

The Relationship Between Core requirements of Knowledge Management Implementation and Organizational performance

Laith Ali Yousif AL-Hakim* and Shahizan Hassn**

Knowledge management is a lifeline for contemporary organizations. It has been used prominently since 1990s as a tool to achieve superior performance. However, the implement of knowledge management is still at the infancy, and has been the subject of much discussion by several researchers. Yet, there is still a lack of studies, as indicated by the knowledge management implementation literature. The complexity of the implementation of knowledge management has been increased due to not find any integrated framework in this area. Therefore, the purpose of this paper is to clarify the core requirements of knowledge management implementation that lead to improve organizational performance (including financial perspective metrics, customer perspective metrics, internal process perspective metrics and learning and growth perspective metrics). As a result, the paper finds that core requirements of knowledge management implementation (including critical successes factors of knowledge management, knowledge management strategies and knowledge management processes) can be in place to pave the way to ensure the successful implementation of knowledge management, which is reflected in the organizational performance improvement

Field of Research: Knowledge Management.

1. Introduction

In the knowledge-based economy era, superior organizations depend more on their knowledge-based resources to survive (Choi et al., 2008; Ho, 2008; Kim & Gong; 2009; Yang et al., 2009a) and to cope with the changes (Haas & Hansn, 2005; Liao & Wu, 2009; Safa et al., 2006). Therefore, the Knowledge Management (KM) implementation has become increasingly as a main power to improve Organizational Performance (OP) for various organizations (Haas & Hansn, 2005; Liao & Wu, 2009; Safa et al., 2006).

However, Anderson (2009) revealed that although contemporary organizations have spent billions of dollars to implement KM, its implementation has yielded only marginal results. In addition, the percentage of failure in the implementation ranges from 50 to 70%. Because there are risks of failure in KM implementation (Razi & Abdul Karim, 2010; Zack et al., 2009), many researchers seek to understand why this is so. Although there are a large number of KM implementation frameworks, organizations still face difficulty in this area due to lack of an integrated framework of KM implementation (Daud & Hassan, 2008; Kim

*Laith Ali Yousif AL-Hakim, PhD candidate at Caudate School of Business, University Utara Malaysia, 06010 UUM Sintok, Kedah, Malaysia, s91869@student.uum.edu.my.

**Assoc. Prof Dr. Shahizan Hassn, Caudate School of Business, University Utara Malaysia, 06010 UUM Sintok, Kedah, Malaysia, shahizan@uum.edu.my.

, 2009; Shahrokhi, 2010; Wong & Aspinwall, 2005). Studies that look at the core requirements of successful KM implementation holistically in a single empirical endeavour are rather limited. As such, it has been recommended that more studies need to be carried out that consider the core requirements of successful KM implementation, which include CSFs of KM, KM processes and KM strategies (Abdullah et al., 2009; Darroch, 2005; Garavelli et al., 2004; Hwang, 2003; Maier & Remus, 2003; Razi & Abdul Karim, 2010; Tasmin & S., 2010; Wei et al., 2009). Examining the core requirements of successful KM implementation is important because success in KM implementation may lead to subsequently OP (Darroch, 2005; Rhodes et al., 2008; Sáenz et al., 2009; Yang et al., 2009a).

Moreover, empirical investigations that examine the influence of KM implementation on OP (consisting of performance financial perspective metrics, customer perspective metrics, internal process perspective metrics and learning and growth perspective metrics) are limited. Even though KM is argued to be able to improve OP (Bierly & Daly, 2007; Chen & Mohamed, 2008; Choi et al., 2008; Shahrokhi, 2010). Therefore, there is an existing gap in the literature on KM and its influence on OP (Yang et al., 2009; Zack et al., 2009). That is consistent with Kalling's (2003) remark that "there are relatively few knowledge management texts that make an explicit connection between knowledge and performance" (Kalling, 2003, p. 67).

From the gaps listed above, the issue of the relationship between the core requirement of successful KM implementation and OP is still unclear, and there are very limited studies in this area. Therefore, this study contributes to the previous studies by determine (i) the core requirements of successful KM implementation, and (ii) the nature of relationship between KM implementation and OP. Apart from that, there are two major questions this study aims to address:

1. What is the core requirements of KM implementation?
2. What is the relationship between KM implementation and OP?

This paper comprises the introduction of the study, which consists of the discussion of problem statement and research questions. Next, the review of the literature followed by the conceptual framework. Finally, concluding remarks about the core requirements of KM implementation that considered as a key source of OP improvement.

2. Literature Review

2.1 Knowledge Management Concept

In the literature, the main aim of KM is improving OP, so there are many researchers who have given definition of KM as a systematic methodology to improve OP. According to Hu and Deng (2008: p. 465), KM is referred to "the management discipline concerned with the systematic acquisition, dissemination and responsiveness of knowledge in organizations, aiming to improve an organization's performance". In addition, it is referred to "a systematic effort for sharing and using the organizational knowledge within the firm in order to increase

AL-Hakim & Hassn

organizational performance” (Shahrokhi , 2010: p. 356). Accordingly, KM in this study is regarded as a methodology based on a set of critical success factors, strategies and processes that are responsible for creating and managing knowledge in order to enable organizations to improve OP.

2.2 The Core Requirements of KM Implementation

According to Resource-Based View (RBV) and Knowledge-Based View (KBV) theories, knowledge is a key resource for survival, stability and growth of the organizations. Thereby, since 1990s the success of organizations is closely related to managing knowledge (Drucker, 1993; Ho, 2008; Jiang & Li, 2009; Kim & Gong, 2009; Liao & Wu, 2010; Nonaka & Takeuchi, 1995; Wiig, 1997). Therefore, the main contemporary issue in knowledge field is how to create and manage it (Asare, 2008; Kiessling et al., 2009; Pathirage et al., 2007; Rhodes et al., 2008). Accordingly, KM implementation today has attracted much attention in many businesses and academic fields (Chadam & Pastuszak, 2005; Wong, 2005). In other words, several organizations are viewing KM implementation as a big savior in the changeable and dynamical environment (Asare, 2008; Kiessling et al., 2009).

Numerous studies have shown that KM implementation is able to help achieve or maintain success of contemporary organizations. For example, it is said that KM implementation is able to provide benefits to 80% of the largest organizations in the world (Kridan & Goulding, 2006; Ramachandran, 2010). On the whole, the successful KM implementation is considered a best way to improve OP (Asoh et al., 2007; Bierly & Daly, 2007; Choi et al., 2008; Ho, 2008; Kim & Gong, 2009; Liao & Wu, 2009; Yang et al., 2009b; Zack et al., 2009). In other words, the KM implementation can help organizations to improve its performance in many areas such as competitive advantage, productivity, decision making, responsiveness, innovation, product and service, learning curve, employee retention, flexibility and cost efficiency (Wei et al., 2009).

