The Role of Knowledge Management in Promoting Organizational Excellence: A Study on the Pharmaceutical Industry in Egypt

Author Details: Wageeh A. Nafei
University of Sadat City, Menoufia, Egypt

Abstract
Purpose: *This paper attempts to highlight the significant role of Knowledge Management (KM) in improving Organizational Excellence (OE). KM is widely acknowledged as a critical factor for OE at the Pharmaceutical industry in Egypt.*
Research Design/Methodology: *To assess positive KM refer to (KM questionnaire, Jakob 2003; and Wiig, 2003) and OE (OE survey Kandula, 2002; Hesseblin & Gohanston, 2002). The data of the study was collected from the employees at The Pharmaceutical industry in Egypt. Out of the 356 questionnaires that were distributed to employees at The Pharmaceutical industry in Egypt, 300 usable questionnaires were returned, a response rate of 84%. Multiple Regression Analysis (MRA) was used to confirm the research hypotheses.*
Findings: *There is a statistically significant relationship between the dimensions of KM (creation of knowledge, knowledge acquisition, organization of knowledge, knowledge distribution, and use of knowledge) and OE at The Pharmaceutical industry in Egypt.*
Practical implications: *This research contributes to the need for organizations to practice KM in order to be able to meet contemporary intense competition, as this trend is to play an important role in enhancing OE. The study suggests that the Pharmaceutical industry in Egypt can increase OE by influencing its KM. The study provided that it is necessary to pay more attention to the dimensions of KM as a key source for organizations to enhance the competitive advantage which is of prime significance for OE.*
Originality/value: *The study observes that there is a critical shortage in KM and that a greater understanding of the factors that influence the OE is of great importance. Therefore, this study is to examine the relationship between KM and OE. This research dealt with KM in terms of its concept and dimensions, in addition to dealing with the role of KM in promoting OE. Accordingly, the study provided a set of recommendations including the necessity to pay more attention to KM as a key source for OE at the Pharmaceutical industry in Egypt.*
Keywords: *knowledge management, organizational excellence*

1. Introduction

Knowledge Management (KM) is a process that transforms individual knowledge into organizational knowledge (Rašul, et al., 2012).

KM is a process that helps organizations to find important information, select, organize and publish them; and it's a proficiency that will be necessary for actions like solving problems, dynamic learning, decision making (Nazari & Emami, 2012).

KM does not belong to one area; people from different disciplines are working on it. Approaches to KM are still at emerging state and the process is ongoing, till we get a complete formal approach which shall be universally accepted (Anand & Singh, 2011).

KM has emerged as one of the most important areas in management practices and established as a basic resource for firms and economies. KM is regarded as collection, distribution and efficient use of knowledge resources. It is a process of knowledge creation, validation, presentation, distribution and evaluation (Tahir, et al., 2010).

Over the past 15 years, KM has progressed from an emergent concept to an increasingly common function in business organizations. As evidence of its maturity as an area of academic study, an increasing number of journals devoted to KM and intellectual capital management have been created (Zack, et al., 2009).

KM has become a strategic resource of organization to the extent in which it nowadays is viewed as the basis of a competitive advantage in the organization (Karadsheh, et al., 2009).

There is some survey research beginning to appear in KM journals (Kalling, 2003; McCann & Buckner, 2004; Tanriverdi, 2005). Many studies assert that adopting KM achieves a number of important benefits for the organization, including improving communication and participation in decision-making (Sarrafzadeh, 2005), improving innovation performance (Gloet & Terziovski, 2004; Lurdvall & Nielsen, 2007), improving organizational performance (Darroch, 2005; Anantatmula, 2007), and improving financial performance and market value of the organization (Zack et al., 2009),

KM is a topic of increasing interest in recent times. It is a non-material resource that plays an important role in business organizations. It is also an important source essential to achieve competitive advantage for the organizations (Randeree, 2006; Kang, 2007).

The recognition that knowledge is the key resource of production (Drucker, 1994), making it the "new wealth" of organizations (Sveiby, 1997) is largely responsible for the development and implementation of KM in organizations. KM is still in its infancy and is not well understood by many organizations (Zack, 1999; Earl, 2001).

KM has become an important subject since knowledge is considered as a competitive element for individuals, firms and nations. Knowledge about competition, customers, products, processes and past successes and failures are considered as an asset for the organization in the twenty-first century. KM evolves from a distinct responsibility to a strategic component of a business solution (Dyer, & McDonough, 2001).

The objective of KM is not to manage all knowledge, but to manage the knowledge which is most essential to the development organizations. KM can help grow such a stage to enhance and expand the innovation process (Parikh, 2001).

2. Literature Review

2.1. Knowledge Management

KM is a set of processes designed to find and manage positive and negative critical knowledge functions in different kinds of operations, identify new products or strategies, argument human resources management, and achieve a number of other, highly targeted objectives (Wiig, 1995).

KM is knowledge creation, which is followed by knowledge interpretation, knowledge dissemination, use, and knowledge retention and refinement (De Jarnet, 1996).

KM is allowing organizations to explicitly enable and enhance the productivity of generation, codification, and transfer activities and to leverage their value for the group as well as for the individual (Ruggle, 1997).

KM can be defined as leveraging the intellectual assets of the company to meet defined business objectives (Sveiby, 1997).

KM is the explicit control and management of knowledge within an organization aimed at achieving the company's objectives (Spek & Spijervet, 1997).

KM is the activity which is concerned with strategy and tactics to manage human centered assets (Brooking, 1997). KM is the systematic underpinning, observation, instrumentation, and optimization of the firm's knowledge economies (Demarest, 1997).

KM is the development of processes to link knowledge requirements to business strategies and representation of individual and organizational knowledge (Ernst & Young, 1998).

KM is the identification either in the form of explicit knowledge held in artifacts or tacit knowledge possessed by individuals or communities (Snowden, 1998).

KM is an attempt to do something useful with knowledge, to accomplish organizational objectives through the structuring of people, technology and knowledge content (Davenport & Prusak, 1998).

KM is concerned with the whole spectrum of data, information, and knowledge, whether general or specific, explicit or tacit, shared or individual, recorded or not (KPMG, 1998).

KM is identifying the collective knowledge in an organization to help the organization compete (Von Krogh, 1998).

