

# TOWARDS AN INTEGRATIVE MODEL OF ORGANIZATIONAL CULTURE AND KNOWLEDGE MANAGEMENT

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## ABSTRACT

This paper proposes the integration of The Competing Values Framework (Quinn 1984; 1988) with Nonaka and Takeuchi's (1995) knowledge creation and conversion model. Conceptual parallels between the two models are identified and the interaction effects among dimensions are analysed. The resulting Organizational Knowledge Management Model should further understanding of the social and organizational cultural processes that drive knowledge creation and underpin organizational effectiveness. Implications for theory and practice, as well as directions for future research, are presented.

## INTRODUCTION

Effective knowledge management is at the heart of organizational performance and enables organizations to realise the value of human capital (Davidson & Voss 2002). However, organizational culture underpins knowledge management by influencing how members learn and share knowledge. Paradoxically, organizational culture has been identified as the main impediment to knowledge management (Ribiere & Sitar 2003) and yet very little is known about how organizational culture contributes to or impedes knowledge management.

A major thrust evident in the research literature has been to develop models and typologies to delineate the characteristics of organizational culture, for example, the Organizational Culture Profile (Gray, Densten & Sarros 2003) and the Competing Values Framework (Quinn 1988). In addition, research to examine the relationship between leadership and organizational culture is well developed (e.g., Quinn 1984; Schein 2004). However, there is a lack of theory to elucidate the impact of organizational culture in initiating and sustaining knowledge creation and transfer in organizations.

There is a growing recognition which underpins the learning organization philosophy that the organizational and social context of learning is an important aspect of knowledge generation and transfer (Easterby-Smith, Snell & Gherardi 1998; Elkjaer 1999). Thus, knowledge management is predicated on developing individual participation in communities of practice (Elkjaer 2004). In other words, organizational success is not so reliant on the static 'stock' of knowledge, but rather on the dynamic social processes through which knowledge is enhanced and renewed. Organizations need to develop cultures where their members are encouraged to share knowledge in order to gain a strategic advantage. Therefore, the impact of organizational culture in terms of knowledge management requires further research.

The purpose of this paper is to extend previous theory by examining the interconnections between organizational culture, that is, the pattern of shared basic assumptions amongst

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organizational members and knowledge management. The development of an integrated model of organizational culture and knowledge management should facilitate organizational learning and lead to the improvement of knowledge management practices. The paper investigates the links between organizational culture in terms of the Competing Values Framework (Quinn 1984; 1988) and knowledge management based on Nonaka and Takeuchi's (1995) model of knowledge creation and conversion.

## LITERATURE REVIEW

### Organizational Culture

The Competing Values Framework is so named because the underlying dimensions present contrasting values (Cameron & Quinn 1999). For example, organizations need to be adaptable and flexible, but also stable and controlled. There needs to be growth, resource acquisition and external support, but also tight internal information management and formal communication. The framework suggests an emphasis on the value of human resources, but also emphasizes planning and goal setting.

The Competing Values Framework clarifies the complex nature of organizational culture according to two dimensions: internal/external focus, and stability/flexibility structure. Taken together, the two dimensions create four quadrants which represent four sets of values that guide organizational tasks of environmental management and internal integration (Cameron & Quinn 1999).

Figure 1 provides a conceptual representation of organizational culture according to the Competing Values Framework. Each quadrant is labelled according to its most notable characteristics. The upper left quadrant, referred to as the human relations perspective, is characterized by flexibility and an internal focus. The emphasis is on information sharing and participative decision-making. Members are part of a common social system or clan and are bonded together through the development of a sense of affiliation and belonging.

The upper right quadrant, referred to as the open systems perspective, is characterized by flexibility and an external focus. These adaptive adhocracies emphasize innovation, creativity, adaptation, growth, external support, and resource acquisition. Members are bonded together through being inspired and challenged.

The lower right quadrant, referred to as the rational goal perspective, is characterized by predictability and an external focus. These market type organizations value competitiveness, productivity, goal clarity, efficiency, and accomplishment. Members are bonded together through goal orientation and competition.

