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A Framework for Aligning Strategic Positioning and Knowledge Management System

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Abstract: This study contributed to resolve corporate and information system strategy fit problem. In the hypercompetitive environment of the knowledge economy era, firms find it is very difficult to sustain competitive advantage because competitors can easily imitate their products, services or even business models to erode their superior economic profits. The knowledge-based view of firm suggests the knowledge is one of the most important resources of firm and hypothesizes the objective of firm is to integrate and create valuable knowledge. A number of studies had identified the effects and mechanism of knowledge management systems that support knowledge management process to strengthen organizational capabilities. However, relative few researches focused on how to align firm's knowledge management system to its strategic positioning to maximize the investment returns. Four strategic positions, rule maker, idea creator, efficiency player and follower, are proposed in this study in terms of a firm's capability in problem identifying and solution searching. Different focus of knowledge management system for each strategic positioning are analyzed and suggested.

Key words: Information system strategy, knowledge management, information system management, analytical framework, strategy fit, contingency

INTRODUCTION

As the technologies are rapidly advancing and pervading, the competitive dynamics turn into more intense than ever before in numerous industries. Firms find it is very difficult to sustain their competitive advantage because competitors can easily imitate their products, services or even business models to erode their superior economic profits. This hypercompetitive environment entitles only temporary advantages to the incumbents and persistent innovating is the only way to sustain it (D'aveni, 1994). Facing such a critical challenge in competition, it is essential to establishing organizational capabilities of innovating products, services and business model efficiently and effectively. Literature pointed out that the capability of innovating largely depends on how much relevant knowledge an individual, group or firm possessed which directs many scholars regarding knowledge as one of the most important resources to create and sustain competitive advantages (Grant, 1996; Conner and Prahalad, 1996; Kogut and Udo, 1992).

Given the diverging taxonomies of knowledge, firms can choose the most suitable one to develop appropriate knowledge classification framework to manage it (Alavi and Leidner, 2001). However, to create the valuable, rare, inimitable and non-substitutable knowledge resources is a much more difficult task, no mention to protect it from appropriation by others (Grant, 1996). Consequently, yet a firm might develop a Knowledge Management System (KMS), no matter it is computer-enabled or manual based, to "manage" its valuable knowledge resources. However, it does not mean that the firm can enjoy competitive advantage, unless the KMS can successfully support business innovations.

Product, service and business model innovation are kinds of knowledge creation process since it is either doing things in some new ways or inventing some new things that based on some things a firm does not know before. According to the problem-solving perspective on Knowledge-Based View (KBV) of firm theory (Nickerson and Zenger, 2004), a firm's knowledge-based objective is to create valuable new knowledge that is generated by correctly identifying valuable problem and efficiently finding a profitable solution. To make successful innovations, it is not enough for managers to just simply choose new knowledge and technology to acquire. With doing so, the competitive advantage is not able to last for a long while due to the competitors can easily learn to do the same thing. Hence, a firm needs to establish its own capabilities of problem identifying and solution searching to create valuable new knowledge to respond to market dynamics for gaining the sustainable advantage. Considering a firm's capability of innovating and knowledge creation can be supported and enhanced by well-designed knowledge management system (Alavi and

Leidner, 2001; Swain and Ekionea, 2008) and the fit of strategic positioning and information system has significant impact on firm performance (Sabherwal and Chan, 2001), it is necessary for firms to align its KMS with different strategic positioning to support its competitive strategies with the lens of knowledge-based firm theory. Consequently, a contingency framework for analyzing the fit between a firm's corporate strategy and KMS focus under various business situations is required by managers for formulating their knowledge-based competitive strategy.

Based on the knowledge-based view of the firm and problem-solving perspective, this study provides practitioners with a strategic analytical framework for deciding how to choose the most suitable KMS focus and information technologies, with considering particular contingent factors, to support their corporate business positioning and strategies for gaining competitive advantages. For academics, this study contributes a novel thought to KMS planning and business-IS strategy fit fields that can provide possible opportunities for future research.

MATERIALS AND METHODS

In this study, we used a literature analysis method to figure out the relevant materials from the existing literature and then to propose a theoretical analytical framework for information technology management professionals and business executives to align their corporate strategic positioning with knowledge management system focus. Knowledge-based view of firm theory and knowledge management system theory are the two major streams of research which constitutes the basis of the proposed framework. Below we will analyze some important findings in current literature of knowledge-based view, innovation and knowledge management system, whereby this study can derive a framework for aligning strategic positioning and knowledge management system.