Consequently, researchers have resorted to the development of several frameworks to achieve successful KM implementation. But these frameworks differ in their orientation depending on the different viewpoints of the researchers (Shahrokhi, 2010). The KM framework is defined as a guide to implement knowledge management in an organized way (Elashaheb, 2005; Kim, 2009). There are a many KM implementation frameworks in the literature. Despite this, many organizations are still not able to implement KM successfully. This may be due to the limited comprehensive framework in this area (Daud & Hassan, 2008; Kim, 2009; Mehta, 2008; Shahrokhi, 2010; Wong & Aspinwall, 2005).

Review of literatures identifies 23 frameworks of KM implementation that involves three main elements i.e. Critical Success Factors (CSFs) of KM, KM strategies and KM processes. These three elements have been widely acknowledged in the literature as core requirements of successful KM implementation (Ajmal, et al., 2008; Anantatmula & Kanungo, 2010; Jafari et al., 2010; Kucza, 2001; McElroy, 2002; McLaughlincy & Paton, 2008). Table 1 provides a summary of the core requirements of KM implementation frameworks.

AL-Hakim & Hassn

Table 1: Core Requirements of KM Implementation Frameworks

Requirement	Framework
CSFs of KM	A basic discipline underlying knowledge management and its enabling factors (Stankosky & Baldanza , 2001)
	A factor model of knowledge management system implementation (Butler et al. 2007).
	A framework of factors influencing KM initiatives in a project-based context (Ajmal, et al., 2008).
	A success model of KM implementation (Gai & Xu, 2009).
	A generic knowledge management framework (Abdullah et al., 2009).
	A framework of KM enablers (Anantatmula & Kanungo, 2010).
KM strategies	A strategic framework for mapping knowledge (Zack, 1999).
	A process oriented KM approach (Maier & Remus, 2002).
	A knowledge management system dependency model (KMSDM) with defined relationships (McLaughlincy & Paton, 2008).
	A practical framework for knowledge (Casselman & Samson, 2007).
	A strategic knowledge management framework (Jafari et al., 2010).
	The knowledge value proposition strategy (KVSP) framework (Helmi, 2010).
KM processes	A knowledge creating company (Nonaka & Takeuchi, 1995).
	Building blocks of knowledge management (Probst et al., 1997).
	A KPMG knowledge management framework (Alavi, 1997).
	The tasks of knowledge management (Allweyer, 1998).
	A knowledge management event chain (Despres & Chauvel, 1999).
	A knowledge management process framework (Bukowitz & William, 2000).
	A process model (Rastogi, 2000).
	A process model (Tannenbaum & Alliger, 2000).
	A knowledge chain model (Holsapple & Singh, 2001).
	A knowledge management process model (Kuczka, 2001).
A knowledge life cycle (McElroy, 2002).	

Accordingly, Tables 2, 3, and 4 provides a summary of definitions and dimensions of the core requirements of KM implementation.

Table 2: Definition and Dimensions of the CSFs of KM

Requirement	Definition	Dimension	Resource
CSFs of KM	Are managerial and organizational factors that need to be effectively addressed in order to further the likelihood of successful knowledge management implementation (Carneiro, 2000).	Human resource management	Akhavan et al., 2009; Al-Mabrouk, 2006; Choi, 2000; Chong, 2006; Chourides et al., 2003, Chuang, 2004; Hung, 2005; Lin & Kuo, 2007; Ling & Shan, 2010; Wong & Aspinwall, 2005.
		Information technology	Al- Mabrouk, 2006; Asoh et al., 2007; ; Chong, 2006; Choi, 2000; Chourides et al., 2003; Chuang, 2004; Gold et al., 2001; Grover & Davenport, 2001; Hung, 2005; Lee & Choi, 2003; Ling & Shan, 2010; Nemati, 2002; Rhodes et al., 2008; Skyrme, 2000; Stankosky & Baldanza, 2001; Wong & Aspinwall, 2005; Yeh et al., 2006.

Cont.

Cont. Table 2

		Leadership	Asoh et al., 2007; Baldanza, 2001; Choi, 2000; Hung, 2005; Nemati, 2002; Skyrme, 2000; Slagter, 2007; Stankosky & Baldanza, 2001; Wong & Aspinwall, 2005; Yeh et al., 2006.
		Organizational learning	Lee & Choi, 2003; Lin & Kuo, 2007; Rhodes et al., 2008; Skyrme, 2000; Slagter, 2007; Stankosky & Baldanza, 2001.
		Organizational strategy	Al-Mabrouk, 2006; Chourides et al., 2003; Grover & Davenport, 2001; Skyrme, 2000; Wei et al., 2006, 2009; Wong & Aspinwall, 2005; Yeh et al., 2006; Zheng et al., 2010.
		Organizational structure	Akhavan et al., 2009; Baldanza, 2001; Chong, 2006; Chuang, 2004; Hung, 2005; Gold et al., 2001; Grover & Davenport, 2001; Nemati, 2002; Slagter, 2007; Stankosky & Baldanza, 200; Wei et al., 2006, 2009; Zheng et al., 2010.
		Organizational culture	Al-Mabrouk, 2006; Asoh et al., 2007; Chait, 2000; Chong, 2006; Chuang, 2004; Hung, 2005; Hung et al., 2003; Grover & Davenport, 2001; Gold et al., 2001; Nemati, 2002; Skyrme, 2000; Slagter, 2007; Rhodes et al., 2008; Wong & Aspinwall, 2005; Yeh et al., 2006; Zheng et al., 2010; Ling & Shan, 2010.
		Knowledge sharing	Asare, 2008; Liao & Wu, 2009; Ling & Shan 2010; Theriou & Chatzoglou, 2009.
		Knowledge utilization	Asare 2008; Asoh et al., 2007; Jantunen, 2005; Ling & Shan, 2010; Singh, 2008; Supyuenyong & Islam, 2009; Theriou & Chatzoglou, 2009.

Table 3: Definition and Dimensions of KM Strategies

Requirement	Definition	Dimension	Resource
KM strategies	Are many processes of collecting, codifying and dissemination of knowledge to get the right information in the right place and at the right time. (Xie, 2009).	Codification	Edvardsson, 2008; Ewing & West, 2000; Hansen et al., 1999; Greiner et al., 2007; Maier & Remus, 2003; Schulz & Jobe, 2001; Sobahle, 2005; Rhodes et al., 2008; Xie, 2009.
		Personalization	Edvardsson, 2008; Ewing & West, 2000; Hansen et al., 1999; Greiner et al., 2007; Maier & Remus, 2003; Schulz & Jobe, 2001; Sobahle, 2005; Rhodes et al., 2008; Xie, 2009.

