

MURDOCH RESEARCH REPOSITORY
<http://researchrepository.murdoch.edu.au>



An investigation on knowledge management and business strategies alignment in the Gulf Cooperation Council Banks

Author(s): Al-Ammary, Jaflah ; Fung, Chun Che

Year: 2007

Source: Eighth Postgraduate Electrical Engineering and Computing Symposium (PEECS 2007), Perth, W.A., 7 November 2007, pp. 198-204.

This is the author's final version of the work, as accepted for publication following peer review but without the publishers' layout or pagination.

It is posted here for your personal use. No further distribution is permitted.

An Investigation on Knowledge Management and Business Strategies Alignment in the Gulf Cooperation Council Banks

Jaflah Al-Ammary and Chun Che Fung
School of Information Technology, Murdoch University,
South Street, Murdoch, Western Australia 6150

Abstract – Today's business and technical managers have to actively incorporate knowledge strategy (KS) into an organisation's Business Strategy (BS) in order to improve the organisation's performance. A study has been conducted to explore the alignment between KS and BS. The different types of BS were considered in terms of Miles and Snow's (1978) typology of Defenders, Analyzers and Prospectors. In terms of KS, two types of KS strategy - Aggressive Knowledge Strategy (AKS) and Conservative Knowledge Strategy (CKS) were selected. This model was empirically validated through a survey of 106 banks selected from six Gulf countries - Bahrain, Saudi Arabia, Kuwait, Qatar, UAE, and Oman. This was followed by interviews with key officers from representative organizations. In this paper, mainly the outcomes from the interviews were reported. Detailed results from the survey are published elsewhere and only the summary is described here. Finding from the research demonstrated that in the case of GCC banks, there is a strong association between KS and BS and that the alignment between KS and BS clearly influenced the organizational performance. However, the concept of dedicated knowledge officer is not practiced.

Index Terms: Knowledge strategy, Business Strategy, alignment, Gulf Corporation Council.

1. Introduction

Success for any organization requires effective use of its knowledge assets in order to achieve advantages over its competitors. In the e-business world, this is even more so as global competitors are coming from all parts of the world and competing on a level field, the Internet. A holistic approach that spans Knowledge Management (KM), Business Strategy (BS), and, organizational and human factors is therefore essential to the success of the organization (Cedar, 2003). In other words, e-business, KM should be aligned with the business process of the organizations together with the Information Technology (IT) infrastructure in order to manage and maintain the strategic knowledge assets. When such alignment is established, the KM system could be directed towards the goal and objectives of the organization. For example, if the BS is based upon differentiation through customer service, then KM efforts should probably target on-line services for e-Business such as implementation of customer relationship management (CRM), customer care functions such as call centers, help desks, and other customer support activities for both

on-line and off-line (Sunassee, Sewry, 2002). The espoused positive relationships between KM and BS and their impact on performance outcomes has been a core belief of IT and management research, however there has been little empirical evidence to confirm or refute this belief. In particular, the perception and perspective of decision makers such as CEO, CIO and CKO need to be investigated. Considerable researches have been devoted to investigate the importance of the alignment between KM and BS (Jones, 2000; Smith and McKeen, 2003; Zack, 1999; 2002; Aidemark and Sterner, 2002; Davenport, 1999; Sabherwal and Sabherwal, 2003; Sunassee and Sewry, 2002). However, it was commented that the majority of these researches have provided complex models that are difficult to be handled (Franken, Braganza, 2006). Therefore, there is a need to address issues such as: what are the impacts of alignment between KS and BS on the organizational performance? What are the perceptions of decision makers with respect to the roles of KS and BS on the organizational performance? This research studied the strategic alignment between KS and BS in the banking sector in the Gulf Cooperation Council (GCC) countries by using the proposed conceptual model and interviews with key officers at the GCC banks. This paper is arranged as follows: Section 1 is the introduction, followed by the research model and hypotheses. Section 3 provides a discussion on the research methodology and design. Section 4 describes a summary of the survey results and from the interviews. The paper then concludes with Section 5.

