LOCATING PERFORMANCE MEASUREMENT (PM) IN KNOWLEDGE MANAGEMENT (KM) FRAMEWORK

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Previous studies on Knowledge Management (KM) still lack locating performance measurement (PM) process in Knowledge Management Systems (KMS). Thus, this paper combines elements that influence the success of KM initiatives and locate PM within KM framework to improve organizational performance. Hence, through an exploratory basic research; this paper offers a new KM framework by locating PM as a complete process within it. This will enhance organizational opportunities for a better organizational learning to achieve a successful organizational performance. Validation of the framework was conducted through semi structured focus group interview with 10 academic experts in the field of operation management.

Keywords: Knowledge Management, Organizational Performance, Performance Measurement
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1. Introduction

In a dynamic, changing business environment, the capability of an organization to strategically influence knowledge becomes its foundation of maintainable competitive advantage (Lin, 2011). Vorakulpipat & Rezgui (2008) declared that knowledge management (KM) has attracted considerable interest from the academic community and organizations. It is argued that KM has generated considerable interest in management circles due to its capability to deliver to organizations strategic results relating to profitability, competitiveness and capacity enhancement (Oluikpe, 2012). Much of its attraction to management theorists stems from its positioning as a business strategy.

Accordingly, it is important to realize the value of KM, the development of business knowledge and the improvement of organizations with KM (Kambil, 2009; Lee & Kim, 2001; Lin, 2007).

A growing number of organizations have included KM into their strategies and reported results as: business process efficiency improvements; better-organized communities; higher staff motivation (Jasimuddin, 2008; Nonaka & Takeuchi, 1995); enhancing organizational learning capacity and competitive advantage to ensure long-term firm survival (Cepeda & Vera, 2007; Johannessen & Olsen, 2003).

Hence, organizations recognized that they will not survive in the modern knowledge era unless they have a strategy for managing and gaining value from their knowledgeable assets, and proposing many KM lifecycles and strategies (Nonaka & Takeuchi, 1995). However, despite the successful feedback KM has gained in the past years, implementations of KM initiatives still lack appropriate PM systems (Nonaka & Takeuchi, 1995). Also, one of the challenges for today's organizations is to integrate KM with PM to attain sustainable competitive performance (del-Rey-Chamorro, Roy, van Wegen, & Steele, 2003; Pun & White, 2005; Lee, Kim, B. & Kim, H., 2012). Yiu, Sankat & Pun (2013) added that without measurable success, support for KM is unlikely to continue. Bose (2004) argued that the best consistent approach to measure the impact of KM on an organization's performance is to tie-in measurement of KM with the organization's overall PM systems.

Therefore, it is agreed in most literature that a broad range of factors can influence the success of KM initiatives (Ernst & Young, 1998; Holsapple & Joshi; 2000, Lee % Kim, 2001; Lee, Kim, B. & Kim, H., 2012; Rusly, Corner & Sun, 2012; Chang, Hsu & Yen, 2012). Moreover, relatively few researches considered merging all the factors that may influence the success of KM initiatives or locate PM within KM framework to improve organizational performance. Thus, this paper represents a conceptual framework that shows the KM infrastructure; organizational strategy (vision, mission, goals); performance measurement; and KM effectiveness, in order to achieve effective organizational performance.

2. Methodology

This basic research is about knowledge management and performance measurement. According to Creswell (2003), qualitative research involves analysing data collected from a variety of empirical materials without formal measurement, and historical archives. According to Bless, Higson-Smith & Kagee (2006), Zikmund (2000), Sekaran (2003) and Kumar (2005), exploratory research is to explore a phenomenon in greater depth with a view

to building new theory. Therefore, this research used exploratory research according to the research objective.

Through literature, the authors revealed the lack of a KM framework that embraces performance measurement, which encouraged them to develop a new KM framework by locating performance measurement to reach effective organizational performance.

The authors collected data from various literature resources until they constructed the first framework (as shown in Figure 1). The framework was validated according to the expert purposive sampling technique (Yin, 2011; Bernard 2002); from experts in the academic field. The academic staff members were chosen to have a minimum of ten years' experience in the operation management field.