Table 4: Definition and Dimensions of KM Processes

Requirement	Definition	Dimension	Resource
KM processes	Are systematic stages that providing the knowledge needed for an organization to succeed through knowledge creation, organizing, storage, sharing and utilization (Ramachandran, 2010; Yang et al., 2010).	Knowledge creating	Asare, 2008; Alavi & Leidner, 2001; Bhatt et al., 2005; Ling & Shan, 2010; Singh, 2008; Snis, 2000; Supyuenyong & Islam, 2009.
		Knowledge organizing	Singh, 2008; Snis, 2000; Supyuenyong & Islam, 2009.
		Knowledge storage	Alavi & Leidner, 2001; Singh, 2008; Snis, 2000.
		Knowledge sharing	Asare, 2008; Liao & Wu, 2009; Ling & Shan 2010; Theriou & Chatzoglou, 2009.
		Knowledge utilization	Asare 2008; Asoh et al., 2007; Jantunen, 2005; Ling & Shan, 2010; Singh, 2008; Supyuenyong & Islam, 2009; Theriou & Chatzoglou, 2009.

2.3 Organizational Performance

Organizational performance has been defined in different ways. According to Pitt and Tucker (2008: p. 243), it is defined as “a vital sign of the organization, showing how well activities within a process or the outputs of a process achieve a specific goal”. Also, it is defined as “a process of assessing progress towards achieving pre-determined goals, including information on the efficiency by which resources are transformed into goods and services, the quality of these outputs and outcomes, and the effectiveness of organizational objectives” (Amartunga & Baldry, 2003: p. 172). Based on the above definitions of OP and the purpose of this study, OP can be defined as the integration between CSFs of KM, KM strategies and KM processes to achieve positive goals for the organization.

2.4 Organizational Performance Measurement

The OP measurement has become an important standard in evaluating the organizational success (Moullin, 2007). It is defined as "comparing the expected results with the actual ones, investigating deviations from plans, assessing individual performance and examining progress made towards meeting the targeted objectives" (Ngah & Ibrahim, 2010: p. 503). Based on this definition, OP measurement can provide more assistance for managers to evaluate the organizational activities and maintain the competitive position or superiority over competitors (Liao et al., 2009; Visser & Sluiter, 2007). Table 5 provides a summary of the main OP indicators used by previous studies.

AL-Hakim & Hassn

Table 5: Indicators of Organizational Performance

Author and year	Indicators of organizational performance
Calantone et al. (2002)	Return on investment, return on asset, return on sales and overall profitability.
Choi and Lee (2003)	Successfulness, market share, profitability, growth rate and innovativeness.
Lee and Choi (2003)	Overall success, market share, growth rate, profitability and innovativeness.
Marqués and Simón (2006)	Capital profitability, growth, operational and financial efficiency, stakeholder satisfaction and competitive position.
Lin and Kuo (2007)	Market performance (profit margin, sales and customer satisfaction) and Human resource performance (relationship between managers and employees, attraction and retention of employees and employee motivation).
Anantatmula (2007)	Customer satisfaction and business growth.
Visser and Sluiter (2007)	Financial perspective metrics (subscriber growth, ARPU, capital efficiency, NOE, inventory turnover ratio and admin overhead %), customer perspective metrics (availability, call retention, call set-up success, network coverage, roaming partner growth %), internal process perspective metrics (distribution efficiency, churn level, and average time to call answer) and learning and growth perspective metrics (employee development level and absenteeism).
Ho (2008)	Financial performance (relative profitability, return on investment, total sales growth) and Market performance (market share, profit ratio and customer satisfaction).
Rhodes et al. (2008)	Financial performance (profit, cost reduction, sales volume, inventory. And turnover rate) and non-financial performance (customer satisfaction rate, frequency of patterns, rate of product development and new competencies and capabilities).
García-Morales (2008)	Return on assets, return on equity, return on sales and market share.
Wei (2009)	Efficiency, responsiveness, product development cycle time, competitive advantage, innovation, cost, learning curve, products/services quality, flexibility, decision making process, employee retention and annual sales.
Kiessling et al. (2009)	Organization innovation, product improvement and employee improvement
Zack et al. (2009)	Non-financial performance (product leadership, customer intimacy, operational excellence) and financial performance (ROA, ROE, and Profitability).
Liao et al. (2009)	-Productivity: input (cost per base station, number of employee per base station) and output (average salary, revenue per base station, employee productivity, revenue vs. marketing expense, revenue per sales cost and minutes of use per subscriber). -Finance (liquidity ratio, net profit margin, return on total asset, accounts receivable turnover, fixed asset turnover, fixed ratio, debt ratio, revenue growth rate and net profit margin growth rate).
Kim and Gong (2009)	Quality of products, services or programmers, development of new products, services or programmers, ability to attract essential employees, satisfaction with customers or clients, relations between management and other employees, marketing, growth in sales, growth in profitability, growth in market share and return on asset).

As can be seen from Table 5 above, the measures of OP can be divided in two aspects financial measurement and non financial measurement. In this regard, the Balanced Scorecard (BSC) measurement (including financial perspective metrics, customer perspective metrics, internal process perspective metrics and learning and growth perspective metrics) are considered the best way to measure OP

AL-Hakim & Hassn

(Kaplan & Norton, 2001). It is integrated measurement of OP (Gonzalez-Padron et al., 2010). Based on previous studies, there is a lack of studies that clarify the relationship between KM and BSC (Chen & Mohamed, 2008; Lee & Lee, 2007; Visser & Sluiter, 2007). Thus, the researchers are motivated to realize the nature of the relationship between these two variables in conceptual framework.

2.5 Knowledge Management Implementation and Organizational Performance

The main objective in this section is to highlight studies that investigated the relationship between KM and OP. These studies can be classified into three categories depending on core requirements of KM implementation: (1) the relationship between CSFs of KM and OP; (2) the relationship between KM strategies and OP; and (3) the relationship between KM processes and OP.

2.5.1 CSFs and OP

The studies in the first category focus on the relationship between CSFs and OP. The literature identifies seven CSFs of KM which are human resource management, information technology, leadership, organizational learning, organizational strategy, organizational structure, and organizational culture. These factors are important for successful KM implementation in order to improve OP.