2. Research Model and Hypotheses

The KMBS alignment model proposed in this study concentrates on the causal relationship between alignment and organizational performance. The argument is that strategic fit will have implications on the organisation's performance (Al Ammary and Fung, 2005). The proposed model hypothesizes that the GCC Banks aims to achieve an alignment between KS and BS and that this in turn contributes positively towards the organization's performance.

The first conceptual model is shown in Figure 1 and it concentrates on the contribution of the alignment towards the organization performance. The second conceptual model exhibits the different

parametric alignments between various profiles of KS and BS as shown in Figure 2. The illustrated research model in both figures consists of BS, KS, and organizational performance. While the organizational performance was conceptualized in the same way in both models, the BS and KS were considered in different ways. They are described in the following sections.

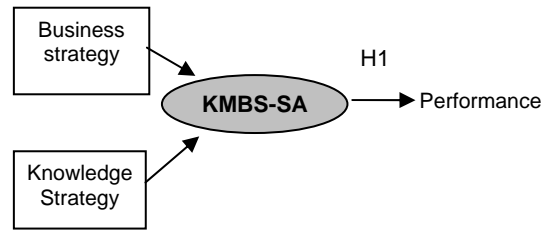


Figure 1: First conceptualization of research model

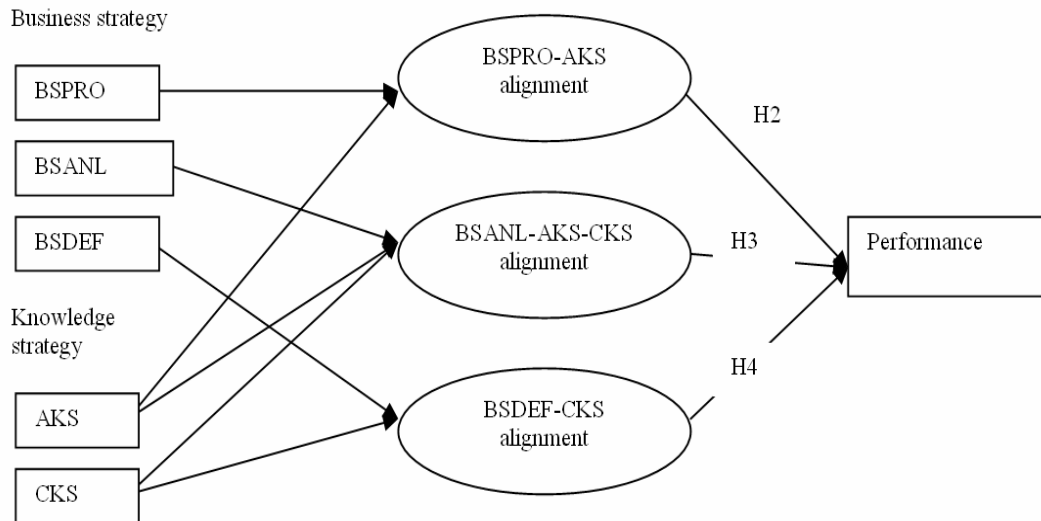


Figure 2: Second conceptualization of research model

2.1 Knowledge Strategy

In this study, KS is considered as a set of strategic actions or choices for the identification and management of the strategic assets, resources and capabilities related to knowledge. The following strategic choices have been selected for this study: sources of knowledge – internal or external, focus on the system (codification), human (personalization), exploitation, and exploration. Details of these strategic choices could be found in the literature (Bierly and Daly, 2001; Bierly and Chakrabarti, 1996).

In the second conceptualization of the research model; two profiles for KS were identified. They are based on the selected strategic choices: Aggressive KS (AKS) and the Conservative KS (CKS). AKS emphasizes innovation and creation of new knowledge (Rollo, 2002). AKS also views knowledge as ongoing process of creative destruction (Zack, 2002b) and innovation as a set of interacting knowledge process (Skyrme, 1999). CKS views knowledge primary as an objectified proprietary asset

to be protected and financially exploited (Zack, 2002b). CKS focuses on maintaining knowledge in its original and constructive state and keeping knowledge from unauthorized transfer to other organization (Bloodgood and Salisbury, 2001). AKS could be mapped by three strategic dimensions: external source of knowledge, exploration and human. CKS can be mapped by: internal source of knowledge, exploitation, and system strategic choice.