The validation process was conducted (Figure 1) through a semi structured focus group interview to enrich the discussion through the group thinking approach. The interview answers questions such as:

- What do you think of the main and sub- components of this framework?
- What do you think of the location of PM as a main component in this framework?
- Do you agree that the existence of knowledge processes' capability and knowledge processes lead to KM effectiveness? If no; why?
- Do you agree that this framework leads to organizational performance? If no; why?
- Do you think that organizational learning increases through this framework? If no; why?

The comments of the academics as discussed in section (6) were used to amend the framework as shown in Figure (2). Then, the new framework was validated again by the same experts.

One of the limitations that have faced the researchers is that in Egypt, there is no specialization as KM academics or a field of study specialized ONLY in KM. this reveals another limitation which is the non-generalizability of the Framework in Figure (2).

3. Literature review

KM aims to help companies to be more efficient or more innovative in order to compete strongly (Evanschitzky, Ahlert, Blaich & Kenning, 2007), which makes KM a technological base that should be judged according to cost/benefit elements (Amalia & Nugroho, 2011).

Huang, Quaddus, Rowe & Lai, (2011) defined KM as 'the process of identifying, managing and leveraging individual and collective knowledge to support the firm becoming more competitive'. The definition highlights the primary components of KM in the increasingly

competitive world. First, both individual and collective knowledge should be identified. Second, KM involves the process of collecting and integrating the knowledge. Third, KM is primarily employed to increase competitiveness.

This was agreed with by Sandhawalia & Dalcher (2011), who stated that the increasing importance of KM for organizations was due to realizing the importance of effective use of different knowledge assets and resources that help to innovate and respond towards fast changing customer expectations. They added that organizations develop KM competences to help support a range of vital operational and innovative activities. The interest in organizational competences has created an emphasis on the development and implementation of KM processes and infrastructure required to support daily work practices, which in turn improves organizational success.

Greiner, Böhmann, & Krcmar, (2007) stated that KM should not be implemented because it is just "nice-to-have." Thus, KM should be tightly related to the organization objectives and business strategies or be one of its subunits (Davenport & Prusak, 2000; Zack, 1999). Thus, the strategic direction of the organization should determine the direction of the KM activity because knowledge may affect the organizational performance (Greiner, Böhmann, & Krcmar, 2007; Grant, 1997; Wiig, 1997).

One of the challenges for today's organizations is to integrate KM with PM to attain sustainable competitive performance (del-Rey-Chamorro, Roy, van Wegen, & Steele, 2003; Pun & White, 2005; Lee, Kim, B. & Kim, H., 2012).

Thus, in order for organizations to best utilize their KM systems, they should be able to measure their performance. This is easy if one knows the current performance level, and by checking if it is increasing or not, then it becomes possible to track the changes (Shannak, 2009).

Yiu, Sankat & Pun (2013) added that without measurable success, support for KM is unlikely to continue. Bose (2004) argued that the best consistent approach to measuring the impact of KM on an organization's performance is to tie-in measurement of KM with the organization's overall PM systems. Therefore, PM systems are required to make the benefits and the performance of KM initiatives transparent.

Furthermore, the recent works in KM have clearly emphasized the close relationship between KM and organizational culture (Davenport & Prusak, 2000; Nonaka & Takeuchi, 1995), along with an appreciation of social context of learning (Easterby-Smith, Snell, & Gherardi,

1998), and expanding individual participation in communities of practice (Easterby-Smith, Snell, & Gherardi, 1998).

Ritchie (2000) and Rai (2011) indicated that culture is a strong and positive factor in an organization); it does not only influence productivity, commitment, motivation, and actions of employees, but also their performance. They suggested that management must realize the value of the relationship between a powerful culture and beneficial outcomes.

Similarly, Durmusoglu, Jacobs, Nayir, Khilji, & Wang, (2014) stated that KM activities must be supported and prioritized by the organizational culture since organizational culture is a basic building block of knowledge activities; in other words, organizational culture will determine, to a large extent, how members interact with one another (Magnier-Watanabe, Benton & Senoo, 2011).