In this regard, Lee and Choi (2003) proposed that the CSFs of KM are an appropriate instrument for OP improvement. There are four main elements of the CSFs of KM. They are: structure, culture, people and information technology. They found that these elements of CSFs of KM have a positive effect on OP, measured as general success, market share, growth rate, and innovativeness. The researchers further pointed out about the need for more studies in this area. Besides those, Asoh et al. (2007) found a strong and positive relationship between CSFs of KM and OP. The CSFs of KM were technology, leadership, culture, and measurement. They also pointed out the need for more studies on the relationship between CSFs of KM and OP with a bigger sample size.

Increasingly, Lin and Kuo (2007) argued that the existence of an organization depends on increased KM capabilities during HRM and organizational learning which can contribute towards achieving high OP. Therefore, the results show the HRM and organizational learning have indirect positive effects on OP through KM capabilities. In a similar vein, Ho (2008) found that existence of an organization depends on increased KM capabilities during self-directed learning and organizational learning which affects OP. Therefore, the results show that the self-directed learning and organizational learning have indirect positive effects on OP through KM capabilities.

Afterwards, Zack et al. (2009) stressed that KM has emerged as an increased attention to the direction of OP improvement. Nevertheless, the researchers found that there is a serious gap in the literature in term of the relationship between KM and OP due to lack of empirical evidence. The results of the study show that KM practices indeed (i.e. processes, culture, learning, and strategies) have positive relation with OP (i.e. customer intimacy, operational excellence, and product leadership). In addition, the organizations need to realign their "KM mindset" and

AL-Hakim & Hassn

perceptions about how KM practices can enable the organization to improve OP. Without these, many KM practices might fail. The researchers suggested that further studies with different sample and culture. Similar recommendations were also made by Wei et al. (2009), who found a positive relationship between business strategy, organizational structure, KM Team, K-Map, and K-Audit, as CSFs of KM, and OP improvement. The researchers suggested more future studies in this field in different countries and samples, should be carried out.

Meantime, Anderson (2009) identified three CSFs of KM i.e. culture, structure, and technology that can help increase the capabilities of organizations. He showed that CSFs of KM have a positive relationship to capabilities of organizations. Zheng et al. (2009) proposed that structure, culture, and strategy are significant success factors for KM to achieve high OP. They recommended that further exploration is needed by integrating RBV and KBV so that understanding about how knowledge resources in an organization could be utilized to achieve high OP can be enhanced.

As a consequence, Yang et al. (2009b) regarded CSFs of KM as the heart of OP improvement. The results highlighted the positive effect of culture, structure and information technology of CSFs of KM on the OP, which include innovation, financing and service. However, the researchers also noted that there exists a gap in the literature with regards to the effects of CSFs of KM on OP. Thus they recommended that further studies are undertaken to investigate the relationship between CSFs of KM with OP, in addition to more studies to investigate the relationship between KM resources and process, and OP. Given the recommendations put forth by the above researchers, the present study seeks to investigate the relationships among CSFs of KM as part of KM implementation, on OP.

2.5.2 KM Strategies and OP

The second category of research involves the relationship between knowledge strategies and OP. Two strategies of KM have been identified in the literature i.e. codification and personalization. In this regard, Schulz and Jobe (2001) mentioned that achieving high results in OP improvement depends on KM strategies. The results show that the codification, implicitness, focused and unfocused, which considered that KM strategies have a positive effect on OP improvement. Moreover, the results indicate that codification strategy is an important recourse of superior OP. Thereby, the researchers have suggested further studies on the relation between codification strategy and OP. This is in line with the situation of the researchers for selecting the codification as the KM strategy in this study.

Similarly, Bierly and Daly (2007) emphasized that KM strategies play an important role in improving OP, but there are limited studies that sought to examine their effects. They revealed that both exploration strategy and exploitation strategy have a positive relationship to OP. They suggested that organizations should give more attention in applying KM strategies, and recommended more studies to confirm their results. Likewise, Choi et al. (2008) noted the lack of the empirical studies that examined the relationship between KM strategies and OP. As such, the researchers examined the interrelationships among KM strategies, and their effects on OP. KM strategies were measured in two dimensions: (i) KM focus:

AL-Hakim & Hassn

explicit-oriented, tacit-oriented; and (ii) KM source: external-oriented, internal-oriented. Overall, the results indicated that the KM strategies have a positive effect on OP. They further suggested for more studies in this area. Besides those, Wei et al. (2009) proposed four types of strategies in the KM literature of KM: culture, leadership, measurement, and technology. They are described as the core blocks of KM implementation as they were found to have a positive relationship to the overall OP. They recommended further research to be carried out in different countries and using different samples. Based on the recommendations made above, the present study seeks to investigate the effects of KM strategies, as part of KM implementation, on OP.

2.5.3 Knowledge Processes and OP

The third category aims to show the studies that examined the relationship between knowledge processes and OP. Based on previous studies, five KM processes can be identified: knowledge creation, knowledge org, knowledge storage, knowledge sharing, and knowledge utilization. In this regard, Lee and Choi (2003) argued that KM processes are important to improve OP. In this regard, they used Nonaka's knowledge creation processes model to create knowledge, which consists of four stages: socialization, externalization, combination, and internalization. The results showed a positive relationship between KM processes and OP. They also recommended further research to be undertaken.

Apart from that, Darroch (2005) hypothesized that three KM processes i.e. knowledge acquisition, knowledge responsiveness and knowledge dissemination could improve OP. But she found that both acquisition and dissemination did not positively affect OP and knowledge responsiveness positively affects OP. More studies are needed to confirm the results found. Besides that, Haas and Hansen (2005) revealed that knowledge utilization is considered a critical part of the KM processes. It has an ability to achieve OP improvement. Therefore, the organizations must find ways to utilize knowledge through the activation of both, codified knowledge and personal knowledge. The study shows that there is a positive relationship between knowledge utilization and OP.

Increasingly, Tsai and Li (2007) indicate that the OP can be viewed as an outcome of knowledge creation processes that depended on the effectiveness of the organizational strategy. The organizational strategy has positive effects on socialization, externalization, combination, and internalization, which lead to create new knowledge. Researchers have called for further studies to investigate the effects of other organizational factors on the knowledge creation process towards improving OP. Meanwhile, Anderson (2009) found that KM processes, measured in terms of conversion, application, and protection, have a positive relationship to organizational capabilities. He suggested conducting future studies to examine the role of KM processes on the team level in the successful KM implementation.

Similarly, Fugate et al. (2009) noted that improvement in the overall OP comes from effective KM processes. They found that knowledge interpretation, knowledge responsiveness, and knowledge dissemination are positively related to OP. Meantime, Liao and Wu (2009) found that that OP, measured in terms of financial, market and partnership, depends on effective implementation of KM

processes, which consist of four processes i.e. acquisition, conversion, sharing and applications. In this regard, the results indicate that KM processes have a positive effect on OP. In a similar vein, Wei et al. (2009) asserted that successful achievement of overall OP is based on actual application of KM processes. They showed a positive relationship between construction, embodiment and deployment as KM processes and OP. They also suggested that further research in different countries and samples, be conducted. From the literature, there is an agreement between the previous studies and the opinion of the researchers in selecting the KM processes to investigate the relationship between KM implementation and OP.