2.2 Business Strategy

BS is defined as the decision made to guide an organization with respect to the environment, structure and processes that influence its organizational performance (Croteau, et al. 1999). The strategic choices can be assessed by multiple traits of dimensions common to all organization. In the first conceptualization of the research model, BS was conceptualized using Venkatraman's (1989) dimensions of strategic orientation or Strategic Orientation of Business Enterprise (STROBE). This consists of defensiveness, risk aversion, aggressiveness, pro-activeness, analysis, and futurity.

These dimensions represent a broad and holistic perspective of strategy built on research by Miles and Snow (1978).

Conversely, BS was conceptualized in the second conceptualization of the research using three types of Miles and Snow (1978) typologies of Prospector, Analyzer, and Defender. As such conceptualization, typology reflects the actual strategy pursued by an organization with respect to its competitors and involves a host of organizational strategic activities (Lefebvre, Mason and Lefebvre, 1997).

2.3 Research Hypotheses

The impact of KMBS alignment on the organizational performance and competitive advantage have been investigated by many researchers (Zack, 2002; Snyman and Kruger, 2004; Tiwana, 2002; Maier and Remus, 2002; Seeley, 2002). Bloodgood and Salisbury (2001) suggested that proper alignment between a specific type of BS and the knowledge resources is needed. Alignment between BS and KM also indicates that organizations should pursuing BS suitable for its KM capabilities (Sabherwal, Chan, 2001). Snyman and Kruger (2004) and Tiwana, (2002) argued that organizations may lost many opportunities due to the misalignment. Organizations may fail to explicate knowledge that is not explicable and unable to explicate knowledge that should have been converted from tacit (Tiwana, 2002). Asoh (2004), and, Shih and Chiang (2005) examined the impact of the KM alignment using different dependent variables, organizational performance and KM effectiveness respectively. Their studies have provided evidence suggesting that alignment in KM is profitable, and it helps to secure better organization performance. A survey conducted by Maier and Remus (2002) on 200 organizations had revealed that benefits were resulted in areas like 'improving customer satisfaction', 'improving speed of innovation' and 'productivity improvement'. This to the following hypothesis:

- H1: The alignment between BS and KS pursued by the Banking sector at the GCC countries is associated with better performance*
- H2: The alignment between the Prospector strategic type and AKS profile of KS in the Banking sector in the GCC countries is associated with a better performance*
- H3: The alignment between Analyzer strategic type and CKS and AKS profiles of KS in the Banking sector at the GCC countries is associated with a better performance*
- H4: The alignment between Defenders strategic type and CKS profile of KS in the Banking sector at*

the GCC countries is associated with a better performance

3. Methodology

3.1 Sample and Data Collection

The GCC countries comprise of six Arab states: the Kingdom of Saudi Arabia, Kingdom of Bahrain, Kuwait, Qatar, United Arab Emirates and Oman. The selection of banks was based on the criteria that the bank must have embedded Arabian culture that affect its operation, strategies and management. The research thus selected only 106 banks which present most of the local banks in the GCC. The four types of banks are: commercial, investment, specialist and Islamic banks. Foreign banks have been excluded from the list due to the different style of operation and management in these banks. In gathering information pertaining to the current study, a questionnaire was used as the main instrument for data collection followed by interviews with 10 CEO or CIO. Questionnaires were developed to collect data about the research model's constructs: BS, KS, and organizational performance. Some questions were developed to retrieve descriptive and qualitative information. Details of the descriptive information are concerned with the perception of the CEO, CKO and CIO on the KMBS-alignment and their implication on the performance.

3.2 Measurements

The construct of BS was assessed using STROBE instrument proposed by Venkatraman (1989). STROBE instrument was conceptually based and have been empirically validated in previous strategic alignment studies (Venkatraman 1989; Bergeron, Raymond and Rivard, 2004; Sabherwal and Chan, 2001). Similar studies such as Beeson and Al Mahamid (2003), Helmi (2002), Cho (2000) and Gold et al. (2001) were used to develop a measurement for the purpose of this study. The adopted instrument to measure the organizational performance in this research was based on the performance instruments used by Morgan (2003), Cao and Schniederjans (2004), Sin et al. (2006) and Sabherwal and Chan (2001). This instrument is a synthesized measure which was made using combination of traditional accounting-based items, market growth, profitability, company reputation, and product-service innovation.