Also, Zack, Mckeen, & Singh, (2009) argued that culture has influence on the organization performance. Those organizations that have realized its importance give value to their employees and incentives for knowledge sharing and create an atmosphere which is beneficial for KM systems to succeed.

Hence, organizations need to encourage cultures where their members are promoted to share knowledge in order to gain competitive advantage (Wenger, 2000). However, there are a few studies in this area and they focus on limited aspects of organizational culture and organizational KM (Rai, 2011).

Weber (2007) investigated the failure factors of KM and concluded that when culture and processes are not properly aligned, system tends to fail while developing systems input is not taken from all stake holders. Thus, literature shows that culture influences performance and performance influences KM.

Concerning KM implementation, Chong & Choi (2005) as well as Wong & Aspinwall (2005b) studied the critical factors in the successful implementation of KM and quoted several previous researches which agree that knowledge friendly culture should be in place or developed if successful implementation of KM is required.

Consequently, Malhotra (2003) revealed that in order to succeed you have to develop a learning culture, which will be quick to adopt change. His philosophy is that in today's environment only certain things change. Organizations that will be ready to change and take timely decisions will have the competitive advantage.

Several authors (Malhotra, 2003; Oakland & Tanner 2006; Islam & El-Araby, 2007) mentioned that organizational change faces resistance which is mostly caused because of

stereotypes and perceptions that are adopted by employees within an organization. These factors should be studied by managers in order to find ways to overcome and implement an effective change process. Accordingly, resistance to change will influence both performance and KM directly and indirectly.

Moreover, Moffett, McAdam, & Parkinson, (2003) suggested that individual motivators may enable employees' willingness to participate and engage in the obtaining and sharing of knowledge. Employees are motivated when they think that KM practices will be worth the effort and able to maintain good interpersonal relationships with others. Therefore, the expectation of individual relationships can encourage employees to participate in KM practices, in turn facilitating the KM evolution.

Bhatti, Samuel, Eltabakh, Amjad, & Ghafoor, (2007) added that a majority of the organizations worldwide implementing KM have found it relatively easier to put technology and process in place, whereas the people and their leadership capabilities have paused greater challenges. Also, the different aspects of organizational support are critical drivers of KM evolution, such as top management support (Storey & Barnett, 2000), reward systems linked to KM (Wong, 2005a), and knowledge sharing culture (Syed-Ikhsan & Rowland, 2004). Finally, the KM system infrastructure (such as groupware, online databases, intranet, and virtual communities) can be effectively used to facilitate the codification, integration, and dissemination of organizational knowledge (Zack, 1999).

Accordingly, it is evident from the extant literature that the focus of the earlier studies has shown the existence of relations between KM and several terminologies. These terminologies are: KM processes and infrastructure, objectives and business strategies of the organization, organizational performance, performance measurement, organizational culture, learning culture, individual relationships, technology, top management support, knowledge sharing culture, KM system infrastructure, and organizational knowledge.

Hence, the authors will study the KM framework and models in the following section to stand on the relations between the before mentioned terminologies and KM in fulfilment of the research objectives.

4. KM Frameworks and Models

Metaxiotis, Ergazakis, & Psarras, (2005) declared that in general; a framework is a holistic and concise description of the major elements, concepts and principles of a particular domain. The main aim of a framework is to explain the domain and define a standardized schema of its core content as a reference for future design implementations. They added that a KM

framework names the major KM elements, their relationships and the principles that define the way in which these elements interact. In this way, it provides the reference for decisions about the implementation and application of a KM system/project within an organization or an enterprise.

The different proposed frameworks help managers towards a better understanding of the structure, hierarchy and contents of the organizational knowledge base.

In the knowledge-based organizations, managers focus on issues of knowledge capital over more traditional assets and on the capability of their organizations to harness these knowledge assets (Denford & Chan, 2011)

They may support and facilitate management discussion about the identification of the knowledge assets characterizing the organization's business model (Marr, Schiuma, & Neely, 2004; Wong, 2005b; Schiuma, 2009).

One reason why many organizations are still struggling with KM and failing in their activities to realize its full potential is that they lack the support of a strong theoretical foundation to guide them in its implementation (Wong & Aspinwall, 2004).