KM is the practices which facilitate the efficient creation and exchange of knowledge on an organization-wide level in order to enhance the quality of decision making (Delphi, 1998).

KM is questions of knowledge production, reproduction, distribution, application, and logistics depending on who the specific bearer, mediator or multiplier of organizational knowledge is (Schuppel et al., 1998).

KM is the process of identifying, creating, capturing, and applying knowledge to exploit new opportunities and enhance organizational performance (Bassi, 1997; Zack, 1999).

KM is the process of systematically and actively managing and leveraging the stores of knowledge in an organization. KM is regarded as the set of various processes to manage organizational knowledge (Laudon & Laudon, 1999).

KM is an organized and systemic process for acquiring, organizing and exchanging knowledge among employees to effectively utilize knowledge (Alavi & Leidner, 1999).

KM is a formal, directed process of determining what information a company has that could benefit others in the company and then devising ways to making it easily available (Liss, 1999).

KM is the process of creating, capturing, and using knowledge to enhance organizational performance (Bassi, 1999).

KM is any process of creating, acquiring, capturing, sharing and using knowledge, to enhance learning and performance in organizations (Scarbrough & Swan, 1999).

KM is the systematic process, by which knowledge needed for an organization to succeed is created, captured, shared and leveraged (Rumizen, 2002).

KM refers to a broad collection of organizational practices and approaches related to generating, capturing, disseminating know-how and other content relevant to the organization's business (American Productivity and Quality Association, 2002).

KM is the technique to enhance and abridge the process of implementing sharing, distributing, creating and comprehending the knowledge of the organization (Gottschalk, 2002).

KM is a structure based on past experience and building new mechanisms for exchanging and generating new knowledge (Miltiadis et al., 2002).

KM looks at how an organization adapts to changing conditions in order to survive (Burn, et al., 2002).

KM is a set of procedures, infrastructures and technical and managerial tools, designed towards creating, sharing, leveraging information and knowledge within and across organizations (Bounfour, 2003).

KM is the design, review and implementation of both social and technological processes to improve the application of knowledge, in the collective interest of stake holders (Standards Australia, 2003).

KM is a process which contains creation, acquisition, incorporation, allocation, and application of knowledge to advance the operation efficiency and competitive advantage of an organization. KM presents the exact information to the exact group at the correct time (Albers & Brewer, 2003).

KM is the systematic, explicit and deliberate building, renewal and application of knowledge to maximize an enterprise's knowledge-related effectiveness and returns on its knowledge assets and to renew them constantly (Wiig, 2003).

KM is the methodical means of administrating this valuable resource, by promoting an incorporated approach to identifying, capturing, structuring, organizing, retrieving, sharing, and evaluating an enterprise's knowledge assets (Kim et al., 2004).

KM builds on earlier approaches of data management and information management and adds a higher level of complexity with the inclusion of meaning, networking, collaboration and business process improvement (AGIMO KM, 2004).

KM promotes an integrated approach to identifying, capturing, retrieving, sharing and evaluating all enterprises information assets which include databases, documents, policies, procedures, and experience stored in individual's heads (Malhotra & Galletta, 2005).

KM is a methodical leveraging of data, information, and different structures of assets and resources to enhance organizational innovation, reaction, efficiency and capability (Goh, 2005).

KM is the knowledge-based management, connecting people to people and people to information to create competitive advantage (Nonaka, 2007).

KM is based on the idea that an organization's most valuable resource is the knowledge of its people (National Electronic Library for Health, 2008).

KM is understood to be an umbrella term encompassing the many unique but related facets of knowledge-exchange, transfer and uptake among them (Dubois & Wilkerson, 2008).

KM is a procedure, process or practice to accomplish process about knowledge, process for knowledge, and process from knowledge which leads to improve the internal and external operation (Alryalat & Alhawari, 2008).

KM is a structured process with activities to capture, discover, create, filter, evaluate, store, share and apply knowledge from individuals to advance business processes and meet organization 's objectives and goals (Karadsheh, et al., 2009).

KM is a systematic and integrative process of coordinating organization wide activities of acquiring, creating, storing, sharing, diffusing and deploying knowledge by individuals and groups, in pursuit of organizational goals.

KM is a human resource management exercise than a technology based discipline. It is not merely state of the art technology used to improve efficiency of the knowledge. Rather it is an exercise about how

people can be motivated, best utilize their knowledge, experiences and enhance the creativity by using state of the art technology (Nonaka, 2007; Tahir, et al., 2010).

Researchers have identified many aspects to Knowledge Management Process (KMP): experiencing, observation, conceptualization, and experimentation (Kolb, 1984); problem solving, implementing and integrating, experimenting, and importing knowledge (Leonard-Barton, 1995).

KMP is divided into three factors. Knowledge acquisition means the development of skills, insights, and relationships. Knowledge dissemination means the dissemination of what has been learned. Utilization means the integration of learning so it is broadly available and can be generalized to new situations (Nevis, et al., 1995).

KMP is divided into five elements. Construction is the process through which new material is added or replaced within the collective stock of knowledge. Organization is the process by which bodies of knowledge are related to each other. Observation has passed the test and been socially ratified as knowledge, it is concerned with storing. Distribution is a critical issue in any organization. Application is concerned with possibility of obtaining the kind of performance improvement (Pentland, 1995).

KMP is divided into creation, manifestation, use, and transfer. Creation and manifestation is related to how it is created and manifested in people's minds and in procedures, culture and even technology. Use is concerned with how it is used in making decisions and other knowledge-related work by individuals and businesses. Transfer is related to how we learn and how we otherwise can capture and exchange knowledge (Wiig, 1995).

KMP is made up of sharing tacit knowledge, creating concepts, justifying concepts, building an archetype, and cross leveling knowledge (Nonaka & Takeuchi, 1995); applying, sharing, creating, identifying, collecting, adapting, and organizing knowledge (Arthur & APQC, 1996).

KMP is divided into four factors. Construction refers to the process of discovering or structuring a kind of knowledge. Embodiment refers to the process of choosing a container for knowledge. Dissemination refers to the human processes and technical infrastructure that make embodied knowledge available to the people within firm. Use refers to the ultimate objective of any KM (Demarest, 1997).