Knowledge-based view of firm and problem-solving perspective: Knowledge-based view of the firm argues that firms exist because they have unique, often historically dependent, abilities to accumulate specific resources that lead to differential levels of firm performance. Some may regard knowledge as a specific resource, so that reason the knowledge-based view of the firm is just a special case of resource-based view of the firm (Conner and Prahalad, 1996). However, the advocates of knowledge-based view of the firm argue that the resource-based view treats knowledge only as a generic resource, rather than having special properties and subsequently, does not make any distinction between different types of knowledge-based capabilities. Nevertheless, just the differences are the source of competitive advantage from the knowledge-based view (Grant, 1996).

Conner and Prahalad (1996) argued that organizational mode affects the knowledge applied to business activity in two ways: (1) how the parties' existing knowledge is blended and used and (2) how new learning or developments occurring during the course of the work are taken into account. That is, the source of competitive advantage can come from both capabilities of integrating existing knowledge for synergy and creating new valuable knowledge.

To explain the firm existence from knowledge-based view, Grant (1996) provided such an argument: "knowledge acquisition requires greater specialization than is needed for its utilization. Hence, production requires the coordinated efforts of individual specialists who possess many different types of knowledge. Yet markets are unable to undertake this coordinating role because of expropriation of explicit knowledge by the potential buyer. Hence, firms exist as institutions for producing goods and services because they can create conditions under which multiple individuals can integrate their specialist knowledge". From this viewpoint, firm is a better organizational form than market in knowledge exchange and creation through reducing possible opportunism that market might be occurred by imperative authority hierarchy governance structure.

Nickerson and Zenger (2004) argued that the key knowledge-based question the manager faces is not how to organize to exploit already developed knowledge or capability but rather how to organize to efficiently generate knowledge and capability. Hence, the authors brought in a problem-solving perspective to extend the scope of knowledge-based view of firm. They used the traditional classification of complex problem to identify three kinds of problem and referred to Fleming (2001) on solution searching methods (i.e., directional searching and heuristic searching) for framing different governance structure strategy to manage firm's knowledge creation processes. With facing the hypercompetitive environment, innovation by creating new valuable knowledge already becomes the key strategic organizational capability (D'aveni, 1994). Accordingly, innovation (or creating knowledge) can be regarded as a problem identifying and solving process.

Innovation and competitive advantage: Firms exploit opportunities for creating profitable competitive advantage that other firms either ignore or cannot exploit

it (Besanko *et al*., 2004). In the other words, the capability to seize those opportunities actually is about the ability of innovation. For example, Sony seized the opportunity to fulfill the needs of listening music everywhere with an innovative product-the Walkman (Sanderson and Uzumeri, 1995) which was a consequence of identifying right problem (i.e., market needs) and finding right solution (i.e., new product). Similarly, Taiwan Semiconductor Manufacturing Company (TSMC) seized the opportunity to fulfill the needs of semiconductor wafer manufacturing capacity with an innovative business model-Semiconductor Foundry Service (Macher, 2002) which not only created a totally new service market but fundamentally changed the whole value chain of semiconductor industry. Innovation is usually regarded as a creative destruction because to a certain extent it replaces the old product, service, business model or something alike with a new one. Successful innovation logically can grant advantageous position to those firms and consequently earned superior economic profits than competitors. As stated by Schumpeter (1942), the process of creative destruction means that static efficiency (the optimal allocation of society's resources at a given point in time) was less important than dynamic efficiency (the achievement of long-term growth and technological improvement). To take this viewpoint, firms need to continuously seek for competitive advantage by discontinuous innovations.

Christensen (2000) argued that the disruptive innovation is not necessary to be more advanced and expensive. An innovation that can bring higher value than its predecessor is disruptive and it eventually will alter the industry landscape. To ensure the superior value proposition of innovation, firms inevitably need to enhance its problem solving capability in terms of knowledge-based view of firm theory. Besanko *et al*. (2004) identified three kinds of effect to encourage or discourage incumbent firms to innovate: sunk-cost effect, replacement effect and efficiency effect. The sunk-cost effect refers to that a firm has already committed to a particular technology and invested in specific organizational resources and capabilities to that technology. Replacement effect refers to that an incumbent firm perceives that, given the situation that no other competitors are able to innovate, it will not be better than status quo since this firm is already in advantageous position. Both the sunk-cost effect and replacement effect will discourage incumbent firms to innovate. On the other hand, with perceiving the potential threats from competitors who are able to bring disruptive innovation, the incumbent firm will have incentive to innovate for maintaining its competitive advantage and such positive motivation is called efficiency effect. To deal with the innovator's dilemma, firms should mitigate the first two negative effects and promotes the last positive effect by establishing learning culture and organization and strengthening the knowledge management process and system.