3.3 Interview Questions

Interviews with six CEO and four CIO were conducted. The questions put forward to the CEO are listed below:

- 1 *What is your perception about knowledge management?*
- 2 *Knowledge Domain can be defined as the area of knowledge the community agrees to learn about and advance. What knowledge domain is of interest to your bank?*
- 3 *KM strategy: can be defined as a high-level plan that describes and outlines the processes, the tools and infrastructure (organizational and technological) required to manage knowledge gaps or surpluses and to permit knowledge to flow effectively (Zack, 2002). Do you agree with this definition? If not, can you describe your perception of the KM strategy? Do you consider that your organisation has a KM strategy? If not, how did you initiate your KM project? Is there any plan for doing this?*
- 4 *As a CEO, are you capable to be involved in formulating knowledge strategy? In other words, are you involving in the following - allocating knowledge skills and resources, and, making decision on which KM project best suits your bank.*
- 5 *Who else do you think must involve in formulating KM strategy and why?*
- 6 *Can you describe the relationship between the CEO and the CKO, CIO or IT director? Are they working together to achieve the same objective?*
- 7 *Knowledge-based SWOT (K-SWOT) can be defined as a strategic analysis in which both the Internal Strategic Knowledge Gap (K-SW) and External Strategic Knowledge Gap (K-OT) are identified. K-SW identifies the gap between where the bank's knowledge is now and where it needs to be to execute its strategy. However K-OT identifies the gap between the bank's knowledge and the competitors now and in the future. Do you identify knowledge using (SWOT) analysis in addition to the organization's SWOT?*
- 8 *As we know that the strategic gap is derived by the CEO, what about the Knowledge gap? Do you think it is important for you as a CEO to derive it?*
- 9 *It has been noted that there is no CKO, strategic position for KM specialist or KM department in most of the GCC banks. What do you think are the reasons for this?*

The questions for the CIO were:

1. *What is your opinion about the following statements?*
 - a. *Chief Knowledge officer is playing critical role in leveraging KM in any organization.*
 - b. *CIO can handle the duties of a CKO or they are the same person.*
 - c. *CKO has distinct functions and skills that are different from those of CIO.*
2. *Do you think that the alignment between KM and IT/IS strategy has a positive effect on implementing an effective KM in your bank? Can you explain the reason for your answer?*

4. Results and Discussion

4.1 Descriptive Statistics

The questionnaire was sent to CEO, CIO or CKO at 106 banks. A total of 70 were returned in a form eligible for the analysis. The descriptive data of this research has been published in Al-Ammary and Fung (2006). The result revealed that there is a strong relationship (alignment) between BS and KS pursued by the GCC banks and that the alignment is vital for the survival of these banks. The result revealed that most of the business managers in the GCC banks believe that by aligning business and knowledge at a strategic level; the strategic knowledge resources, skills and capabilities would support the bank's strategy and goals. Most respondents also demonstrated that both BS and KS have an equal priority and importance in their bank. The result also indicated that BS is prepared first followed by KS. Planning BS with this sequential fashion is inappropriate as a more iterative approach helps BS to be informed by the strategic possibilities available (Smith, McKeen, 2003). Moreover, the results raised an important issue regarding the position of CKO as it demonstrated that the role of CKO is unknown in the Gulf banks. The responsibilities of CKO or KM manager are assigned to the CIO, IT Director or the Head of IT department even though CKO or KM managers require advanced knowledge, skills, and experiences than typically required from CIO (Liebowitz, 2002). The result indicated that GCC banks believe that CIO or IT Director can handle the duties of a CKO.