KMP is divided into three elements. Knowledge generation includes activities which bring to light knowledge. Knowledge codification is the capture and representation of knowledge so that it can be re-used either by an individual or by an organization. Knowledge transfer involves the movement of knowledge from one location to another and its subsequent absorption (Ruggle, 1997).

KMP consists of capturing, sharing, leveraging and feeding process (Delphi, 1998); planning, acquiring, applying, and assessing (Ernst & Young, 1998); acquisition, codification, codification, retrieval, embedding, problem analysis and solving, and knowledge shaping (Jang & Lee, 1998); creation, application, exploitation, sharing and dissemination, encapsulation, sourcing, and learning (KPMG, 1998); knowledge generation, processing, storage, dissemination, and use/reuse (Pan & Scarbrough, 1998); knowledge goal, identification, acquisition, development, distribution, preservation, use, and measurement (Probst, 1998); use and multiplication, development and acquisition, and transfer, institutionalization (Schuppel, et al., 1998).

KMP is divided into accumulation, integration, and reconfiguration. The accumulation of knowledge can be achieved through the acquisition of knowledge from external sources and internal creation. The major management processes are integrating and reconfiguring them according to the environmental changes (Lee & Kim, 2001).

Wiig, 2003 presents a model for the processes of KM, which include five main stages, a process of knowledge creation, knowledge acquisition, knowledge organization, knowledge distribution, and use of knowledge. This can be illustrated as follows:

1. ***Knowledge Creation*** indicates the organization's ability to identify information needs in a scientific manner. Views and experiences are codified in order to bridge the knowledge gap between departments and divisions, in addition to providing data to solve the problems of administrative organization.
2. ***Knowledge Acquisition*** is the organization's ability to acquire knowledge, store and keep it in order to use it. This acquisition of knowledge occurs from different sources, such as similar organizations which operate in the same area, the scientific and academic institutes, libraries, the Intranet, and any other sources.

3. ***Knowledge Organization*** is the organization's ability to classify knowledge and convert it to useful written materials (knowledge base), using modern technological methods. This contributes to achieving benefits for the organization.
4. ***Knowledge Distribution*** is the organization's ability to disseminate knowledge to the level of administrative organization, and every individual within each level of an administrative unit, whether by e-mail, meetings, training courses or other.
5. ***Use of Knowledge*** is the organization's ability to benefit from knowledge, and its circulation among all employees in order to increase functional skills, and creative abilities, which lead to improved quality of service provided by the organization to its customers.

2.2. Organizational Excellence

Organizational Excellence (OE) is the pursuit of the organization towards the exploitation of appropriate opportunities through effective strategic planning and shared vision based on clarity of purpose and adequacy of resources to achieve high levels of performance (Burkhat, 1993).

Excellence is any act or activity for anyone who wants to enhance and achieve the goals of the organization. OE depends mainly on the competitive strategy of the organization, technology and relationship with customers (Mcgregor, 1994).

The excellent organization is constantly superior to the best international practices in the performance of its functions. It is also linked with its customers and clients with relations of support and interaction. It recognizes the capabilities of its competitors; their strengths and weaknesses, as well as the opportunities and threats that surround it (Gilgeous, 1997).

OE is the total of the work and the way to achieve the objectives of all parties concerned with the organization. Thus comes the possibility of long-term success (Eskild, 1999).

The organization is distinguished by consistently excelling in the performance of its functions, and having good relations with its customers and clients. It should identify the performance of its competitors, strengths and weaknesses, and the circumstances surrounding its environment (Gilgeous & Gilgeous, 1999).

OE is a total way of action that leads to the satisfaction of both balance (1) of employees in the organization, (2) customers, (3) the surrounding community, and thus increasing the possibility of success of the organization in the long run (Eskild, 1999).

There are several determinants to achieve OE; such as the presence of visionary leadership, focusing on the future through strategic planning, activating the role of knowledge and adoption of organizational learning (Grant, 2000).

The aim of the organizational process excellence is to develop a strong work force having the ability to produce goods and services in a manner that achieves the internal and external consumer expectations. The intrinsic value is to achieve internal and external consumer desires, and to develop awareness towards achieving the objectives of the organization, through (1) energies of creativity and innovation (2) policies and flexible measures (3) skilled leadership to guide and stimulate communication with employees (4) manpower and professionals having a capacity for creativity and innovation (5) a cultural climate that provides confidence, safety, job satisfaction and real belonging and loyalty to the organization to achieve customer satisfaction (Rahman, 2001).

OE is the organization's ability to create and exploit the opportunities of encouraging climate, in addition to effective confrontation of different problems at work. In other words, OE is the ability of organizations to provide development opportunities, and create the conditions that stimulate and correct performance problems, besides facing them effectively. In other words, there are several determinants to achieve OE, (1) the existence of a vision in the organization's leadership, (2) focusing on the future, (3) activating the role of knowledge, organizational learning and individual learning (Grote, 2002).

Performance is high in organizations that contain centers of excellence rather than those organizations that do not include centers of excellence (Frost et al., 2002).

There are a number of steps that must be followed in order to build a distinct organization. They are (1) communicating the vision of leadership with regard to the excellence to all workers in the various levels of management in a clear and specific manner, (2) linking OE and all operations and activities of the organization, (3) understanding the basic capabilities of the organization and evaluation in terms of how optimally such capabilities are exploited in order to achieve excellence, (4) empowering workers and encouraging initiatives, (5) employing a technical image that achieves the highest possible use, (6)

dissemination of knowledge among all employees within the organization, and (7) encouraging learning at individual level, group level, and organizational level (Sasmita & Nayantara, 2003).

The shift from traditional management to integration results from the perception of employees that they participate strongly in solving problems, and that the merger turns into excellence. The goal is to get the most productivity, better quality, consumer satisfaction, and excellence to maximize and enhance the overall performance of the organization. This can bring success and gives the authority to make decisions in various business achievements of the organization (Kathryn et al., 2005).

Excellence can be attained by encouraging workers to participate with their opinions and suggestions in solving the problems they face within the organization, the delegation of authority, freedom and avoidance of excessive instructions, policies and commands control related to their work, freedom to take responsibility to express their views and make their own decisions besides doing their jobs (Simard & Rice, 2006).