Pitt and Clarke (1999) identified three domains of innovation for establishing competitive advantage: entrepreneurial domain, engineering domain and administrative domain. Entrepreneurial domain refers to the market or product related innovation that requires relevant business knowledge. Engineering domain refers to the technological innovation that requires relevant science and technical skill and knowledge. Administrative domain refers to the business model and process innovation that requires relevant coordination and governance knowledge. While understanding the incentive mechanism of innovation and the difference of required knowledge among various innovation domains, we can move to investigate how the knowledge management system can support firm's innovation process and dynamic capabilities.

Knowledge management system: Knowledge management system refers to a kind of information systems that is applied to managing organizational knowledge (Alavi and Leidner, 2001). The main purpose of knowledge management system is to support and enhance the firm's processes of knowledge creation, reposition and retrieval, transfer and application. In practice, KMS usually is designed to efficiently arrange codified knowledge documents and provide virtual communication tool for facilitating the exchange of tacit knowledge. For example, the four types of "ba" that Nonaka and Konno (1998) corresponded to four modes of knowledge creation are used to guide knowledge management system design (Alavi and Leidner, 2001). According to O'Dell and Grayson (1998), knowledge management system can be classified into three major types of applications. The first type application is the coding and sharing of best practices whereby an organization can have its members easily learn from both inside and outside experience and findings. The second type application is the creation of corporate knowledge directories so that an organization member can efficiently access to the specific existing knowledge instead of figuring out a new one for resolving problem. The third type application is the creation of knowledge network that consists of experts in particular fields or employees with experience on dealing with special situation and problem. To certain degree, all of these types of knowledge management system can be used to support organizational knowledge creation and

innovation processes. For instance, an innovation or new knowledge might come from a further improvement or get insightful inspiration of previous best practice. Corporate knowledge directories can be used to reduce the redundant research efforts in innovation process (Lu and Feng, 2010). And the organizational knowledge network can promote knowledge exchange and integration to create new knowledge and facilitate successful innovation (Malekmohammadi, 2009; Chung *et al*., 2010).

Although developing knowledge management system is not necessary to be Information Technology (IT) intensive, IT indeed play a more and more important role on enabling the innovation and knowledge management processes (Davenport and Prusak, 1998; Ruggles, 1998). However, different types of IT have different advantage to support different activities in innovation and knowledge management processes (Bhuvaneswari *et al*., 2007; Jabar *et al*., 2010). For example, database management system and information retrieval techniques are quite suitable to be applied to support knowledge reposition and retrieval process but data mining technology and artificial intelligence based expert system are better to be used in supporting knowledge creation process.

From the previous literature analysis, theoretical and practical evidences pointed out that the firm needs to create and integrate knowledge for innovating continuously to outperform its competitors in present hyper-competition business world. To provide the market with right innovative products, services and business models to fulfill customer's needs, a firm inevitably has to strengthen its knowledge management processes and to build up, based on problem solving perspective, problem identification and solution searching capabilities. Seeing that the KM-related capabilities are essential to successful innovation, appropriate KMS could be developed to support specific innovation and knowledge management processes. Since KMS investments are usually very huge and the time consuming (Fatt and Khin, 2010), managers need to appropriately align the knowledge management focus with the firm's competitive position to prioritize the KMS investments for maximizing the ROI and productivity of innovation. To accomplish this goal, managers have to identify which strategic position the firm will take at first by analyzing the industry dynamics and firm's own capability of innovation and then to chose the most suitable knowledge management focuses to support the selected business strategy for competition. Finally, managers can prioritize their IT budgets based on the strategic positioning and knowledge management focus analysis to plan their KMS strategy and implementation. Figure 1 is the conceptual model for this study and an analytical contingency framework.