Later, Wong & Aspinwall, (2005a) developed a new integrated framework which was evaluated to determine its applicability in this business sector to help to pave the way for small and medium-sized enterprises (SMEs) to accomplish KM. Moreover, Wong and Aspinwall (2005b) investigated the critical success factors (CSFs) of adopting knowledge management (KM) in SMEs. They declared that, the CSFs, in order of importance (ranked from the highest to the lowest) for implementing KM in the SME sector are: management leadership and support; culture; strategy and purpose; resources; processes and activities; training and education; human resource management; information technology; motivational aids; organizational infrastructure; and measurement. Accordingly, it offers a beneficial source of information to SMEs, and academics can use the results to build models that would further expand the KM domain.

Furthermore, Rai (2011) proposed an organizational knowledge management framework that provides a conceptual model with an integrated set of techniques and tools to understand the linkages between organizational culture and KM in an organization that would facilitate organizational learning, which would in turn lead to the improvement of KM practices. It should also facilitate creation of processes to put that knowledge in action. However, he did not claim universal applicability or generalizability of the proposed framework; it only suggests a possible diagnostic or normative prescription.

Schiuma (2012) claimed that in order to activate and support knowledge-based business performance improvements, organizations need not only to adopt the right frameworks and tools for managing knowledge, but also to put in place relevant KM initiatives aimed at activating knowledge processes that drive the development of the strategic organizational knowledge domains.

Previous studies (Tanriverdi, 2005; Kulkarni, Ravindran, & Freeze, 2007) on KM have been fragmented because they only consider some aspects of KM performance rather than using a holistic view of the KM performance framework: they have examined the relationship between one or two aspects of KM enablers and process capability, or between KM process capabilities and organizational performance.

A general view where the complex and dynamic characteristics of KM are better described improves the understandings of the interaction between the KM infrastructure, knowledge process capabilities, organizational creativity, and performance. The rationale for the relationships between these constructs is grounded in the core results of previous studies:

- KM infrastructure improves knowledge creation (Lee & Choi, 2003) and knowledge process capabilities, i.e. acquisition, conversion, application, and protection (Hoffman, Hoelscher, & Sherif, 2005);
- creative organizational learning is increased from knowledge process capabilities that create, transfer, and use knowledge (Malhotra, 2004); and
- the result of increased organizational creativity is improved organizational performance (Pfeffer, 2005; Shani, Sena, & Stebbins, 2000).

Previous studies have suggested that knowledge infrastructure includes culture, people, organizational hierarchy, structure, and IT (Lee & Choi, 2003; Gray & Durcikova, 2005). While Lee & Choi (2003) suggested that culture, structure, people, and information technology are related enablers of KM, management related factors that are important antecedents for KM process capabilities were missing in the study.

Lee, Kim, B. & Kim, H., (2012) integrated the theory of organizational strategy, IT, and organizational learning to build an integrated model for KM that examines the relationship between KM infrastructure, knowledge process capability supported by Knowledge Management Systems (KMS), creative organizational learning, and organizational performance. The results of their study indicate that collaboration, learning culture, top management support, and IT support affect the knowledge process capabilities. Knowledge

process capabilities and creative organizational learning in turn mediate the relationship between KM infrastructure and organizational performance, which demonstrate the relevance of KM infrastructure for organizational performance.

Moreover, previous literature on KM focuses on understanding organizational readiness to promote successful knowledge management implementation in terms of the structural dimension. Rusly, Corner & Sun, (2012) proposed a conceptual model for understanding the influence of change readiness from a more comprehensive perspective comprising both psychological and structural readiness and its influences on KM processes, which could affect overall effectiveness of KM implementation. Rusly, Corner & Sun, (2012) proposed that changes at the earlier stage enable consideration of various elements that will shape employees' behaviour and attitude.

Chang, Hsu & Yen, (2012) identified profiles of KM process, KMS capability for different organizational subunits' task characteristics. They found that the empirical support for the argument that the fit among KM processes, KMS capabilities and task characteristics can improve KM performance. Therefore, KMS capabilities should be employed to support KM processes properly (Choi & Lee, 2002; Bloodgood & Salisbury, 2001; Sabherwal & Chan, 2001).

