchi (1995) described it as sharing direct experiences by observation and simulated of experts. Akin to codification, externalisation represents the process whereby tacit knowledge transforms into explicit knowledge, including metaphors, symbols, and analogies, to aid comprehension and promote shared ownership (Nonaka & Von Krogh, 2009). Internalisation aims to convert explicit knowledge to tacit knowledge (Nonaka, 1994; Nonaka & Takeuchi, 1995; Nonaka, Von Krogh & Voelpel, 2009). Practicing and using this stage enables individuals to internalise knowledge and develop the relevant skills and competencies, thereby encouraging the generation of different tacit knowledge. For example, employees can internalise knowledge through training program (Berraies et al., 2014). Combination is the process of creating new explicit knowledge from explicit knowledge (Nonaka, 1994), as that which might occur when individuals meet.

[INSERT FIGURE 1]

The SECI model is significant for it describes how knowledge is created and shared between individuals, groups, and organisations. The SECI model leads to the success of Japanese companies. Nonaka and Takeuchi (1995) found that innovation within Japanese companies increased by using SECI model. This model supports organisational creativity by clarifying the processes through which knowledge is created, converted, and used by individuals and the groups and organisations they are affiliated with. Despite the significance of the SECI model, some have recognised the need for critical success factors to help use the model within organisational settings (Berraies et al., 2014; Nonaka & Takeuchi, 1995).

CRITICAL SUCCESS FACTORS

Given their clarity and practicality, critical success factors can help organisations to pursue and attain their goals (Chong, 2006). They distil the key elements that an organisation and those within it need to demonstrate. As Rockart (1978) explained:

Critical success factors… are… the limited number of areas in which results, if they are satisfactory, will ensure successful competitive
performance for the organization. They are the few key areas where “things must go right” for the business to flourish. If results in these areas are not adequate, the organization’s efforts for the period will be less than desired (p. 85).

Given organisational variation, Rockart noted that critical success factors are shaped by four key factors. These include the ‘Structure of the particular industry’, ‘Competitive strategy, industry position, and geographic location’, ‘Environmental factors’, and ‘Temporal factors’ (pp. 86-87).

Different critical successful factors can influence knowledge management – how it is measured and whether it is done effectively (Wong, 2005). The literature identifies 12 in relation to universities. These include: leadership; organisational culture; roles; structure and responsibilities; information technology; measurement; employee training; employee involvement; teamwork; employee empowerment; organisational constraints; as well as knowledge structure and organisational strategies (Ramachandran et al., 2013; Hameed & Badii 2012). For instance, leadership style can shape how knowledge is managed within an organisation (Berraies et al., 2014). Similarly, organisational culture can promote the four modes of knowledge conversion, encouraging knowledge sharing among employees (Golipour et al., 2011). Organisations can manage how knowledge is controlled through the use of designated roles, structures, and assigned responsibilities – consider the way rigidly governed steering committees might determine who has access to knowledge and when, while flexible organisational arrangements might ease the flow of knowledge (Nonaka & Takeuchi, 1995). Knowledge management can also be enriched through the use of information technology. It can help to readily disseminate knowledge and increase accessibility (Akhavan & Zahedi, 2014; Alavi & Leidner, 2001; Moghaddam, et al., 2013). Measurement is also important to knowledge management – it helps to ensure an organisation monitors its access to, and use of knowledge that ultimately serves its strategic plan (Sedighi & Zand, 2012). Similarly, training helps to ensure that employees are well-equipped to access, create, and use knowledge – it is particularly important for socialisation and internalisation (Hafeez & Gururajan, 2012; Nahadi & Sarmast, 2013). Employee involvement and empowerment initiatives help to ensure employees remain supportive of efforts that serve the strategic
plan (Anggia, et al., 2013; Farzin, Kahreh, Hasan & Khalouei, 2014), while teamwork encourages an amicable environment that is conducive to learning and effective knowledge management (Gladwell, 2007; Mas & Martinez, 2012). Organisational constraints also have a role in knowledge management, determining what is, and is not permissible, as well as accepted forms of knowledge – be it explicit, implicit, or tacit (Hafeez & Gururajan, 2012; Lee & Choi, 2003). As such, organisational constraints might encourage employees to convert less acceptable forms of knowledge into forms that are relatively more acceptable. Finally, the structure of knowledge can influence the ways it is used (Hameed & Badii, 2012).

Collectively, these 12 factors can provide universities with strategic direction to optimise knowledge management practices. Yet much of the research to date on the critical successful factors for knowledge management is methodologically limited. As such, further study is required to determine the theoretical value of a framework that combines the dynamic theory of organisational knowledge creation with these critical success factors of knowledge management (see Figure 2).

[INSERT FIGURE 2]

**DISCUSSION**

Knowledge-intensive organisations, like universities, require clear, helpful, and theoretically-informed strategies to optimise knowledge management (Tsui, Worasinchai & Ribière, 2009; Mas & Martinez, 2012). Knowledge is the basis on which competitive advantage is built. As such, to further the demonstrated value of the dynamic theory of organisational knowledge creation (Nonaka, 1994), this paper argues for a theoretical model that combines the dynamic theory of organisational knowledge creation with the 12 aforesaid critical successful factors. Doing so has the potential to translate the seminal work of Nonaka and colleagues (Nonaka, 1994; Nonaka & Takeuchi, 1995; Nonaka, Von Krogh & Voelpel, 2009) into organisational strategies and relatedly, employee practices. And – given the importance of knowledge management within universities – these represent a germane context in which to examine the potential value of this model.
This paper reveals the worthiness of further study to empirically gauge the value of the proposed model – one that coalesce the dynamic theory of organisational knowledge creation with the 12 critical successful factors. For comparative value, this could involve international case studies to understand contextual manifestations of the factors, and the ways they shape the socialisation, externalisation, combination, and internalisation of knowledge.
REFERENCES


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FIGURES

Figure 1: Knowledge Conversion (Nonaka, 1994, p 19)

Figure 2: Theoretical Model