The lower left quadrant, referred to as the internal process perspective or hierarchy culture, is characterized by predictability and an internal focus. The emphasis is on information management, documentation, stability, routinization, centralisation, continuity, and control. In a hierarchy culture, members are bonded together through internal controls that maintain rules, policies and procedures (Quinn, Faerman, Thompson & McGrath 2003).

Organizations are seldom characterised by a single cultural type. Organizations tend to develop a dominant organizational culture over time as the organization adapts and responds to the challenges and changes in the environment (Schein 1985). Organizations with all four quadrants represented are considered to be 'balanced' and perform well. Leaders in these

organizations are able to balance conflicting demands, suggesting that high performance requires the simultaneous mastery of seemingly contradictory or paradoxical capabilities. In contrast, cultures considered 'imbalanced' tend to emphasize values associated with rational goals (market) and internal process (hierarchy) cultures at the expense of values that characterize other cultures. This results in less effective organizational performance (Denison & Spreitzer 1991a; Yeung, Brockbank & Ulrich 1991). In a study of 176 U.S. executives, Denison, Hooijberg & Quinn (1995) found that in terms of the Competing Values Framework, less effective managers focused on roles associated with rational goals (producer and director roles) and internal processes (co-ordinating role) and neglected roles associated with human relations. This paper examines the implications of the differences identified in organizational cultures in terms of knowledge generation and transfer.

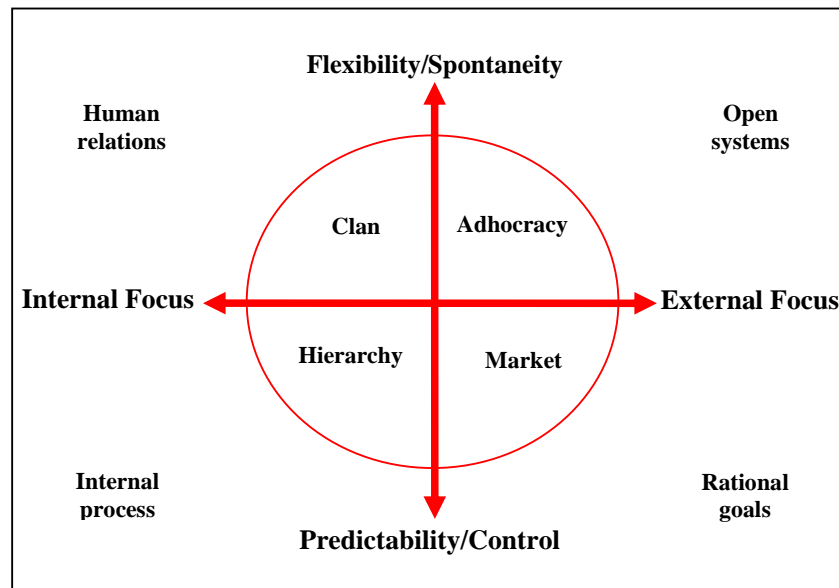


Figure 1: The Competing Values Framework: Organizational Culture (Adapted from Quinn 1988)

### Knowledge Creation

Nonaka and Toyama (2003, p. 2) conceptualized knowledge creation as a process in which various contradictions are synthesized through dynamic interactions among individuals, the organization, and the environment. They argue that knowledge is created in a spiral that integrates opposing concepts 'such as order and chaos, micro and macro, part and whole, mind and body, tacit and explicit, self and other deduction and induction, and creativity and efficiency'. The approach focuses on the flow of knowledge which originates within individuals and is then made available to others in the organization. The process relates to the conversion of tacit into explicit knowledge and is consistent with the view that 'knowledge is a phenomenon in motion' (Patriotta 2004, p. 10). Tacit knowledge is based on individual insights, experience, and intuitions (Polanyi 1966) and is often difficult to communicate in words or symbols. In contrast, explicit knowledge can be codified, communicated, and shared with others, but relies on being tacitly understood and applied (Kakabadse, Kouzmin & Kakabadse 2001).