4.2 Testing the Research Hypotheses

Research hypotheses were evaluated using the moderation approach of fit. The aim of selecting the moderation approach is to assess if KS is presumed to affect the causal relationship between BS and the organizational performance. The moderation effect of KS was investigated from two perspectives: the form and strength (Venkatraman, 1989). The first results of

note concern the inter-relationships between KS and BS. Table 1 shows the congruence of BS and KS in the GCC banking sector was confirmed. Table 2 shows that BS is highly inter-correlated with Performance in the High-KS banks ($r = 0.550$). This relationship becomes insignificant in the Low- KS banks (0.242). These results indicate that the organizational performance would decrease if the bank does not possess the strategic knowledge resource required to support the increase of the bank strategic problems.

Table 1: Inter-correlation of the independent variable

Correlation with	PERF	High PERF	Low PERF	BS	KS
	<i>n</i> = 70	<i>n</i> =34	<i>n</i> =36	<i>n</i> =70	<i>n</i> =70
BS	0.650**	0.725**	0.237	-	0.559**
KS	0.652**	0.698**	0.024	0.559**	-

Table 2: Correlation between performance and BS across different levels of KS

Correlation with PERF	Controlling for	
	High-KS	Low-KS
	<i>n</i> = 34	<i>n</i> = 36
BS	.550**	.242

The result of the form perspective of the moderation effect of KS, which hypothesizes that the performance outcome is jointly determined by the interaction of the BS and KS was presented in Table 3. The results show that the interaction of BS and KS has an impact on the performance. Thus, while BS by itself would have an effect on organizational performance (0.650), the bank would achieve more competitive position (0.761) in term of growth, profitability and reputation in conjunction with KS. Hence, the bank that joint it's KS with their BS will produce a synergy. This synergy would allow the bank to attain more competitive position through the joint effect of KS and BS.

Table 3: Correlation of KS alignment with performance

Correlation of KS with performance	Zero order	Partial
KS * BS	.761**	.027
LOW(KS * BS)	0.13	-.035
HIGH (KS * BS)	.801**	-.032

Controlling for linear (KS and BS) and Quadratic (KS² and BS²) effects of the fit variable's original components.

*** Correlation in significant at the 0.001 level (2-tailed)

* Correlation in significant at the 0.01 level (2-tailed)

4.3 Summary of results from Interviews

With respect to the interview questions given in Section 3.3, a summary of the results are as follows. The first set of answer was obtained from CEO while the second set was from CIO. The results have indicated a positive agreement of the importance and

implication of KS and BS alignment. On the other hand, there is no conclusive view on the roles of CIO and CKO. This correlates with the last question for the CEO on the lack of CKO appointments.

Q1: Perception of KM:

Information Oriented (1) Technical Oriented (1) System and Technology (1) Organisational Oriented (3)

Q2: Knowledge Domain:

Internal (1) External (4) Both Internal and External (1)

Q3: Definition of KM Strategy according to Zack:

Agree (5) Agree to a certain extent (1)

Q4: KM Planning:

Head of IT (4) IT Manager (2)

Q5: Who else should be involved

IT Manager (4) Human Resource (2)

Q6: Relationship between CEO, CKO CIO/IT

Strong (2) Work together (2)

Co-operative (1) CEO takes individual decision (1)

Q7: Use of SWOT analysis

Yes (4) No (2)

Q8: CEO derive Knowledge Gap:

Important (3) No (2) CEO to identify (1)

Q9: Reason for lack of CKO/CIO appointment:

New concept and in early stage (2)

Technical perception (1) Confusion (1)

IT manager (1) MIS (1)

Answers from interviews with CIO

Q1 a) Chief Knowledge officer is playing critical role:

Yes (2) No (2)

Q1 b) CIO can handle the duties of a CKO:

Yes (2) No (2)

Q1 c) CKO are different from CIO:

Yes (2) No (1) May be (1)

Q2: Alignment between KM and IT/IS strategy has a positive effect on implementing an effective KM:

Yes (4)