Chang, Hsu & Yen, (2012) added that the infrequent use of KMS for creating new knowledge may lead to lower KM performance. Moreover, Jasperson, Carter, & Zmud, (2005) stated that failure of IT implementation causes inappropriate knowledge transfer within such subunits and may also lead to lower KM performance. Barki, Titah, & Boffo, (2007) implied that managers within an organization should encourage their employees to adapt their behaviours (e.g. learning activities) to IT. As they learn how to use and interact with IT, they can change their behaviours to perform their tasks to make sure that their employees can use quality knowledge to perform their work. By doing so, users' satisfaction towards KMS and organizational knowledge can be maintained (Barki, Titah, & Boffo, 2007).

This review helped the authors to clarify the relations between the terminologies (mentioned in section 3) and KM Frameworks and models in order to construct a conceptual framework of KM.

5. Proposed Framework

This study adopts four broad dimensions of process capabilities as suggested by Gold, Malhotra, & Segars, (2001) and Lee, Kim, B. & Kim, H., (2012): the acquisition, conversion, application, and protection of knowledge. Also, the KM infrastructure suggested by Lee,

Kim, B. & Kim, H., (2012) that includes: collaboration, learning culture, top management support, and IT support. In addition, the study adopts the individual and organizational change readiness suggested by Rusly, Corner & Sun, (2012) as well as the KM Effectiveness suggested by Becerra-Fernandez & Sabherwal (2010) and Rusly, Corner & Sun, (2012). Furthermore, Parlby & Taylor (2000) suggested that knowledge creation, sharing, harvesting and leveraging can be encouraged by tying it to job evaluations and performance measurement.

Knowledge acquisition and conversion processes are activities undertaken early in building KMS for accumulating organizational knowledge (Alavi & Leidner, 2001), and strong leadership from the CEO is required for these knowledge processes. Also, IT support has a strong effect on knowledge process capabilities as it contributes to the creation and sharing of knowledge with smaller costs and is a critical element in KM (Alavi & Leidner, 2001), which in turn affects organizational learning and performance (Handzic, 2004).

Lee, Kim, B. & Kim, H., (2012) demonstrated that the KM processes mediate between factors in the KM infrastructure (i.e. collaboration, learning culture, and IT support), and creative organizational learning. This leads to a significant effect of creative organizational learning on organizational performance; which makes organizational learning a KM intermediate outcome that exists between the knowledge process capabilities and organizational performance. In the same essence, Gold, Malhotra & Segars, (2001) agreed with Lee, Kim, B. & Kim, H., (2012) and added that knowledge process capabilities are related to organizational effectiveness, and organizational performance depends on the extent to which the knowledge process capabilities increase organizational learning.

Rusly, Corner & Sun, (2012) declared that the elements of change readiness encompass the psychological and structural elements that are present at both individual and organizational levels, through a conceptualization of the relationships between change readiness, KM processes and KM effectiveness. Rusly, Corner & Sun, (2012) added that, to embrace changes in the KM initiatives, psychological readiness should focus on convincing employees about the needs, purposes and benefits of the proposed changes. Thus, management should develop a sufficient understanding among the employees regarding the importance of an improved KM processes for sustainable organization competitiveness. In addition, the level of structural readiness among the employees could be enhanced through motivational courses and training that encourage people's innovativeness and adaptability to cope with the changes throughout the process of managing organizational knowledge.

According to Sections 3, 4 and 5, the authors concluded that for an organization, in order to adopt an effective knowledge management process, performance measurement is important. Although most KM frameworks and models ensure this importance, PM does not exist explicitly in the previous KM frameworks and models. This gives the significance to the new proposed framework in this research.

The authors concluded from the review in this paper that there are several elements with special relation which lead to high organizational performance; these elements are:

- Knowledge infrastructure:
  - Culture: Collaboration and Learning Culture
  - Management: Top Management Support
  - Technology: IT Support
  - Individual and Organizational Readiness: Psychological and Structural
- Knowledge Process Capabilities
  - Acquisition
  - Conversion
- Performance Measurement
- Knowledge processes
  - Application
  - Protection of knowledge
- Organizational Performance
- Organizational Learning

Consequently, the authors present the initial proposed Framework in Figure 1.