Nonaka and Takeuchi's (1995) model of knowledge creation and conversion—the SECI process (Socialization-Externalization-Combination-Internalization) which has been refined by Byosiere and Luethge (2004)—emphasizes that knowledge conversion is a 'social process

between individuals and not confined within an individual' (Nonaka & Takeuchi 1995, p. 61). Figure 2 provides details of the four modes of knowledge conversion commencing with socialization where individuals share experiences and mental models to refine knowledge. Tacit knowledge is converted into explicit knowledge through a process referred to as externalization. This translation process allows 'the individually held tacit knowledge concepts to be crystallized and shared with other members, creating new knowledge' (Byosiere & Luethge 2004, p. 246). The combination or knowledge sophistication mode where knowledge is articulated, shared, and expounded (McIntyre, Gauvin & Waruszynski 2003) involves explicit knowledge being reconfigured into more complex explicit knowledge. Finally, internalization refers to the mode where explicit knowledge becomes internalized through knowledge interpretation and is converted into tacit knowledge (Byosiere & Luethge 2004).

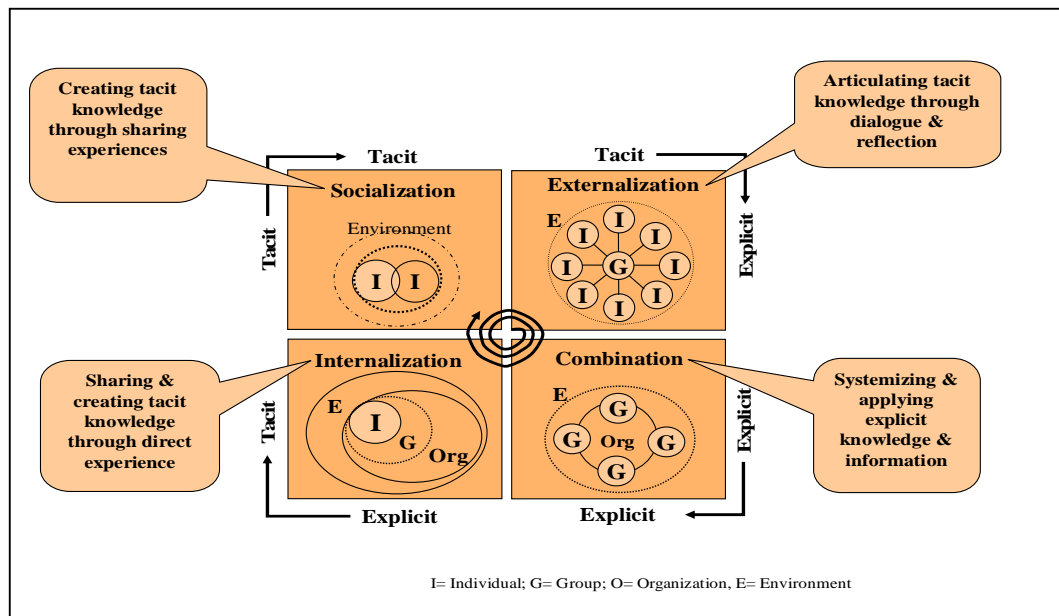


Figure 2: SECI Process Model of Knowledge Creation. Adapted from Byosiere & Luethge (2004, p. 245) and Nonaka & Toyama (2004, p. 98).

### Integration of Models

The creation and transfer of knowledge in organizations depends on an environment that facilitates communication and experimentation (Davenport & Prusak 1997). The context or *ba* in which knowledge is shared, created, and utilized 'provides the energy, quality and place to perform the individual conversions and to move along the knowledge spiral' (Nonaka, Toyama & Konno 2002, p. 49). The integration of the Competing Values Framework (CVF) and the SECI model provides an opportunity to elucidate the impact of organizational culture in the knowledge creation process.

Several conceptual parallels underpin the two models. Both models present typologies that attempt to account for organizational effectiveness; that is, the CVF focuses on organizational effectiveness in terms of the deep structure of organizational culture (Quinn & Kimberley 1984), while the SECI model suggests that the creation and transfer of knowledge is driven by organizational intent (Nonaka & Takeuchi 1995) which is central to organizational effectiveness.