Despite the main aim of KM implementation is the improvement of OP, studies that looked at the relationship are still unintelligible (Bierly & Daly, 2007; Choi et al., 2008). There are also limited studies that investigated the relation between successful KM implementation and improvement of OP (Shahrokhi, 2010). Therefore, a large gap still exists in the literature between KM and OP (Yang et al., 2009b; Zack et al., 2009).

3. Conceptual Framework

From the previous arguments, the core requirements that consists of CSFs of KM, KM strategies and KM processes are regarded as the best way to a successful KM implementation (Bierly & Daly, 2007; Darroch, 2005; Lin & Kuo, 2007). On the other hand, the successful KM implementation is reflected on improvement of OP (Asoh et al., 2007; Bierly & Daly, 2007; Choi et al., 2008; Ho, 2008; Kim & Gong, 2009; Liao & Wu, 2009; Yang et al., 2009b; Zack et al., 2009). Besides those, this study seeks to clarify the nature of the relationship between core requirements of KM implementation and OP, which include financial perspective metrics, customer perspective metrics, internal process perspective metrics and learning and growth perspective metrics (Chen & Mohamed, 2008; Lee & Lee, 2007; Visser & Sluiter, 2007). Based on the above, the conceptual framework is developed based on resource based view and knowledge based view theories, which explain that organizational knowledge leads to improve OP (Asare, 2008; Kiessling et al., 2009; Kim & Gong, 2009; Liao & Wu, 2009; Pathirage et al., 2007). Figure 1 shows the conceptual framework of the relationships among study's variables; core requirements of KM implementation and OP.

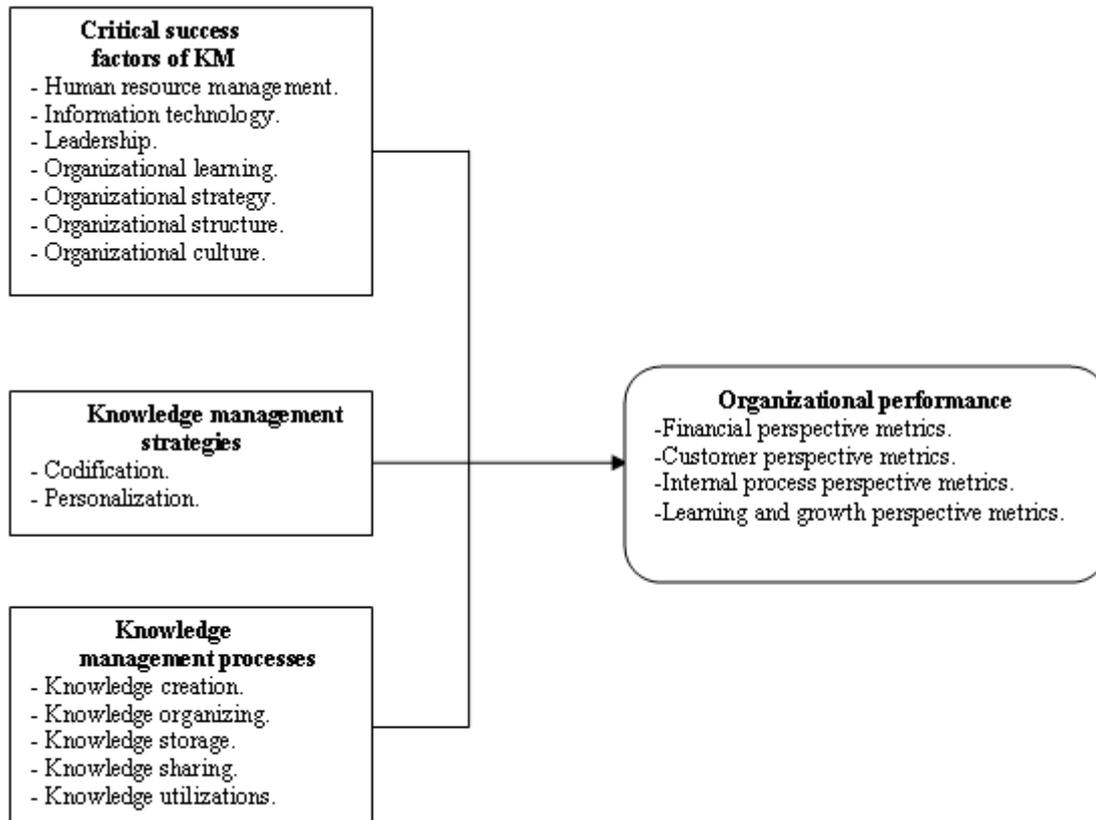


Figure 1: Conceptual framework

4. Conclusion

This study has revealed the importance of the core requirements of KM implementation, which reflected on improvement of OP. Therefore, this study contributed to the previous studies through the conceptual framework, which is based on resource based view and knowledge based view theories. The conceptual framework explains the direct relationship between core requirements of KM implementation (CSFs of KM, KM strategies and KM processes) and OP (performance financial perspective metrics, customer perspective metrics, internal process perspective metrics and learning and growth perspective metrics). The conceptual framework in this study is still limited to the results obtained from literature review and thus not practically proven. Therefore, the future is wide open for further research empirical in this area.

References

Abdullah, DH & Sinha, RR 2009, Knowledge management and intellectual capital emerging perspectives, (ed.), "Critical factors for KM implementation: An L&T, E&C division case study" (pp. 53-71), *In Institute of management technology, Ghaziabad.*

Ajmal, M, Helo, P & Keka, T 2010, 'Critical factors for knowledge management in project business', *Journal of Knowledge Management*, vol. 14, no. 1, pp. 156-168.