The excellent organization is able to collect, manage and use information from the organization in order to ensure the achievement of the desired goals (Martensen, et al., 2007).

The outstanding management must have a vision that can create a climate of participation and provide assistance to excellence conditions (Vouzas & Psychogios, 2007). This also requires a clear strategy, an organizational structure that promotes a sense of responsibility, skills development, keeping channels of communication open, guidance and training of staff as the employees are the key element in the process of excellence. Employees' awareness of excellence enhances the meaning of fidelity, devotion to the attention of customers and their satisfaction (Al-Marri et al., 2007).

The excellent organization is crystallized through the ability to study the current situation of the organization, external variables through strategic analysis processes, specify its foundations and strategic direction, formulate the organization's mission, vision, strategic objectives and lay the foundations and criteria for measuring results. It prepares strategic plans in light of its objectives in order to exploit opportunities and avoid threats. It develops follow-up and identifies the environmental variables and their possible impact on the organization's mechanisms (Bukovec & Markic, 2008).

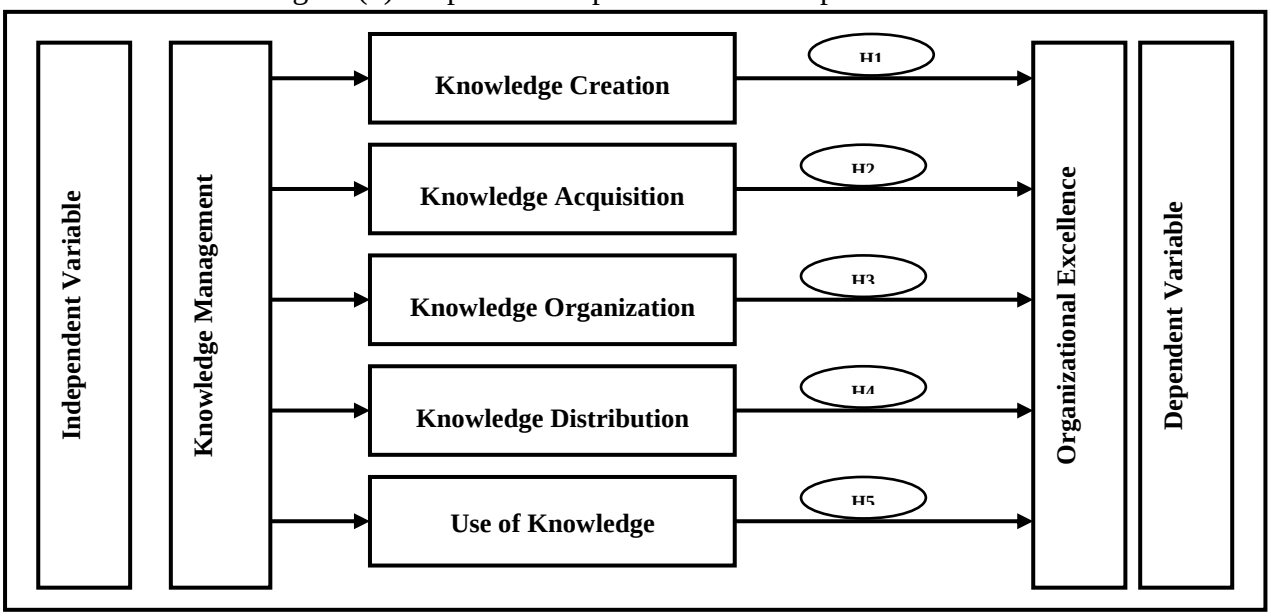
Through reviewing previous concepts, OE may be defined as that organization's ability to contribute strategically to achieve its goals effectively and in a form which distinguishes it from the rest of the organizations working in the same field.

3.1. Methodology

3.1. Research Model

The proposed comprehensive conceptual model is presented in Figure (1). The diagram below shows that there is one independent variable of KM. There is one dependent variable of OE. It shows the rational links among the variables. The research model is as shown in the following figure.

Figure (1) Proposed Comprehensive Conceptual Model



The research framework suggests that KM has an impact on OE. KM as measured consisted of knowledge creation, knowledge acquisition, knowledge organization, knowledge distribution, and use of knowledge (Jakob 2003; and Wiig, 2003).

OE is measured in terms of leaders excellence, subordinates excellence, operational excellence, culture excellence, and financial excellence (Kandula, 2002; Hesseblin & Gohanston, 2002).

3.2. Research Questions and Hypotheses

The researcher found the research problem through two sources. The first source is to be found in previous studies, and it turns out that there is a lack in the number of literature reviews that dealt with the analysis of the relationship between KM and OE at the Pharmaceutical industry in Egypt. This called for the researcher to test this relationship in the Egyptian environment. The second source is the pilot study, which was conducted in an interview with (30) employees in order to identify the relationship between KM and OE. The researcher found through the pilot study several indicators notably the important and vital role that could be played by KM in reinforcing OE at the Pharmaceutical industry in Egypt. As a result of the discussions given above, the research questions are as follows:

Q1: What is the nature and extent of the relationship between KM (knowledge creation) and OE at the Pharmaceutical industry in Egypt?

Q2: What is the nature of the relationship between KM (knowledge acquisition) and OE at the Pharmaceutical industry in Egypt?

Q3: What is the extent of the relationship between KM (knowledge organization) and OE at the Pharmaceutical industry in Egypt?

Q4: What is the relationship between KM (knowledge distribution) and OE at the Pharmaceutical industry in Egypt?.

Q5: What is the nature and extent of the relationship between KM (use of knowledge) and OE at the Pharmaceutical industry in Egypt?

There are studies in literature that study KM and OE factors separately and within the frame of bilateral relation but there is no study that examines these two factors collectively at the Egyptian environment. This study aims to contribute to the literature by examining the research variables collectively and reveal the interaction between the research variables. As a result of the discussions given above, the following hypotheses were developed to test the effect of KM on OE at the Pharmaceutical industry in Egypt.

The following hypotheses were developed to test if there is significant correlation between KM and OE.

H1: There is no statistically significant relationship between KM (knowledge creation) and OE at the Pharmaceutical industry in Egypt.

H2: KM (knowledge acquisition) of employees has no statistically significant effect on OE at the Pharmaceutical industry in Egypt.