5. Conclusion

The first overall conclusion demonstrated that there is a strong association between KM and BS and that the alignment between KS and BS clearly influence the organizational performance. KMBS alignment is important to GCC banks' organizational effectiveness. In order to execute their banks successfully, GCC banks should take the challenge as seriously as possible and consider the alignment implication before moving ahead to implement the strategic plan. Moreover, the result showed that only the alignment between prospector strategic activities

and AKS and the alignment between analysis with AKS and CKS profiles of KS have a positive effect on the organizational performance. However, the alignment between defender strategic activities and CKS profile of KS has insignificant effect on the organizational performance. These results indicate that GCC bank should not totally ignore any of the six knowledge strategic choices. These banks should establish a baseline of KS support for all aspects of BS, and then move from there to enhance more KS support to those business strategic dimensions that are most important. The banks need to determine different profiles for their KS in order to suit their strategic needs. It was noted that the results from the interviews correlate with the findings from the surveys. The findings of the current study have radical management implications that will need to be verified in future studies using larger sample size and in different types of organizations. This study could be also resumed to investigate the effect of the human and cultural factors on the KMBS-alignment model.

6. References

- Aidemark, J and Sterner, H (2002). "A framework for strategic balancing of knowledge management initiatives", *Proceedings of The 36th Hawaii International Conference*
- AlAmmary, Jaflah and Fung, Chun Che (2005), "Knowledge Management Strategic Alignment in the Gulf Cooperation Council Countries", *Proceedings of the 2nd International Conference on Intellectual Capital and Knowledge Management ICICKM*, American University in Dubai, UAE 21-22 November
- AlAmmary, Jaflah and Fung, Chun Che (2006), "Knowledge Management in the Gulf Cooperation Council (GCC) Countries: A Study on the Alignment between KM and Business Strategy" in Yoosuf Cader (Ed.), *Knowledge Management Integrated*, Heidelberg Press, Melbourne, Australia (in press)
- Asoh, Derek Ajksam (2004), *Business and knowledge strategies: alignment and performance impact*, Ph.D. Thesis, School of Information Science and Policy, University at Albany, State University of New York
- Beeson, Ian and Al Mahamid, Soud (2003), "Survey of strategic alignment indicators in Manufacturing companies in the Southwest of England", *In proceeding of the second CEMS Research Student Conference*, Bristol, 15 October.
- Bergeron, F. and Raymond, L. (1999). "Does information technology really pay off?" *Cahier de recherche*, CR-99-11
- Bierly, Paul and Chakrabarti, Alok (1986), "Generic knowledge strategies in the U.S. pharmaceutical industry", *Strategic management journal*, Winter special issue, pp. 123-135.
- Bierly, Paul and Daly, Paula (2002), "Aligning Human Resource Management practices and knowledge strategies", in *The strategic management of intellectual capital and organizational knowledge*, edit by Choo, Chun Wei and Bontis, Nick, Oxford University press, UK
- Bierly, Paul E. (1999), "Development of a generic knowledge strategy typology" *Journal of Business Strategies*, Vol. 16, Issue 1, pp.1-26
- Blackler, Frank (2002), "Knowledge, knowledge work, and organizations", in *The strategic management of intellectual capital and organizational knowledge*, edit by Choo, Chun Wei and Bontis, Nick, Oxford University press, UK
- Bloodgood, James M. and Salisbury, Wm. David (2001), "Understanding the influence of organizational change strategies on information technology and knowledge management strategies", *Decision support systems*, Vol. 31, pp. 55-69
- Cedar, (2003), "How Knowledge Management, Drives Competitive Advantage", *Cedar white paper*, released December, Maryland, USA
- Cho, Hee-Jae (2000), "The Validity and Reliability of the Organizational Culture Questionnaire", Working paper, International Institute for Management Development
- Croteau, Anne-Marie and Bergeron, Francois (1999), "Dose information technologie really pays off?" *Cahier de recherche*, CR-99-11
- Das, Sidhartha R., Zahra, Shaker and Warkentin, Merrill E. (1991), "Integrating the content and process of strategic MIS planning with competitive strategy", *Decision sciences*, Vol. 22, Issue 5, pp. 953
- Davenport, T. H. (1999), "Knowledge management and the broader firm: Strategy, advantage, and performance", in J. Liebowitz (Ed.), *Knowledge Management Handbook*: 2.1—2.11, USA: CRC Press
- Franken, Arnoud and Braganza, Ashley (2006), "Organizational forms and knowledge management: one size fits all", *International Journal of Knowledge Management Studies*, Vol. 1, Issue 1/2, pp. 18-37
- Gold, Andrew H.; Malhotra, Arvind and Segars, Albert H. (2001), "Knowledge Management: an organizational capabilities perspective", *Journal of Management information systems*, Vol. 18, Issue 1, PP. 185-215
- Helmi, Asleena (2002), "Knowledge management via IT and business strategies alignment", *Journal of knowledge management practice*, Vol. 3
- Jones, P.H. (2000), "Knowledge strategy: Aligning knowledge programs to business strategy", *Knowledge Management World 2000*, Santa Clara, CA, September 12-15
- Lefebvre, Louis A; Mason, Robert and Lefebvre, Elisabeth (1997) "The Influence Prism in SMEs: The Power of CEOs' Perceptions on Technology Policy and Its Organizational Impacts", *Management Science*, Vol. 43, Issue 6, pp. 856-878
- Liebowitz, J. (2002), "The Role of the Chief Knowledge Officer in Organisations", *Research and Practice in Human Resource Management*, 10(2), 2-15
- Maier, Ronald and Remus, Ulrich (2002), "Defining process-oriented knowledge management strategies", *Knowledge and process management*, Vol. 9, Issue 2, pp. 103-118
- Miles, R. and Snow, C. (1978). *Organizational strategy, structure, and process*, McGraw-Hill, New York.
- Morgan, Robert E. and Strong, Carolyn A. (2003), "Business performance and dimensions of strategic orientation", *Journal of Business Research*, Vol. 56, PP. 163-176
- Rollo, C. (2002), "The knowledge strategy within a business context", *Presented at The Third European Conference on Organizational Knowledge, Learning and Capabilities*, Athens, Greece, April 5-6
- Sabherwal, Rajiv and Sabherwal, Sanjiv (2003), "How do knowledge announcement affect firm value? A study of firm pursuing different business strategies", working paper
- Sabherwal, Rajiv & Yolande, Chan (2001), "Alignment between business and IS strategies: a study of prospectors, analyzers, and defenders", *Information Systems Research*, Vol. 12, Issue 1, pp.11
- Seeley, Charles (2002), "Igniting knowledge in your business processes", *KM Review*, Vol.5, Issue 4
- Shih, His-An and Chiang, Yun-Hwa (2005), "Strategic alignment between HRM, KM, and corporate development", *International Journal of Manpower*, Vol. 26, Issue 6, pp. 582-605
- Skyrme, D. (1999), "Knowledge: the strategic imperative", Butterworth-Heinemann, Oxford