AL-Hakim & Hassn

- Akhavan, P, Jafari, M & Fathian, M 2006, 'Critical success factors of knowledge management systems: a multi-case analysis', *European Business Review*, vol. 18, no. 2, pp. 97-113.
- Alavi, M 1997, 'KPMG Peat Marwick U.S.: One Giant Brain', *Harvard Business School Case Publishing, Boston, MA*, 9-397-108.
- Alavi, M, & Leidner, DE 2001, 'Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues', *MIS Quarterly*, vol. 25, no. 1, pp. 107-136.
- Allweyer, T 1998, 'Modellbaslerless Wissensmanagement', *IM Information Management and Consulting*, vol. 13, no. 1, pp. 37-45.
- Al-Mabrouk, K 2006, 'Critical Success Factors Affecting Knowledge Management Adoption: A Review of the Literature', *IEEE Xplore*, pp. 1-6.
- Amaratunga, D & Baldry, D 2003, 'A conceptual framework to measure facilities management performance', *Property Management*, vol. 21, no. 2, pp. 171-89.
- Anantatmula, VS & Kanungo, S 2010, 'Modeling enablers for successful KM implementation', *Journal of Knowledge Management*, vol. 14, no. 1, pp. 100-113.
- Anderson, KK 2009, 'Organizational capabilities as predictors of effective knowledge management: an empirical examination', PhD thesis, Southeastern University, US.
- Asare, AK 2008, 'The role of the supplier in marketing process innovation and value creation', PhD thesis, University of Massachusetts Amherst, US.
- Asoh, DA, Belardo, S & Crnkovic, J 2007, 'Assessing Knowledge Management: Refining and Cross Validating the Knowledge Management Index Using SEM Techniques', *International Journal of Knowledge Management*, vol. 3, no. 2, pp. 1-30.
- Bhatt, G, Gupta, J & Kitchens, F 2005, 'An exploratory study of groupware use in the knowledge management process', *The Journal of Enterprise Information Management*, vol. 18, no. 1, pp. 28-46.
- Bierly, PE & Daly, PS 2007, 'Alternative Knowledge Strategies, Competitive Environment, and Organizational Performance in Small Manufacturing Firms', *Entrepreneurship Theory and Practice*, vol. 31, no. 4, pp. 493-516.
- Bukowitz, WR, & William, RL 2000, '*The knowledge management fieldbook*', London: Prentice Hall.
- Butler, T, Heavin, C & O'Donovan, F 2007, 'A Theoretical Model and framework for understanding Knowledge Management System Implementation', *Journal of Organizational and End User Computing*, vol. 19, no. 4, pp. 1-21.
- Calantone, RJ, Cavusgil, ST & Zhao, Y 2002, 'Learning orientation, organization innovation capacity. and organization performance', *Industrial Marketing Management*, vol. 31, no. 6, pp. 515-524.
- Carneiro, A 2000, 'How does knowledge management influence innovation and competitiveness?' *Journal of Knowledge Management*, vol. 4, no. 2, pp. 87-98.
- Casselmann, RM & Samson D 2007, 'Aligning Knowledge Strategy and Knowledge Capabilities', *Technology Analysis & Strategic Management*, vol. 19, no. 1, pp. 69-81.
- Chadam, J & Pastuszak, Z 2005, 'Marketing aspects of knowledge -based management in groups of companies: case of Poland' *Industrial Management & Data Systems*, vol. 105, no. 4, pp. 459-75.

AL-Hakim & Hassn

- Chait, LP 2000, 'Creating a Successful KM System', *IEEE Engineering Management Review*, vol. 28, no. 2, pp. 92-95.
- Chen, L & Mohamed, S 2008, 'Contribution of knowledge management activities to organisational business performance', *Journal of Engineering, Design and Technology*, vol. 6, no. 3, pp. 269-285.
- Choi, B, Poon, SK & Davis, JG 2008, 'Effects of knowledge management strategy on organizational performance: A complementarity theory-based approach', *Omega*, vol. 36, no. 2, pp. 235-251.
- Choi, YS 2000, 'An Empirical Study of Factors Affecting Successful Implementation of Knowledge Management', *Doctoral Dissertation, University of Nebraska, Lincoln, NE*.
- Chong, SC 2006, 'KM critical success factors A comparison of perceived importance versus implementation in Malaysian ICT companies', *The Learning Organization*, vol. 13, no. 3, pp. 230-256.
- Chourides, P, Longbottom, D & Murphy, W 2003, 'Excellence in knowledge management: an empirical study to identify critical factors and performance measures', *Measuring Business Excellence*, vol. 7, no. 2, pp. 29-45.
- Chuang, SH 2004, 'A resource-based perspective on knowledge management capability and competitive advantage: an empirical investigation', *Expert Systems with Applications*, 27, pp. 459-465.
- Darroch, J 2005, 'Knowledge management, innovation and organization performance', *Journal of knowledge management*, vol. 9, no. 3, pp. 101-115.
- Dauda, RAM & Hassan, S 2008, 'Knowledge Management Systems for Decision Makers in Public Universities Malaysia', *Proceedings of the Knowledge Management International Conference (KMICE '08)*, pp. 339-348.
- Despres, C & Chauvel, D 1999, 'Knowledge Management (s)', *Journal of Knowledge Management*, vol. 3, no. 2, pp. 110-120.
- Drucker, P F 1993, '*Post-Capitalist Society*', New York: HarperCollins Publishers, Inc.
- Edvardsson, IR 2008, 'HRM and knowledge management', *Employee Relations*, 30, no. 5, pp. 553-561.
- Elashaheb, MS 2005, 'A knowledge management framework for the telecommunication industry: the KMFTI model', PhD thesis, University of Salford, United Kingdom.
- Ewing, MT & West, DC 2000, 'Advertising knowledge management: strategies and implications', *International Journal of Advertising*, vol. 19, no. 2, pp. 225-243.
- Gai, S & Xu, C 2009, 'Research of Critical success factors for implementing knowledge management in China', *International Conference on Information Management, Innovation Management and Industrial Engineering*, pp. 561-564.
- Garavelli, C, Gorgoglione, M & Scozzi, B 2004, 'Knowledge Management Strategy and Organization: A Perspective of Analysis', *Knowledge and Process Management*, vol. 11, no. 4, pp. 273-282.
- Gold AH, Malhotra A & Segars AH 2001, 'Knowledge management: an organizational capabilities perspective', *Journal of Management Information Systems*, vol. 18, no. 1, pp. 185-214.
- Gonzalez-Padron, TL, Chabowski, BR, Hult, GTM & Ketchen, DJ 2010, 'Knowledge Management and Balanced Scorecard Outcomes: Exploring the Importance of Interpretation, Learning, and Internationality', *British Journal of Management*, vol. 21, no. 4, pp. 967-982.