Both models attempt to capture the dynamic processes associated with internal operations, as well as the interactions of organizations with the external environment. The CVF and the SECI models acknowledge that organizational members must balance conflicting demands. For example, the CVF suggests that high performance requires the simultaneous mastery of seemingly contradictory or paradoxical capabilities (Quinn, Spreitzer & Hart 1991), while the SECI model proposes that knowledge is created in a process that integrates opposing concepts such as order and chaos, tacit and explicit, and creativity and efficiency (Nonaka & Toyama 2003).

The CVF suggests that effective managerial leadership is dependent on the development of capabilities that fulfil roles in all of the four quadrants (Denison et al. 1995). Although the SECI model presents a sequential model of knowledge conversion, all four modes presented in the typology are envisaged to operate simultaneously in a spiral of knowledge conversion (Byosiere & Luethge 2004). Figure 3 provides a visual representation of the integration of the two models: The Organizational Knowledge Management Model.

A fundamental assumption which underpins both models is the importance of human relations and socialization processes for knowledge sharing. The CVF emphasizes the importance of managerial leadership behaviours that develop trust and belongingness in a clan culture to facilitate information sharing (Cameron & Quinn 1999). Similarly, socialization processes in the SECI model (Nonaka & Takeuchi 1995) are necessary for tacit knowledge accumulation. Thus, both models recognize that even in companies with well-developed knowledge management infrastructure, people still turn to others to provide solutions to problems. The CVF and the SECI Model both identify that such informal interactions among individuals enable shared experiences to influence organizational effectiveness and knowledge creation and transfer.

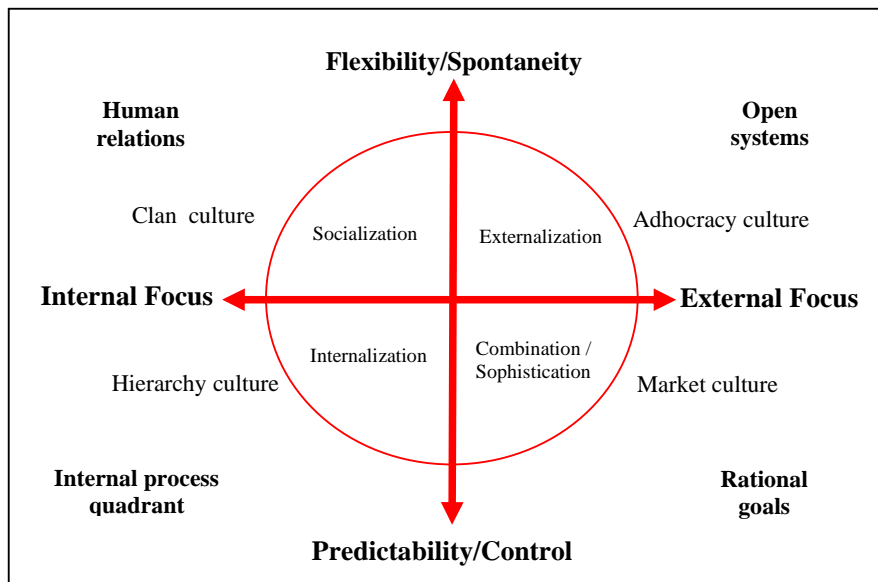


Figure 3: The Organizational Knowledge Management Model

The open systems culture (CVF) characterized by flexibility, innovation, and creativity and based on the development of external relationships is congruent with the externalization processes involving the conversion of tacit to explicit knowledge (SECI model). Takeuchi

and Nonaka (2004, p. 98-99) suggest that for externalization to occur, ‘individuals use “discursive consciousness” and try to rationalize and articulate the world that surrounds them’. Externalization processes create tacit knowledge which must then be crystallized and shared with others to create new explicit knowledge (Byosiere & Luethge 2004). Again, parallel concepts are evident as proposed in the open systems culture and the externalization processes that recognize the importance of providing opportunities for innovative reflection by individuals.