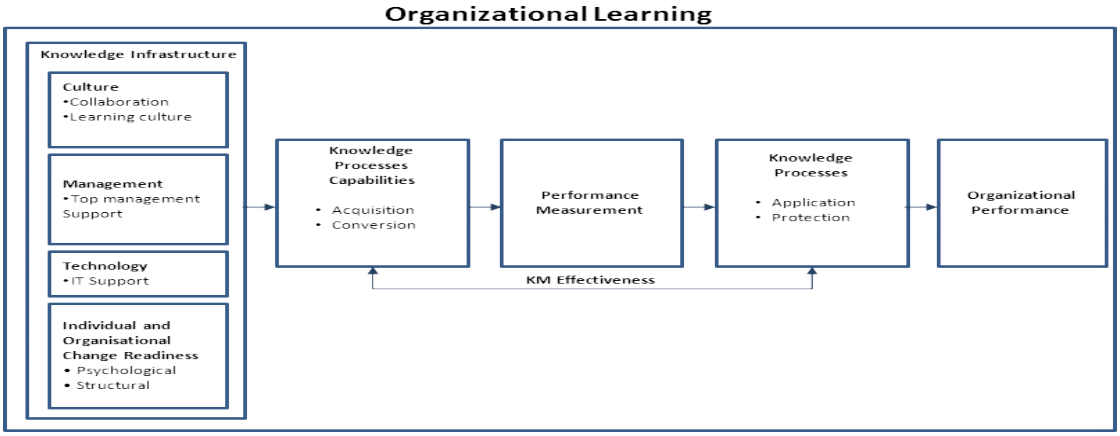

Figure 1: Conceptual Framework for Knowledge Management to Achieve Continuous Improvement

Figure 1 illustrates that the KMS consists of five main processes/steps as follows:

1. The KMS shall start with a strong KM infrastructure that has several components, and as concluded from literature these components are:
   - Culture: Collaboration and Learning Culture which will contribute to knowledge creation and knowledge sharing/exchange/transfer throughout the organization.
   - Management: Top Management Support
   - Technology: IT Support that will help in securing, transferring and sharing knowledge in addition to the ease of access to data and information.
   - Individual and Organizational Readiness: Psychological and Structural. This phase is concerned with the human resources/employees in the organization and the extent to which they are ready to share knowledge and use it in their work.
2. This infrastructure helps as a base to start the Knowledge Process Capabilities step which is divided into two phases:
   - Acquiring the needed knowledge
   - Then converting it into the state that can help in reaching an effective organizational performance.
3. At this step the authors recommend that after converting knowledge for reuse, performance needs to be measured to ensure that the organization will reach the needed organizational performance.
4. After measuring performance and ensuring that the organization is on the right track for achieving its goals, the step of Knowledge Processes starts through two phases:
   - Applying the converted knowledge in Step 2 in order to reach an effective organizational performance.
   - This acquired knowledge that has been processed and used, and will therefore help the organization to reach its goals and an effective organizational performance, needs to be protected in this phase through setting the needed procedures and taking the required actions that will help in protecting this knowledge from any threats.
5. At this stage, the authors claim that the organization will reach KM effectiveness through applying Steps 2 and 4 together as at this stage knowledge will be acquired, changed for appropriate reuse by the organization (converted), applied and more important protected.
6. By reaching KM effectiveness, the authors assume that this will lead to organizational performance which is attained not only through the effective implementations of the steps

of KMS as shown in Figure 1, but also through effective organizational learning throughout the whole process.

Then, definitions for the research items in this study are outlined in Table I.