ANALYTICAL CONTINGENCY FRAMEWORK

Strategic positioning: Taking the assumption of resource-based view of firm that the variance of firm's performance comes from the different resource endowment, this study suggests that a firm, for successfully competing in the hypercompetitive industrial environment, needs to strategically position itself with considering its existing resources and capabilities, especially for those are highly correlated with innovation activities. That is not only because the resource accumulation and the capability establishment are very time-consuming and path-dependent so that a firm is not able to secure them immediately but also due to the organizational factors such as absorptive capacity or the capital which can be used for investment will confine the firm's strategic position alternatives to a limited solution space. If we agree with knowledge-based view of firm that the major knowledge-based objective to managers is to create valuable new knowledge and usually such activities are regarded as a problem solving process (Nickerson and Zenger, 2004), then the managers should identify what kind of capabilities, from problem-solving perspective, the firm already established and in what level of excellence those capabilities are, so that they can choose a right battlefield and strategy to take advantage of their strongest capabilities for competition. Figure 2 depicts a proposed strategic positioning matrix that a firm can use it to position its competitive role in terms of its

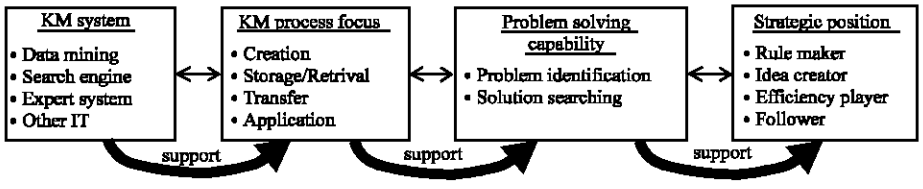

Fig. 1: Conceptual model

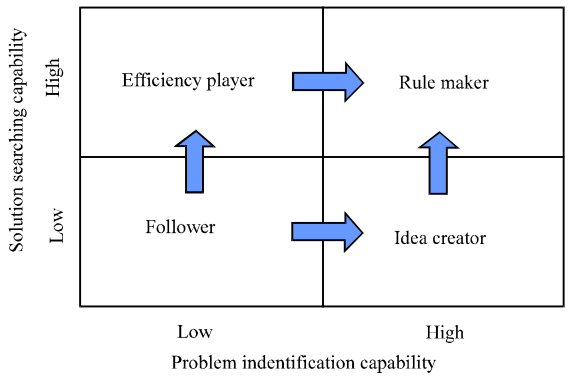

Fig. 2: Strategic positioning matrix based on problem solving perspective

capabilities of problem identification and solution searching. From the view of innovation, problem identification is defined as finding out the real market needs for the innovation and the solution searching is defined as figuring out the ways to implement the innovation.

When a firm has both high problem identification and solution searching capabilities, it means that the firm is able to sense the emerging market needs precisely and respond to it with appropriate solutions (product, service or business model) in a timely manner, it probably is the incumbent firm with the strongest competitive position and usually play a role of rule maker to define what an industry is and how the firms within it to compete. Rule maker takes a lot of advantages of being the leader in price setting and economic of scale. Intel is an obvious instance as a rule maker in microprocessor market. With the substantial control power in Central Processor Unit (CPU) standard formulation and advanced process technology to implement the chip, Intel not only dominate the roadmap of CPU progress but can produce the most cost effective chip with the most advanced technology to serve the market. Therefore, it accounts for almost 80% market share and enjoys around 60% gross margin in the past decades. The key challenge to rule maker is to prevent a new technology and application, sometimes called disruptive innovation, to radically change the competition landscape.

If a firm has high problem identification capabilities and very limited solution searching capabilities which means that it can sense the technological trend and business needs much earlier than other rivals but struggles with product development and on time delivery. Such firms usually only bring applausive new idea to the market but are hard to earn economic profit as high as the rule maker can do. For example, the Apple computer (now the Apple Inc.) is well-recognized as new idea creator for the concepts of Personal Digital Assistant (PDA) but at that time Apple still not yet found the ways to deliver its product with appropriate cost structure and acceptable market price that makes it unable to take out the money on the desk. After several years, Microsoft and HTC jointly developed a windows based PDA and successfully taken over the market defined by Apple. Nevertheless, such firms can earn "first mover" advantage in the new created market for a while. If they can successful enhance its solution searching capability in that application domain, they might be possible to become the rule maker in that niche market. The iPod case explains Apple's success in moving to be a rule maker in MP3 market once it establishes high solution searching capability.