The market culture in the CVF is based on rational goals which emphasize competitiveness, productivity, goal clarity, efficiency, and accomplishment. Clear directions provide individuals with knowledge about how their efforts influence organizational outcomes and have a significant impact on organizational effectiveness. Similarly, Nonaka and Toyama (2003, p. 5) refer to rationalism as ‘an effective method to combine, edit, and break down explicit knowledge’ in the combination mode (SECI model) to operationalize corporate knowledge. Consequently, the market culture and the process of combination are theoretically consistent in the recognition of the importance of acquiring, operationalizing, synthesizing, and disseminating knowledge through the conversion of explicit to explicit knowledge.

The final quadrant in the CVF focuses on the internal processes of a hierarchy culture and emphasizes information management, documentation, stability, routinization, and control (Cameron & Quinn 1999). The development of work routines and practices enable individuals to tailor knowledge to solve practical problems. The internal processes of the ‘professional bureaucracy’ (Quinn et al. 2003) are consistent with the internalization mode in the SECI model where ‘knowledge is applied in practical situations and becomes the base for new routines’ (Nonaka & Toyama 2003, p. 5). The process involves the conversion of explicit into implicit knowledge through defining responsibilities, measurement, documentation, and record keeping. Therefore, the internal process culture within CVF and the process of internalization (SECI) have important conceptual similarities which recognize the importance of knowledge standardization. Figure 4 provides a visual representation of the conceptual processes in the integrated model: The Organizational Knowledge Management Model.

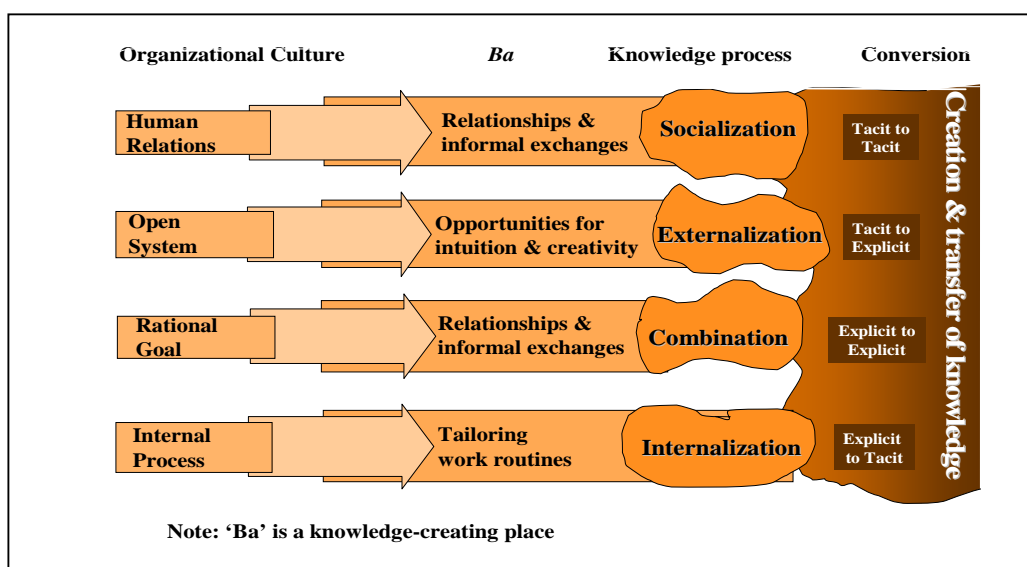


Figure 4: The conceptual processes in the Organizational Knowledge Management Model

**Implications for Theory and Practice**

There are several theoretical and practical implications that result from examining the relationships among organizational culture characteristics and knowledge management. Integrating the CVF with the SECI may enhance our understanding of the social processes that determine organizational effectiveness. The SECI provides a theoretical guide to knowledge generation and conversion and suggests that the processes take place simultaneously within an organization. In contrast, the CVF emphasizes the importance of coping with complex and competing demands. The integration of both models may assist organizational members to appreciate the complexity of knowledge management systems where multiple functions are being undertaken simultaneously.