Table I: Definitions for the research items in this study

	Definitions	**Sources**
KM infrastructure		
Collaboration	The extent that people support and help others' tasks while performing their tasks.	Hurley & Hult (1998), Lee & Choi (2003), Lee, Kim, B. & Kim, H., (2012)
Learning culture	The extent that organizations facilitate and encourage opportunities of development and learning.	
The existence of both collaboration and learning culture contributes to knowledge creation and knowledge sharing/exchange/transfer.		
Top management support	The extent that top management understands and supports knowledge management.	Carpenter & Fredrickson (2001), Schein (1985), Lee, Kim, B. & Kim, H., (2012)
IT Support	The collaboration, communication, search and access, decision making, and systematic storage of information are supported by IT.	Gold, Malhotra, & Segars, (2001), Lee & Choi (2003), Lee, Kim, B. & Kim, H., (2012)
Individual and Organizational Change Readiness		
Psychological	The psychological dimension represents the individual's willingness to embark on organizational change initiatives, triggered by the beliefs that the proposed change is necessary to overcome the identified discrepancy and is suitable and sensible to be implemented with essential support and capability to embrace the changes.	Rusly, Corner & Sun, (2012)
Structural	The structural dimension focuses mainly on the organization's capability to provide necessary resources and the availability of employees with characteristics that are competent to support the accomplishment of change initiatives.	Rusly, Corner & Sun, (2012)
Knowledge Processes Capabilities		
Knowledge acquisition	The capability to obtain knowledge and its sources	Alavi & Leidner (2001), Gold, Malhotra, & Segars, (2001), Lee, Kim, B. & Kim, H., (2012)
Knowledge conversion	The capability to change the state or format of knowledge for its reuse	
Knowledge application	The capability to transfer and use knowledge for realization of its values	
Knowledge protection	The capability to exclusively protect knowledge	
Performance measurement	Performance measurement is a continuous and dynamic process in which measures are first constructed, based on strategically important success factors, then the measures are used to help implement planned strategies, and finally the analysis of measurement results provides feedback for new strategy formulations.	Okkonen, Pirttimäki, Lönnqvist, & Hannula, (2002)
	Definitions	**Sources**
KM Infrastructure		
Organizational performance	The capability to develop new products/ services, the capability to predict business or risks, and the improvement of capability to cope with new information of markets.	Gold, Malhotra, & Segars, (2001), Lee, Kim, B. & Kim, H., (2012)
Organizational learning	Mediate the relationship between KM infrastructure and organizational performance.	Lee, Kim, B. & Kim, H., (2012)
KM Effectiveness	Effectiveness in the KM context depicts the implementation of the most appropriate processes and the formulation of the best possible decisions with regards to the process of managing knowledge.	Becerra-Fernandez & Sabherwal (2010), Rusly, Corner & Sun, (2012)

6. Evaluation of the Framework

The authors at this stage started to review the framework with academic staff members of minimum ten years' experience as experts in the operation management field through focus group interview to ensure the applicability, importance and rationality of the proposed framework.

The focus group interview revealed that the framework in Figure 1 does not help to achieve the desired organizational performance. However, the interviewees proposed several recommendations to reach a more effective KM framework and more appropriate locating of PM. These recommendations pointed out that the framework in Figure 1 lacked the following aspects:

1. The strategy where goals, objectives and plans are set.
2. A loop that shows feedback and ensures organizational learning as it is meant to be mediating the relationship between KM infrastructure and organizational performance.
3. PM was not placed in the right place, as it should be measured after the application of KM not before it.
4. PM should also be measured in the first stage of the KM infrastructure to make sure that the elements of the KM infrastructure are well designed as all the interviewees agreed that without the existence of a well-structured infrastructure the whole process will be of no use.
5. The two elements of KM infrastructure (Individual and Organizational Readiness and Culture) - as shown in Figure 1 - will be better if they are integrated. As the sub-elements (Collaboration and Learning Culture) that exist in the element "Culture" have a strong relation to the sub-element (Psychology) found in the element "Individual and Organizational Readiness."
6. Concerning the sub-element (Structural) of the element "Individual and Organizational Readiness" in the KM infrastructure phase most of the interviewees recommended adding the (working environment) as an important structure which will help in the employees' readiness and willingness to change.
7. Concerning the element "Management," it is better to differentiate between top management and middle management due to the difference of their enrolment and resource allocation they can use.

According to the focus group interview analysis, the authors propose the final framework presented in Figure 2.