H3: There is no statistically significant relationship between KM (knowledge organization) and OE at the Pharmaceutical industry in Egypt.

H4: KM (knowledge distribution) of employees has no statistically significant impact on OE at the Pharmaceutical industry in Egypt.

H5: There is no statistically significant relationship between KM (use of knowledge) and OE at the Pharmaceutical industry in Egypt.

3.3. Population and Sample

The population of the study included all employees at the pharmaceutical industry in Egypt. This sector includes five companies. They are Delta for the Pharmaceutical Industry, Egyptian International Pharmaceutical Industries (Eipico), Pharma Sweden, Egypt Otsu, and Egyptian Chemicals and drugs. This explains why the population of this study includes 4,783 employees. The random sampling was used for collecting the primary data as it was difficult to get all of the items of the research population because of

time limitations. The stratified random sample was used while selecting items from the different categories of employees. The following equation determines the sampling size (Daniel, 1999):

$$n = \frac{N \times (Z)^2 \times P(1-P)}{d^2 (N-1) + (Z)^2 \times P(1-P)}$$

Accordingly, the sample size has become 356 employees at the pharmaceutical industry in Egypt.

Table (1) Distribution of the Sample Size

Egyptian Pharmaceutical Companies	Employees	Percentage	Sample Size
1. Delta for the Pharmaceutical Industry	1500	31.4%	356X 31.4%= 112
2. Egyptian International Pharmaceutical Industries (Eipico)	1833	38.3%	356X 38.3% = 136
3. Pharma Sweden	850	17.8%	356 17.8% = 63
4. Egypt Otsu	350	7.3%	356X 7.3% = 26
5. Egyptian Chemicals and drugs	250	5.2%	356X 5.2% = 19
Total	4783	100%	356X 100% = 356

Source: Personnel Department at the Pharmaceutical Industry in Egypt, 2015

Table (2) describes some of the features of the respondents at the Pharmaceutical industry in Egypt who participated in the survey.

Table (2) Demographic Variables Frequency Distributions

Variables		Number	Percentage
1- Job Title	Physicians	127	42.3%
	Nurses	144	48.0%
	Administrative Staff	29	9.7%
	Total	**300**	**100%**
2- Sex	Male	114	38.0%
	Female	186	62.0%
	Total	**300**	**100%**
3- Marital Status	Single	94	31.3%
	Married	206	68.7%
	Total	**300**	**100%**
4- Age	Under 30	122	40.7%
	From 30 to 45	114	38.0%
	Above 45	64	21.3%
	Total	**300**	**100%**
5- Educational Level	Secondary School	97	32.3%
	University	144	48.0%
	Post Graduate	59	19.7%
	Total	**300**	**100%**
6- Period of Experience	Less than 5 years	97	32.3%
	From 5 to 10	74	24.7%
	More than 10	129	43.0%
	Total	**300**	**100%**

3.4. Procedure

The goal of this study was to identify the relationship between KM and OE at the Pharmaceutical industry in Egypt. A survey research method was used to collect data. The questionnaire included three questions, relating to KM, OE, and biographical information of employees at the Pharmaceutical industry in Egypt. Data collection took two months. Survey responses were 84%, 300 completed surveys out of the 356 distributed.

3.5. Research Variables and Methods of Measuring

3.5.1. Knowledge Management Scale

The present study has investigated KM as an independent variable. Aspects of KM include knowledge creation, acquisition, organization, distribution, and use of knowledge. The researcher has drawn on the scale of Jakob (2003) and Wiig (2003) for measuring KM.

This measure consists of 25 statements: five statements for knowledge creation, five statements for knowledge acquisition, five statements for knowledge organization, five statements for knowledge distribution, and five statements for use of knowledge. The survey form has been used as a key tool to collect data to measure KM at the Pharmaceutical industry in Egypt.

KM has been measured by the five- item scale of Likert of agreement or disagreement where each statement has five options. The informant should select the answer that suits his choice, where (5) indicates full agreement while (1) indicates full disagreement, with neutral degrees in- between.

3.5.2. Organizational Excellence Scale

The researcher will depend on the scale developed by Kandula, 2002; Hesseblin & Gohanston, 2002 in measuring OE, which has been divided into six main components (leaders excellence, subordinates excellence, operational excellence, culture excellence, and financial excellence). OE consists of 28 statements. There were six items measuring leaders excellence, seven items measuring subordinates excellence, five items measuring operational excellence, five items measuring culture excellence, and five items measuring financial excellence.

Responses to all items scales were anchored on a five (5) point Likert scale for each statement, ranging from (5) "full agreement," (4) for "agree," (3) for "neutral," (2) for "disagree," and (1) for "full disagreement."

3.6. Data Analysis and Testing Hypotheses

The researcher has employed the following methods: (1) Cronbach's alpha or ACC, (2) (MRA), and (3) F- test and T-test. All these tests are found in SPSS.

4. Hypotheses Testing

4.1. Evaluating Reliability

Before testing the hypotheses and research questions, the reliability of KM and OE were assessed to reduce errors of measuring and maximizing constancy of these scales. To assess the reliability of the data, Cronbach's alpha test was conducted.

Table (3) shows the reliability results for KM and OE. All items had alphas above 0.70 and were, therefore, excellent, according to Langdridge's (2004) criteria.

Table (3) Reliability of KM and OE

Variables	The Dimension	Number of Statement	ACC
KM	Knowledge Creation	5	0.7453
	Knowledge Acquisition	5	0.7770
	Knowledge Organization	5	0.6767
	Knowledge Distribution	5	0.6798
	Use of Knowledge	5	0.7677
	Total Measurement	**25**	**0.9395**
OE	Leaders Excellence	6	0.9101
	Subordinates Excellence	7	0.9711
	Operational Excellence	5	0.9286
	Culture Excellence	5	0.8782
	Financial Excellence	5	0.9286
	Total Measurement	**28**	**0.9867**

Regarding Table (3), the 25 items of KM are reliable because the ACC is 0.9395. Knowledge creation, which consists of 5 items, is reliable because the ACC is 0.7453. Knowledge acquisition, which consists of 6 items, is reliable because the ACC is 0.7770. Furthermore, knowledge organization, which consists of 5 items, is reliable because the ACC is 0.6767. Knowledge distribution, which consists of 5

items, is reliable because the ACC is 0.6798. Use of knowledge, which consists of 5 items, is reliable because the ACC is 0.7677. Thus, the internal consistency of KM can be acceptable.