Drawing on the SECI knowledge management model to augment the CVF could extend our understanding of managerial leadership behavior that facilitates knowledge management. Denison et al.'s (1995) study which identified that less effective managers focused on roles associated with rational goals and internal process cultures and neglected roles associated with human relations may have consequences for knowledge management in organizations which perform poorly. Less effective managers may be restricted to using a limited range of knowledge generation and transfer modes. Their lack of focus on roles associated with human relations and open systems may be associated with poor socialization and externalization of knowledge in terms of the SECI Process Model (Nonaka & Takeuchi 1995) which could restrict the conversion of tacit to explicit knowledge. According to Boal and Whitehead (1992), managers who only engage in a limited number of roles are unlikely to be successful except in highly stable environments. Therefore, ineffective managerial leadership and the associated restrictive knowledge management processes may account for why some organizations struggle in the current turbulent environments.

Clarifying the managerial leadership roles that assist in the development of a knowledge-creating and sharing culture could have important implications for organizational change and development. Leaders face great challenges as the initiators of change in bringing about organizational development. This process has been described as attempting to move entrenched bureaucracies and control systems in the direction of human relations and task achievement in order to adapt to the environment (Denison & Spreitzer 1991b). The development of theory which integrates the Competing Values Framework and SECI could advance identification of appropriate managerial leadership roles.

The new Organizational Knowledge Management Model should be operationalized as a basis for managerial leadership development. Such a development could assist leaders to strategically select behaviors to optimize knowledge creation and transfer which underpin successful organizational change. In addition, the model could assist in the diagnosis of inadequate knowledge management processes, for example, where a culture of knowledge hoarding creates barriers to knowledge sharing (Crossan & Hulland 2002). Such a situation may arise in a highly competitive organization which aggressively focuses on a market culture.

**CONCLUSION**

The Competing Values Framework was developed to clarify the complex and paradoxical nature of organizational effectiveness, while the SECI process model attempts to account for knowledge creation and conversion in organizations. Integrating knowledge management theory with the Competing Values Framework could provide the means to understand how

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organizational culture drives or enhances the development of organizational knowledge. Further theoretical development is required to elucidate the processes by which tacit knowledge becomes explicit. In addition, such developments could provide the foundation for the identification of the conceptual, interpersonal and technical skills that managers and leaders require to facilitate knowledge management. In conclusion, by proposing the integration of organizational culture and knowledge management theory, we hope to stimulate development of theory and encourage further empirical research into these vital aspects of organizational behavior.

## REFERENCES

Boal, KB & Whitehead, CJ 1992, 'A critique and extension of the stratified systems theory perspective', in RL Philips & JG. Hunt (eds.), *Strategic Leadership: A Multi-Organizational-Level Perspective*, Quorum Books, Westport, CT, pp. 237-254.

Byosiére, P & Luethge, DJ 2004, 'Realizing vision through envisioning reality: Strategic leadership in building knowledge spheres', in RJ Burke & C Cooper (eds.), *Leading in Turbulent Times. Managing in the New World of Work*, Blackwell Publishing, Malden, MA, pp. 243-258.

Cameron, KS & Quinn, RE 1999. *Diagnosing and changing organizational culture*, Addison-Wesley, Reading, MA.

Crossan, M & Hulland, J 2002, 'Leveraging knowledge through leadership of organizational learning', in CW Choo & N Bontis (eds.), *The Strategic Management of Intellectual Capital and Organizational Knowledge*, Oxford University Press, Oxford, UK, pp. 711-723.

Davenport, TH & Prusak, L 1997, *Information Ecology: Mastering the Information and Knowledge Environment*, Oxford University Press, New York.

Davidson, C & Voss, P 2002, *Knowledge Management*, Tandem Press, Auckland.

Denison, DR, Hooijberg, R & Quinn, RE 1995, 'Paradox and performance: Toward a theory of behavioral complexity in managerial leadership', *Organizational Science*, 6(5), 524-540.

Denison, DR & Spreitzer, GM 1991a, 'Organizational culture and organizational development: A competing values approach', *Research in Organizational Change and Development*, 5, 1-21.