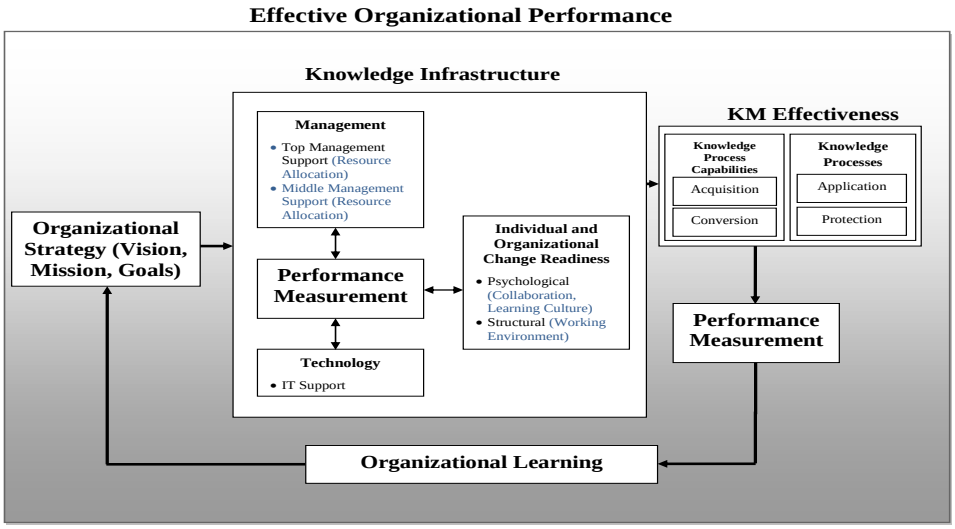

Figure 2: Final Conceptual Framework for Knowledge Management to Achieve Organizational

The framework passes through several stages as follows:

1. It starts with the setting of the organization's strategy which is the base of all transactions and actions inside an organization.
2. According to the strategy, the organization will set the elements of the "KM infrastructure" (Management, Individual and Organizational Readiness and Technology).
3. The two elements of KM infrastructure (Individual and Organizational Readiness and Culture) are integrated.
4. The element "Management" has two sub-elements (Top Management and Middle Management).
5. Within the second stage "KM infrastructure," (Performance) should be measured in accordance with every element until it is in compliance with the "Organizational Strategy."
6. When all the elements of the "KM infrastructure" are in line with the "Organizational Strategy," the third phase of the KM process begins, which is reaching the "KM Effectiveness" through two elements (KM capabilities, and knowledge processes).
7. "PM" will be conducted again after application of knowledge in order to ensure its effectiveness and to ensure that the process is still in line with the "Organizational Strategy."
8. According to the PM results; the organization will strengthen creativity, generate new viewpoints on existing ideas, and criticize existing opinions on businesses.

9. All this leads to organizational learning that helps in strategy development and reaches an overall effective organizational performance.

After that, authors reviewed the framework in Figure (2) with the same academic staff members to ensure the validity of the proposed framework. Finally, they agreed upon the theoretical validity of framework shown in Figure (2).

Accordingly, this new KM framework specified a location for PM as a complete process. This will enhance organizational opportunities for a better organizational learning in order to achieve a successful organizational performance.

7. Conclusion

Knowledge management (KM) literature as discussed in this paper reveals that performance measurement (PM) is an important element in the implementation of an effective Knowledge Management System (KMS). On the other hand, it reveals the lack of locating performance measurement as a complete process in KMS literature. Accordingly, this paper attempts to construct a framework that locates performance measurement process. This was conducted through exploring literature to stand on the elements that directly affect KMS and can be used as elements in a complete process of managing knowledge within an organization.

This paper therefore introduces a framework that includes the [KM infrastructure; organizational strategy (vision, mission, goals); performance measurement; KM Effectiveness; and organizational learning], in order to achieve a successful organizational performance.

A limitation faced the authors while conducting this research which is the lack of knowledge management experts in Egypt, which is the country where the authors conducted the research. Although the paper is not a case study but according to the sampling technique used, experts were essential for validation of the framework. For this reason, the authors aimed to validate from experts in the operation management field.

As the study progressed, the authors identified several areas for further investigation. These are as follows:

- Other qualitative methodologies can be used such as explanatory research studies to evaluate the benefits and risks of this framework.
- Implementing this framework at manufacturing and service sector to compare their results.

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