Comparatively, if a firm owns high solution searching capabilities but only has limited problem identification capabilities, named efficiency player in this study, it usually can only passively respond to market that defined by rule maker or idea creator. However, as long as it can figure out what exactly the market needs, its high solution searching capabilities can quickly deliver right product to the market. For instance, The Foxconn Inc. is the largest mobile phone contract manufacturer in the world and it has a very strong capability on producing mobile phone with lowest cost and delivering it worldwide in the shortest time (with high solution searching capability). However, not like the rule maker or idea creator such as Apple and Google, Foxconn has only limited understandings on mobile phone consumer needs and hence is not very good at designing super hit handset because it lacks necessary knowledge and capability for doing that. Efficiency player can survive with modest profit only if the pricing war not too fierce. Most of contract manufacturers execute so-called "fast me-too" strategy demonstrate the strategic positioning. Like the idea creator, they need to strengthen its problem identification capabilities while they want to move to be a rule maker.

A firm with neither high problem identification capabilities nor high solution searching capabilities usually follows the market leader to produce same product in the same ways. Lack of unique business model, it can only be a follower and imitate other competitors for struggling survive. Such firms cannot compete with innovation and cost advantage so that they only can earn average or below profit in industry. Followers need to clarify their strategic positioning as soon as possible or they could disappear in the intensive competitive environment.

Knowledge management system focus: Given the selected strategic positioning, firms can decide how and where to

focus limited resources on implementing knowledge management process and system. For rule maker, knowledge management system can support knowledge creation, storage/retrieval, transfer and application processes to enhance both problem identifying and solution searching capabilities. According to the analysis and review of knowledge management process and system in previous study (Alavi and Leidner, 2001), rule maker can leverage its dominant position and quite plentiful resources to invest in its knowledge management system that covers all the knowledge management processes to support its business activities such as innovation. Due to pursuing excellent in successful innovation requires efficiently and effectively responding to market needs with appropriate solution, rule maker's knowledge management system has to be very supportive in facilitating internal and external knowledge exchange, integration and creation.

For idea creator, since problem identification capability is its comparative advantage, it had better to emphasize the KM process on knowledge creation and application and prioritize its IT resources to strengthen the KMS for supporting these processes. It is not to say that the knowledge storage/retrieval and transfer processes are not important to idea creator but is to highlight the relative importance when considering the resource limitation and time constraint. If the firm intends to become a rule maker, then it should try to establish its problem solving capability in solution searching. To reach this goal, the firm ought to extend its KM process focus to the knowledge storage/retrieval and transfer to reduce the redundant inefficiency. Since the efficiency always accompanies discipline and imperative execution culture, it might conflict with the free and casual style that is common in most idea creating firms.

On the opposite side, efficiency player might also like to move to be a rule maker. Consequently, they probably would like to alter their knowledge management process focus to support more on their problem identifying activities, such as knowledge creation and application process. Just like the problem facing to idea creator, efficiency player will find the possible culture conflicts when they attempt to alter their existing knowledge management process focus to fit the new goal. In such situation, its KMS should be able to facilitating knowledge sharing and utilization to encourage new idea emergence through interactive dialog and collaboration. Employees in efficiency player firms may get used to only doing defined job well rather than trying new idea, how to turn the organizational climate to avoid these new knowledge management processes fail is a valid challenge (Table 1).

Table 1: Contingency framework

Strategic positioning	KM Focus	Supporting IT
Rule maker	Knowledge creation	Data mining
	Knowledge storage/retrieval	E-learning
	Knowledge transfer	Database
	Knowledge application	Workflow
		Expert system
Idea creator	Knowledge creation	Data mining
	Knowledge application	E-learning
		Expert system
		Groupware
Efficiency player	Knowledge storage/Retrieval	Database
	Knowledge transfer	Search engine
		Web 2.0
		Workflow
Follower	Knowledge storage/retrieval	Database
		Search engine

As to follower, it will find that it is very hard to take advantage of the strategic position. Therefore, they have to decide on being either an idea creator or an efficiency player first. Before reaching that goal, its KMS can focus on supporting knowledge storage/retrieval process to build up the fundamental organizational memory and learning capability for helping them beat off other follower firms. By doing this, the firm can accumulate necessary resources and capital for fulfilling the requirements of turning to higher strategic position.