Denison, DR & Spreitzer, GM 1991b, 'Organizational culture and organizational effectiveness development: A competing values approach', *Research in Organizational Change and Development*, 5, 1-21.

Easterby-Smith, M, Snell, R & Gherardi, S 1998, 'Organizational learning: Diverging communities of practice?', *Management Learning*, 29 (3), 259-272.

Elkjaer, B 1999, 'In search of a social learning theory', in M Easterby-Smith, L Araujo & J Burgoyne (eds.), *Organizational Learning and the Learning Organization. Developments in Theory and Practice*, Sage, London.

Elkjaer, B 2004, 'The learning organization: An undelivered promise', in C Grey & E Antonacopoulou (eds.), *Essential Readings in Management Learning*, Sage, London.

Gray, JH, Densten, IL & Sarros, JC 2003, 'Size matters: Organisational culture in small, medium, and large Australian organizations', *Journal of Small Business and Entrepreneurship*, 17 (1), 31-46.

Kakabadse, N, Kouzmin, A & Kakabadse, A 2001, 'From tacit knowledge to knowledge management: Leveraging invisible assets', *Knowledge and Process Management*, 8 (3), 137-154.

McIntyre, SG, Gauvin, M & Waruszynski, B 2003, 'Knowledge management in the military context', *Canadian Military Journal*, Spring, 35-40.

Nonaka, I & Takeuchi, H 1995, *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*, Oxford University Press, Oxford U.K.

Nonaka, I & Toyama, R 2003, 'The knowledge-creating theory revisited: Knowledge creation as a synthesizing process', *Knowledge Management Research & Practice*, 1, 2-10.

Nonaka, I & Toyama, R 2004, 'Knowledge creation as a synthesizing process', in H Takeuchi & I Nonaka (eds.), *Hitotsubashi on Knowledge Management*, John Wiley & Sons, Singapore.

Nonaka, I, Toyama, R & Konno, N 2002, 'SECI, Ba and leadership: A unified model of dynamic knowledge creation', in S Little, P Quintas & T Ray (eds.), *Managing Knowledge: An Essential Reader*, Sage Publications, London.

Patriotta, G 2004, 'On studying organizational knowledge', *Knowledge Management Research & Practice*, 2, 3-12.

Polanyi, M 1966, *The Tacit Dimension*, Routledge & Kegan, London.

Quinn, RE 1984, 'Applying the competing values approach to leadership: Towards an integrative model', in JG Hunt, R Stewart, CA Schriesheim & D Hosking (eds.), *Managers and Leaders: An International Perspective*, Pergamon, New York.

Quinn, RE 1988, *Beyond rational management: Mastering paradoxes and competing demands of high effectiveness*, Jossey-Bass, San Francisco.

Quinn, RE, Faerman, SR, Thompson, MP & McGrath, MR 2003, *Becoming a Master Manager. A Competency Framework* (3<sup>rd</sup> edn.), John Wiley & Sons, Hoboken, NJ.

Quinn, RE & Kimberley, JR 1984, 'Paradox, planning, and perseverance: Guidelines for managerial practice', in KJR & RE Quinn (eds.), *New futures: The challenge of managing corporate transition*, Dow Jones-Irwin, Homewood, IL.

Ribiere, VM & Sitar, AS 2003, 'Critical role of leadership in nurturing a knowledge-supporting culture', *Knowledge Management Research & Practice*, 1, 39-48.

Schein, EH. 1985, *Organizational culture and leadership* (2<sup>nd</sup> edn.), Jossey-Bass, San Francisco.

Schein, EH 2004, *Organizational Culture and Leadership* (3<sup>rd</sup> edn.), Jossey-Bass, San Francisco.

Takeuchi, H & Nonaka, I 2004, *Hitotsubashi on Knowledge Management*, John Wiley & Sons (Asia), Singapore.

Yeung, A, Brockbank, JW & Ulrich, DO 1991, 'Organizational culture and human resources practices: An empirical assessment', *Research in Organizational Change and Development*, 5, 59-81.