According to Table (3), the 28 items of OE are reliable because the ACC is 0.9867. The six items of leaders excellence scales are reliable due to the fact that the ACC is 0.9101. The subordinates excellence, which consists of seven items, is reliable since the ACC is 0.9711. The five items related to operational excellence are reliable as ACC is 0.9286. Furthermore, the five items of culture excellence scales are reliable due to the fact that the ACC is 0.8782. The financial excellence, which consists of five items, is reliable since the ACC is 0.9286. Thus, the reliability of OE can be acceptable.

Accordingly, two scales were defined, KM (25 variables), where ACC represented about 0.9395, and OE (28 variables), where ACC represented 0.9867.

4.2. Correlation Analysis

The researcher calculated means and standard deviations for each variable and created a correlation matrix of all variables used in hypothesis testing. Arithmetic mean and standard deviation values related to dependent and independent variables of this study and correlation coefficients between these variables are given in Table (4).

Table (4) Descriptive Statistics and Correlation Matrix of Constructs

Variables	Mean	Std. Deviation	1	2	3	4	5	6
1. Knowledge Creation	3.82	0.718	1					
2. Knowledge Acquisition	3.80	0.728	0.982**	1				
3. Knowledge Organization	3.59	0.743	0.706**	0.701**	1			
4. Knowledge Distribution	3.61	0.752	0.701**	0.695**	0.996**	1		
5. Use of Knowledge	3.79	0.735	0.984**	0.998**	0.700**	0.693**	1	
6. Organizational Excellence	3.51	0.875	0.464**	0.443**	0.315**	0.333**	0.435**	1
Note: ** Correlation is significant at 0.01 level.								

According to Table (4), the first issue examined was the different facets of KM. Among the various facets of KM, those who responded identified the presence of a knowledge creation (M=3.83, SD=0.718). This was followed by knowledge acquisition (M=3.80, SD=0.728), use of knowledge (M=3.79, SD=0.735), knowledge distribution (M=3.61, SD=0.752), and knowledge organization (M=3.59, SD=0.743).

The second issue examined was the different facets of OE (the moral conditions of the work environment, job characteristics, wages and rewards, team work, head's method in supervision, and participation in decision-making). Most respondents identified the overall OE (M=3.51, SD=0.875).

According to Table (4), KM dimensions have positive and significant relation with OE dimensions. The correlation between KM (knowledge creation) and OE is 0.464. For KM (knowledge acquisition) and OE, the value is 0.443 whereas KM (knowledge organization) and OE show correlation value of 0.315. For KM (knowledge distribution) and OE, the value is 0.333 whereas KM (use of knowledge) and OE show correlation value of 0.435.

Finally, Table (4) proves that there is a significant and positive correlation between KM and OE. So our hypothesis is supported and it can be said that there is a significant and positive correlation between KM and OE.

4.3. The Relationship between KM (Knowledge Creation) and OE

The relationship between KM (Knowledge Creation) at the Pharmaceutical industry in Egypt is determined. The first hypothesis to be tested is:

There is no relationship between KM (Knowledge Creation) and OE at the Pharmaceutical industry in Egypt.

Table (5) MRA Results for KM (Knowledge Creation) and OE

The Variables of KM (Knowledge Creation)	Beta	R	R^2
1. The organization identifies information needs to be able to provide them.	0.142**	0.241	0.058
2. The organization employs scientific research in the provision of knowledge related to its objectives.	0.043	0.356	0.126
3. Views and experiences are recorded and saved in the database.	0.251**	0.351	0.123
4. The organization's seeking to provide data to fill the knowledge gap.	0.373**	0.474	0.224
5. The availability of organization data helps employees to solve problems that face them.	0.113*	0.235	0.055
▪ Multiple Correlation Coefficients ▪ Coefficient of Determination ▪ The Value of Calculated F ▪ Degree of Freedom ▪ The Value of Indexed F ▪ Level of Significant	0.536 0.288 23.741 5, 292 3.57 0.05		
** P < 0.01 * P < 0.05			

Table (5) proves that there is a relationship between KM (Knowledge Creation) and OE at significance level of 0,000. As a result of the value of R^2, the 5 independent variables of knowledge creation can explain 28.8% of the total differentiation in OE level.

For the results of a structural analysis of the MRA, the direct effect of KM (Knowledge Creation) and OE is obtained. Because MCC is 0.536, it is concluded that there is enough empirical evidence to reject the null hypothesis.

4.4. The Relationship between KM (Knowledge Acquisition) and OE

The relationship between KM (Knowledge Acquisition) and OE at the Pharmaceutical industry in Egypt is determined. The second hypothesis to be tested is:

There is no relationship between KM (Knowledge Acquisition) and OE at the Pharmaceutical industry in Egypt.

Table (6) The Relationship between KM (Knowledge Acquisition) and OE

The Variables of KM (Knowledge Acquisition)	Beta	R	R^2
1. The organization gains knowledge from similar organizations.	0.353**	0.464	0.215
2. The organization gains knowledge through consultants in universities and scientific institutes.	0.155*	0.321	0.103
3. The organization tries to acquire knowledge through organizations around.	0.085	0.354	0.125
4. The organization helps employees acquire knowledge in different fields.	0.111	0.216	0.046
5. The employees in the organization acquire knowledge through libraries and the Internet.	0.175**	0.277	0.076
▪ Multiple Correlation Coefficients ▪ Coefficient of Determination ▪ The Value of Calculated F ▪ Degree of Freedom ▪ The Value of Indexed F ▪ Level of Significant	0.518 0.268 21.571 5, 294 3.57 0.05		
** P < 0.01 * P < 0.05			

As Table (6) proves, the MRA resulted in the R of 0.518. This means that OE has been significantly explained by the 5 independent variables of KM (Knowledge Acquisition).