AL-Hakim & Hassn

- Greiner, ME, Böhmman T & Krcmar, H 2007, 'A strategy for knowledge management', *Journal of Knowledge Management*, vol. 11, no. 6, pp. 3-15.
- Grover, V & Davenport, TH 2001, 'General perspectives on knowledge management: fostering a research agenda', *Journal of Management Information Systems*, vol. 18, no. 1, pp. 5-21.
- Haas, MR & Hansen, MT 2005, 'When using knowledge can hurt performance: the value of organizational capabilities in a management consulting company', *Strategic Management Journal*, vol. 26, no. 1, pp. 1-24.
- Hansen, M, Nohria, I & Tierney, H 1999, 'What's your strategy for managing knowledge?', *Harvard Business Review*, vol. 77, no. 2, pp. 106-116.
- Helmi, A 2010, 'The Articulation of Knowledge Management Strategy in Public Sector Organizations', *Knowledge Management: theory, research & Practice, Proceedings Knowledge Management 5th International Conference*, pp. 329-334.
- Ho, LA 2008, 'What affects organizational performance? The linking of learning and knowledge management', *Industrial Management & Data Systems*, vol. 108, no. 9, pp. 1234-1254.
- Holsapple, CW & Singh, M 2001, 'The Knowledge Chain Model: Activities for Competitiveness', *Expert Systems with Applications*, 20, pp. 77-98.
- Hu, Y & Deng, L 2008, 'A Contingency Model on Knowledge Management-Firm Performance Relationship: An Empirical Study from China', *International Seminar on Future Information Technology and Management Engineering, IEEE Xplore*, pp. 464-468.
- Hung, YC, Huang, SM, Lin, QP & Tsai ML 2005, 'Critical factors in adopting a knowledge management system for the pharmaceutical industry', *Industrial Management & Data Systems*, vol. 105, no. 2, pp. 164-183.
- Hwang, AS 2003, 'Training strategies in the management of knowledge', *Journal of knowledge management*, vol. 7, no. 3, 92-104.
- Jafari, M, Rezaeenour, J, Akhavan, P & Fesharaki, MN 2010, 'Strategic knowledge management in aerospace industries: a case study', *Aircraft Engineering and Aerospace Technology: An International Journal*, vol. 82, no. 1, pp. 60-74.
- Jantunen, A 2005, 'Knowledge-processing capabilities and innovative performance: an empirical study', *European Journal of Innovation Management*, vol. 8, no. 3, pp. 336-349.
- Kalling, T 2003, 'Knowledge management and the occasional links with performance', *Journal of knowledge management*, vol. (38), no. 3, pp. 67-81.
- Kaplan, RS & DP Norton, 2001 'Transforming the balanced scorecard from performance measurement to strategic management: Part I', *Accounting Horizons*, vol. 15, pp. 87-104.
- Kiessling, TS, Richey, RG, Meng, J & Dabic, M 2009, 'Exploring knowledge management to organizational performance outcomes in a transitional economy', *Journal of World Business*, vol. 44, no. 4, pp. 421-433.
- Kim, H & Gong, Y 2009, 'The roles of tacit knowledge and OCB in the relationship between group-based pay and firm performance', *Human Resource Management Journal*, vol. 19, no. 2, pp. 120-139.
- Kridan, AB & Goulding, JS 2006, 'A case study on knowledge management implementation in the banking sector', *VINE: The journal of information and knowledge management systems*, vol. 36, no. 2, pp. 211-222.
- Kucza, T 2001, 'Knowledge Management Process Model', *Technical Research Centre of Finland*. Finland: VTT Publications 455.

AL-Hakim & Hassn

- Lee, H & Choi, B 2003, 'Knowledge management enablers, processes, and organizational performance: an integrative view and empirical examination', *Journal of Management Information Systems*, vol. 20, no. 1, pp. 179-228.
- Lee, YC & Lee, SK 2007, 'Capability, processes, and performance of knowledge management: a structural approach', *Human Factors and Ergonomics in Manufacturing*, vol. 17, no. 1, pp. 21-41.
- Liao, CH, Chen, CW, Wu, HC & Cheng, MH 2009, 'Grey Relational Analysis of Operational Performance for Mobile Telecommunications Companies in Taiwan', *International Conference on Communications and Mobile Computing*, pp. 348-352.
- Liao, SH & Wu, CC 2009, 'The Relationship among Knowledge Management, Organizational Learning, and Organizational Performance', *International Journal of Business and Management*, vol. 4, no. 4, pp. 64-76.
- Lin, CY & Kuo, TH 2007, 'The mediate effect of learning and knowledge on organizational performance', *Industrial Management & Data Systems*, vol. 107, no. 7, pp. 1066-1083.
- Ling, TN & Shan, LY 2010, 'Knowledge Management Adoption among Malaysia's SMEs: Critical Factors', Knowledge Management: theory, research & Practice, *Proceedings Knowledge Management 5th International Conference*, pp. 269-276.
- Maier, R & Remus, U 2003, 'Implementing process-oriented knowledge management strategies', *Journal of knowledge management*, vol. 7, no. 4, 62-74.
- Marqués, DP & Simón, FJG, 2006 'The effect of knowledge management practices on organization performance', *Journal of knowledge management*, vol. 10, no. 3, pp. 143-156.
- McElroy, M 2002 'The New Knowledge Management, Complexity, Learning, and Sustainable Innovation, Burlington, England: Butterworth-Heinemann.
- McLaughlin, S & Paton, RA 2008, 'Defining a Knowledge Strategy Framework for Process Aligned Organizations: An IBM Case', *Knowledge and Process Management*, vol. 15, no. 2, pp. 126-139.
- Mehta, N 2008, 'Successful knowledge management implementation in global software companies', *Journal of knowledge management*, 12, no. 2, pp. 42-56.
- Moullin, M 2007, 'Performance measurement definitions Linking performance measurement and organizational excellence', *International Journal of Health Care Quality Assurance*, vol. 20, no. 3, pp. 181-183.
- Nemati, HR 2002, 'Global knowledge management: exploring a framework for research', *Journal of Global Information Technology Management*, vol. 5, no. 3, pp. 1-11.
- Ngah, R & Ibrahim, A. R. 2010, 'The Effect of Knowledge Sharing on Organizational Performance in Small and Medium Enterprises', Knowledge Management: theory, research & Practice, *Proceedings Knowledge Management 5th International Conference*, pp. 503-508.
- Nonaka, I & Takeuchi, H. 1995, '*The knowledge creating company: How Japanese companies create the dynamics of innovation*', Oxford University Press: New York.
- Pathirage, CP, Amaratunga, DG. & Haigh, RP. 2007, 'Tacit knowledge and organizational performance: construction industry perspective', *Journal of knowledge management*, vol. 11, no. 1, pp. 115-126.