CONCLUSION

Four strategic positions are proposed according to firm's capability in problem identifying and solution searching, i.e., rule maker, idea creator, efficiency player and follower. For rule maker, the focus of knowledge management system has to be very supportive in facilitating internal and external knowledge exchange, integration and creation. For idea creator, the focus had better to emphasize the KM process on knowledge creation and application and prioritize its IT resources to strengthen the KMS for supporting these processes. For efficiency player, the KMS focus should be placed on knowledge storage/retrieval and transfer to strengthen its existing advantage. For follower, the KMS should focus on establishing the fundamental knowledge storage/retrieval functions to build up the fundamental organizational memory and learning capability for helping them beat off other follower firms and fulfilling the requirements of turning to higher strategic position. Since the idea creator and efficiency player might have a quite different organizational culture due to the different skill sets and mindsets, both of them are facing big challenge to move to be a rule maker in refining their knowledge-based capabilities and resources. Knowledge management system developer and decision maker need to take serious

situational factors into account such as cultural change, governance mode, incentive system, etc.

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REFERENCES

Alavi, M. and D.E. Leidner, 2001. Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. MIS Q., 25: 107-136.

Besanko, D., D. Dranove, M. Shanley and S. Schaefer, 2004. Economics of Strategy. 3rd Edn., John Wiley and Sons, New York.

Bhuvaneswari, T., K. Prathiba and S.K. Srivatsa, 2007. Healthcare administration using distributed knowledge. Inform. Technol. J., 6: 271-274.

Christensen, C., 2000. The innovator's dilemma. Harper Collins Publishers, New York.

Chung, Y.C., Y.W. Hsu, C.H. Tsai and S.C. Tsai, 2010. Relationship between organizational cultures, information technology involvement, degrees of knowledge management implementations and performance of new product developments. Inform. Technol. J., 9: 1504-1516.

Conner, K. and C. Prahalad, 1996. A resource-based theory of the firm: Knowledge versus opportunism. Org. Sci., 7: 477-501.

D'aveni, R.A., 1994. Hyper Competition Managing the Dynamics of Strategic Manoeuvring. The Free Press, New York.

Davenport, T. and L. Prusak, 1998. Working Knowledge: How Organizations Manage What They Know. Harvard Business School Press, Boston, MA.

Fatt, C.K. and E.W.S. Khin, 2010. The social-technical view of knowledge management in services industries. J. Soc. Sci., 6: 256-264.

Fleming, L., 2001. Recombinant uncertainty in technological search. Mgmt. Sci., 47: 117-132.

Grant, R.M., 1996. Toward a knowledge-based theory of the firm. Strategic Mgmt. J., 17: 109-122.

Jabar, M.A., F. Sidi and M.H. Selamat, 2010. Tacit knowledge codification. J. Comput. Sci., 6: 1170-1176.

Kogut, B. and Z. Udo, 1992. Knowledge of the firm, combinative capabilities and the replication of technology. Organization Sci., 3: 383-397.

Lu, H. and B. Feng, 2010. Distributed knowledge integration based on intelligent topic map. Inform. Technol. J., 9: 132-138.

Macher, J.T., 2002. e-business and disintegration of the semiconductor industry value chain. Ind. Innovation, 9: 155-181.

Malekmohammadi, I., 2009. Interpretive perspective of knowledge management stance in agricultural knowledge information system to fostering research/extension linkage. Am. J. Agric. Biol. Sci., 4: 230-241.

Nickerson, J.A. and T.R. Zenger, 2004. A knowledge-based theory of the firm-the problem-solving perspective. Org. Sci., 15: 617-632.

Nonaka, I. and N. Konno, 1998. The Concept of Ba: Building a foundation for knowledge creation. California Manage. Rev., 40: 40-54.

O'Dell, C. and C.J. Grayson, 1998. If only we knew what we know: Identification and transfer of internal best practices. California Manage. Rev., 40: 154-174.

Pitt, M. and K. Clarke, 1999. Competing on competence: A knowledge perspective on the management of strategic innovation. Technol. Anal. Strategic Manage., 11: 301-316.

Ruggles, R., 1998. The state of notion: Knowledge management in practice. California Manage. Rev., 40: 80-89.

Sabherwal, R. and Y.E. Chan, 2001. Alignment between business and IS strategies: A study of prospectors, analyzers and defenders. Inform. Syst. Res., 12: 11-33.

Sanderson, S. and M. Uzumeri, 1995. Managing product families: the case of the sony walkman. Res. Policy, 24: 761-782.

Schumpeter, J., 1942. Capitalism, Socialism and Democracy. Harper and Row, New York.

Swain, D.E. and J.B. Ekionea, 2008. A framework for developing and aligning a knowledge management strategy. J. Info. Knowledge Mange., 7: 113-122.