- Smith, H and McKeen, J, (2003), "Developing and Aligning a KM Strategy", Queen's Center for Knowledge-Based Enterprises, May, Ontario, Canada.
- Snyman, Retha and Kruger, Cornelius Johannes (2004), "The interdependency between strategic management and strategic knowledge management", *Journal of Knowledge Management*, Vol. 8, Issue 1, pp. 5-19
- Sunasse, Nakkiran and Sewry, David (2002), "A theoretical framework for knowledge management implementation", *Proceeding of SAICSIT*, The Boardwalk, Port Elizabeth, South Africa, September 16-18, pp. 235-245
- Tiwana, Amrit (2002), The Knowledge Management toolkit, Second Edition Prentice Hall, Canada.
- Venkatraman, N. (1989), "The concept of fit in strategy research: toward verbal and statistical correspondence", *The Academy of Management review*, Vol. 14, Issue 3, pp. 423-444
- Zack, Michael H, (2002a), "A strategic Pretext for Knowledge Management", *Proceeding of The Third European Conference on Organisational Knowledge, Learning and Capabilities*, Athens, Greece, April 5.
- Zack, Michael H, (2002b), "Developing a Knowledge Strategy: Epiogue" , in The Strategic Management of Intellectual Capital and Organisational Knowledge: A Collection of Readings, N. Bontis and C. W.Choo (eds.), Oxford University Press, March 2002, U.K
- Zack, Michael H. (1999), Developing a knowledge strategy, *California management Review*, Vol. 41, Issue 3, pp. 125-145.