Furthermore, the R^2 of 0.268 indicates that the percentage of the variable interprets the whole model, that is, 26.8%. It is evident that the five independent variables justified 26.8% of the total factors of OE. Hence, 73.2% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

4.5. The Relationship between KM (Knowledge Organization) and OE

The relationship between KM (Knowledge Organization) and OE at the Pharmaceutical industry in Egypt is determined. The third hypothesis to be tested is:

There is no relationship between KM* (Knowledge Organization) and *OE at the Pharmaceutical industry in Egypt.

Table (7) proves that there is a relationship between KM (Knowledge Organization) OE. As a result of the value of R^2, the 5 independent variables of knowledge organization can explain 16.5% of the total differentiation in OE level.

For the results of a structural analysis of the MRA, the direct effect of KM (Knowledge Organization) and OE is obtained. Because MCC is 0.407, there is enough empirical evidence to reject the null hypothesis.

Table (7) The Relationship between KM (Knowledge Organization) and OE

The Variables of KM (Knowledge Organization)	Beta	R	R^2
1. The organization selects modern methods of organizing knowledge.	0.186**	0.168	0.028
2. The organization classifies the data and information in a scientific way to take advantage of them.	0.005	0.183	0.033
3. The organization classifies primary data and then converts them to information.	0.060	0.169	0.028
4. The organization has a database for the classification of knowledge.	0.073	0.166	0.027
5. The organization specifies all what is new for the organization and classification of knowledge.	0.381**	0.355	0.126
▪ Multiple Correlation Coefficients ▪ Coefficient of Determination ▪ The Value of Calculated F ▪ Degree of Freedom ▪ The Value of Indexed F ▪ Level of Significant	0.407 0.165 11.651 5, 294 3.57 0.05		
** P < 0.01			

4.6. The Relationship between KM (Knowledge Distribution) and OE

The relationship between KM (Knowledge Distribution) and OE at the Pharmaceutical industry in Egypt is determined. The fourth hypothesis to be tested is:

There is no relationship between KM (Knowledge Distribution) and OE at the Pharmaceutical industry in Egypt.

Table (8) The Relationship between KM (Knowledge Distribution) and OE

The Variables of KM (Knowledge Distribution)	Beta	R	R^2
1. The organization distributes knowledge through e-mail.	0.044	0.169	0.028
2. The organization wishes issue bulletins for the knowledge distribution.	0.190**	0.175	0.030
3. The organization provides time and the right atmosphere for the exchange of knowledge.	0.036	0.192	0.036
4. There is a organization system that contributes to the distribution of knowledge.	0.001	0.197	0.038
5. The organization uses the meetings as a means to distribute knowledge.	0.383**	0.370	0.136
▪ Multiple Correlation Coefficients ▪ Coefficient of Determination ▪ The Value of Calculated F ▪ Degree of Freedom ▪ The Value of Indexed F ▪ Level of Significant	0.419 0.175 12.495 5, 294 3.57 0.05		
** P < 0.01			

Table (8) proves that there is a relationship between KM (Knowledge Distribution) and OE at significance level of 0,000. As a result of the value of R^2, the 5 independent variables of knowledge distribution can explain 17.5% of the total differentiation in OE level.

For the results of a structural analysis of the MRA, the direct effect of KM (Knowledge Distribution) and OE is obtained. Because MCC is 0.419, it is concluded that there is enough empirical evidence to reject the null hypothesis.

4.7. The Relationship between KM (Use of Knowledge) and OE

The relationship between KM (Use of Knowledge) and OE at the Pharmaceutical industry in Egypt is determined. The fifth hypothesis to be tested is:

There is no relationship between KM (Use of Knowledge) and OE at the Pharmaceutical industry in Egypt.

Table (9) The Relationship between KM (the Use of Knowledge) and OE

The Variables of KM (Use of Knowledge)	Beta	R	R^2
1. Uses the knowledge among employees in the same administrative level organization	0.360**	0.464	0.215
2. Knowledge is traded among workers in the different administrative levels within the organization	0.157*	0.321	0.103
3. The use of knowledge increases the functional skill of employees	0.087	0.354	0.125
4. The use of knowledge helps employees to raise the level of service provided to the customers	0.112	0.216	0.046
5. The use of knowledge helps staff creativity and development	0.144**	0.241	0.058
▪ Multiple Correlation Coefficients ▪ Coefficient of Determination ▪ The Value of Calculated F ▪ Degree of Freedom ▪ The Value of Indexed F ▪ Level of Significant	0.509 0.259 20.543 5, 294 3.57 0.05		
** P < 0.01 * P < 0.05			

As Table (9) proves, the MRA resulted in the R of 0.509. This means that OE has been significantly explained by the 5 independent variables of use of knowledge.

Furthermore, the R^2 of 0.259 indicates that the percentage of the variable interprets the whole model, that is, 25.9%. It is evident that the five independent variables of use of knowledge justified 25.9% of the total factors of OE. Hence, 74.1% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

5. Research Findings

The present study on analyzing the role of KM to improve the OE at the Pharmaceutical industry in Egypt reveals a set of results that deserve study and attention. The most important of these results are summarized as follows:

1. There is a significant relationship between KM and OE at the Pharmaceutical industry in Egypt. KM plays an important role in influencing OE. Also, KM contributes significantly to reinforcing OE.
2. KM was positively related with OE at the Pharmaceutical industry in Egypt. Overall findings from this study suggested that KM does affect OE.
3. There is a significant relationship between KM and OE at the Pharmaceutical industry in Egypt. In other words, knowledge creation, which is an integral part of KM, significantly and positively influences OE.
4. KM was positively related with OE at the Pharmaceutical industry in Egypt. In other words, KM (knowledge acquisition) was positively related with OE.
5. There is a positive relationship between the types of KM and OE of employees at the Pharmaceutical industry in Egypt. In other words, knowledge organization, which is an integral part of KM, positively correlated with OE.
6. There is a significant relationship between KM and OE at the Pharmaceutical industry in Egypt. In other words, knowledge distribution, which is an integral part of KM, significantly and positively influences OE.
7. This study concluded that the KM was positively related with OE at the Pharmaceutical industry in Egypt. In other words, KM (use of knowledge) was positively related with OE.
8. There is a positive relationship between the types of KM (knowledge creation, knowledge acquisition, knowledge organization, knowledge distribution, and use of knowledge) and OE at the Pharmaceutical industry in Egypt. In other words, KM affects OE.