AL-Hakim & Hassn

- Pitt, M & Tucker, M 2008, 'Performance measurement in facilities management: driving innovation?', *Property Management*, vol. 26, no. 4, pp. 241-254.
- Probst, G, Raub, S & Romhard, K 1997, '*Wissen Managen*', Wiesbaden: Gabler Verlag.
- Ramachandran, SD 2010, 'Knowledge management in higher education: a case study in Malaysia', *Printed and Published in Malaysia by: Univerisiti Teknikal Malaysia Melaka*.
- Rastogi, PN 2000, 'Knowledge Management and Intellectual Capital - The New Virtuous Reality Of Competitiveness', *Human Systems Management*, vol. 19, no. 1, pp. 15-39.
- Razi, MJM & Abdul Karim, NS 2010, 'An Instrument to Assess Organizational Readiness to Implement Knowledge Management Process', Knowledge Management: theory, research & Practice, *Proceedings Knowledge Management 5th International Conference*, pp. 323-328.
- Rhodes, J, Hung, R, Lok, P, Lien, BYH & Wu, CM 2008, 'Factors influencing organizational knowledge transfer: implication for corporate performance', *Journal of Knowledge Management*, vol. 12, no. 3, pp. 84-100.
- Richard, PJ, Devinney, TM, Yip, GS & Johnson, G 2009, 'Measuring Organizational Performance: Towards Methodological Best Practice', *Journal of Management*, vol. 35, no. 3, pp. 718-804.
- Sáenz, J, Aramburu, N & Rivera, O 2009, 'Knowledge sharing and innovation performance A comparison between high-tech and low-tech companies', *Journal of Intellectual Capital*, vol. 10, no. 1, pp. 22-36.
- Safa, MS, Shakir, F & Boon, OK 2006, 'Knowledge Management: Practice and Performance of NGO in Maldives', *International Journal of Management and Entrepreneurship*, vol. 2, no. 1, pp. 69-86.
- Schulz, M & Jobe, LA 2001, 'Codification and tacitness as knowledge management strategies An empirical exploration', *Journal of High Technology Management Research*, vol. 12, no. 1, pp. 139-165.
- Shahrokhi, N 2010, 'Designing a Model for Implementing Knowledge Management in Project-based Organizations: Case Study of PATSA Co.', Knowledge Management: theory, research & Practice, *Proceedings Knowledge Management 5th International Conference*, pp. 355-359.
- Singh, SK 2008, 'Role of leadership in knowledge management: a study', *Journal of Knowledge Management*, vol. 12, no. 4, pp. 3-15.
- Slagter, F 2007, 'Knowledge management among the older workforce', *Journal of Knowledge Management*, vol. 11, no. 4, pp. 82-96.
- Snis, U 2000, 'Knowledge is Acknowledged? A Field Study about People, Processes, Documents and Technologies', *Proceedings of the 33rd Hawaii International Conference on System Sciences*, pp. 1-10.
- Sobahle, S 2005, 'Knowledge Management as a management tool', *Unpublished master thesis, University of Johannesburg, South Africa*.
- Stankosky, M & Baldanza, C 2001, 'A systems approach to engineering a KM system', *Unpublished Manuscript*.
- Supyuenyong, V & Islam, N 2009, 'Influence of SME characteristics on knowledge management processes The case study of enterprise resource planning service providers', *Journal of Enterprise Information Management*, vol. 22, no. 1/2, pp. 63-80.
- Tannenbaum, S & Alliger, G 2000, 'Knowledge Management : Clarifying the Key Issues', *IHRIM*.

AL-Hakim & Hassn

- Tasmin, R & S, YL 2010, 'Determining Factors of Knowledge Management Implementation in Knowledge-Based Organizations', *Knowledge Management: theory, research & Practice, Proceedings Knowledge Management 5th International Conference*, pp. 49-54.
- Theriou, GN & Chatzoglou PD 2008, 'Enhancing performance through best HRM practices, organizational learning and knowledge management: A conceptual framework', *European Business Review*, vol. 20, no. 3, pp. 185-207.
- Theriou, GN & Chatzoglou, PD 2009, 'Exploring the best HRM practices-performance relationship: an empirical approach', *Journal of Workplace Learning*, vol. 21, no. 8, pp. 614-646.
- Tsai, MT & Li, YH 2007, 'Knowledge creation process in new venture strategy and performance', *Journal of Business Research*, vol. 60, no. 4, pp. 371-381.
- Visser, JK & Sluiter, E 2007, 'Performance Measures for a Telecommunications Company', *IEEE Xplore*, pp. 1-7.
- Wei, CC, Choy, CS & Yew, PHP 2006, 'KM implementation in Malaysian telecommunication industry An empirical analysis', *Industrial Management & Data Systems*, vol. 106, no. 8, pp. 1112-1132.
- Wei, CC, Choy, CS & Yew, PHP 2009, 'Is the Malaysian telecommunication industry ready for knowledge management implementation?', *Journal of knowledge management*, vol. 13, no. 1, pp. 69-87.
- Wiig, KM 1997, 'Knowledge Management: an introduction and perspective' *Journal of Knowledge Management*, vol. 1, no. 1, pp. 6-14.
- Wong, KY 2005, 'Critical success factors for implementing knowledge management in small and medium enterprises' *Industrial Management & Data Systems*, 105 (3), 261-279.
- Wong, KY & Aspinwall, E 2005, 'An empirical study of the important factors for knowledge-management adoption in the SME sector', *Journal of Knowledge Management*, vol. 9, no. 3, pp. 64-82.
- Xie, Y 2009, 'An empirical analysis of the antecedents of knowledge management strategies', PhD Thesis, Nova Southeastern University, US.
- Yang, B, Zheng, W & Viere, C 2009a, 'Holistic Views of Knowledge Management Models', *Advances in Developing Human Resources*, vol. 11, no. 3, pp. 273-289.
- Yang, CC, Marlow PB & Lu, CS 2009b, 'Knowledge management enablers in liner shipping', *Transportation Research Part E*, vol. 45, no. 2, pp. 893-903.
- Yanga, C, Fang, S & Linc, JL 2010, 'Organizational knowledge creation strategies: A conceptual framework', *International Journal of Information Management*, vol. 30, no. 3, pp. 231-238.
- Yeh, YJ, Lai, SQ & Ho, CT 2006, 'Knowledge management enablers: a case study', *Industrial Management and Data Systems*, vol. 106, no. 6, pp. 793-810.
- Zack M, McKeen J & Singh S 2009, 'Knowledge management and organizational performance: an exploratory analysis', *Journal of Knowledge Management*, vol. 13, no. 6, pp. 392-409.
- Zack, MH 1999, 'Developing a Knowledge Strategy', *California Management Review*, vol. 41, no. 3, pp. 125-145.
- Zheng, W, Yang, B & McLean, GN 2010, 'Linking organizational culture, structure, strategy, knowledge management in higher education and organizational effectiveness: Mediating role of knowledge management', *Journal of Business Research*, vol. 63, no. 7, pp. 763-771.