6. Research Recommendations

In the light of previous results, the researcher completed a set of recommendations, and can summarize the most important recommendations as follows:

1. Officials at the Pharmaceutical industry in Egypt should deepen the concept of KM and its importance to all employees, as well as access to best practices in KM and application through specialized training programs that aim to develop the capacity of workers and develop their skills and knowledge.
2. Knowledge will lead to higher levels of customer satisfaction through the establishment of organizations in Egypt to provide services of better quality. This leads to increased revenues.
3. Designing and implementing a range of training programs for all officials at the Pharmaceutical industry in Egypt for the development and improvement of KM in terms of knowledge creation, acquisition, organization, distribution and use. This can be done through the development of awareness among officials at the Pharmaceutical industry in Egypt of the concept and importance of the dimensions of KM and their positive impact both on the employees level, or organization, to build KM to achieve a number of important benefits including the development and growth of commercial organizations, improving the communication process the ability to make decisions, achieve competitive advantage, improving financial performance, increasing the value of organizations from a market perspective, and improving OE. That means that KM plays an important role in improving the OE to achieve customer satisfaction with the service provided by organizations in Egypt.
4. Allocation of a separate unit dedicated to developing KM activities and working on the follow-up and development of KM at the Pharmaceutical industry in Egypt.
5. Developing the skills and capabilities of officials at the Pharmaceutical industry in Egypt in the field of KM, through specialized training programs that focus on KM as one of the methods that can be used to improve OE on the one hand, and to achieve competitive advantage on the other hand.
6. Increasing the interest of officials at the Pharmaceutical industry in Egypt to possess self-knowledge of their employees, through paying attention to selection of new employees who possess knowledge of medical excellence, in addition to providing employees with current medical knowledge in their respective fields, as this reflects the positive impact on the performance of organizations in Egypt.

7. Increasing the interest of officials at the Pharmaceutical industry in Egypt, both types of knowledge implicit and explicit, through the activation of knowledge generation processes, inventory and configuration of ideas, experience and skills available to the employees and saving knowledge bases in order to facilitate reference.
8. Seeking for ways and means to achieve the objectives of the organization so as to ensure survival and continuance, and perhaps Management Excellence is the perfect choice to make it happen.
9. Creating a culture of excellence among workers, and drawing their attention to customer service. Given that excellence is based primarily on this aspect, it can not be achieved only by creating a positive difference from competitors.
10. Translating the organization's vision into a set of objectives, policies and activities in order to achieve OE, through activating the channels of communication within the organization so that there is clarity and a common understanding of the organization's vision among all employees.
11. Strengthening the core capabilities of the organization, which include knowledge and skills, to achieve OE and create value at the client. This is through the employment of the strengths of the organization to gain a competitive advantage, in addition to prioritizing activities that add value to the services provided by the organization to clients.
12. There is an urgent need that the organization reconsider its perceptions and understanding of the role of the client. This is because excellence does significantly depend on the customer. Therefore, he must be treated well, besides, meeting his needs and expectations.

7. Prospective Proposed Research

The present study is one of the pioneer works on the subject in Egypt's organizational context. It provides evidence, suggests the importance and contributes to the existing body of universal knowledge in areas of KM.

The findings of the research help KM researchers as well as practitioners develop a better understanding of the role of OE and successful implementation of KM. The current study may provide necessary guidelines to understand the issues of KM and OE. Also, the findings of this study provide an initial understanding of the way towards further research in this area. Future research may focus on other important areas of OE and KM (Knowledge capitalization, sharing, transformation and capturing).

Further prospective studies on KM and its impact on some variables, such as job performance, innovation organizational, strategic performance, and effectiveness of managers in different organizations, can be applied to other communities such as private universities, school districts, as well as public and private organizations.

References

AGIMO Knowledge Management (2004). [On-line]. Available: http://www.agimo. gov.au/practice/delivery/checklists/knowledge, P.10.

Alavi, M., and Leidner, D., (1999). Knowledge Management Systems, Challenges, and Benefits, Communications of the Association Information System, Vol. 1, No., PP.1-37.

Albers, J., and Brewer, S., (2003). Knowledge Management and the Innovation Process: The Eco Innovation Model, Journal of Knowledge Management Practice, [On-line]. Available: http://www. tlainc.com/article52.htm.

Al-Marri K., Abdel Moneim M. Baheeg A., Mohamed Z., (2007). Excellence in service: an empirical study of the UAE banking sector. International Journal of Quality and Reliability Management, 24(2): 164-176.

Alryalat H., and Al-Hawari S. (2008). A review of Theoretical Framework: How to Make Process about, for, from Knowledge work, In Proceedings of 9th International Business Information Management Association Conference, Marrakech, Morocco, PP.37-50.

American Productivity and Quality Center, (2002). Perspectives on Knowledge Management, Retrieved February 12, 2006 From [On-line]. Available: http://knowledge.usaid.gov/JoeRabenstine_Seminar1.pdf

Anand, A., and Singh, M., (2011). Understanding Knowledge Management: A Literature Review, International Journal of Engineering Science and Technology, Vol. 3 No. 2, PP.926-939.

Anantatmula, V. (2007). Linking Knowledge Management Effectiveness Attributes To Organizational Performance, Vol. 37, No. 2, PP. 133-149.

Arthur Andersen and APQC (1996), "The KM Assessment Tools: External Benchmarking Version", Winter.

Bassi, L. (1999). Harnessing the Power of Intellectual Capital, In The Knowledge Management Year Book 1999-2000, J. Cortada and J. Woods, Eds., Butterworth Heinemann, Boston, 1999, PP. 422-431.

Bounfour, A. (2003). The Management of Intangible: The Organization's Most Valuable Assets London: Routlege.

Brooking, A. (1997). The Management of Intellectual Capital, Long Range Planning, Vol. 30, No. 3, PP. 364-365.

Bukovec, B., and M. Markič M. (2008). 'The Level of Integration of Various Models for Organizational Change Management in Slovenian Organizations. International Journal of Business and Systems Research 2(4), PP. 431–46

Burkhart, P., (1993). Successful Strategic Planning: A Guide ForNonprofit Agencies and Organizations (Newbury Park CA: Sage Publications).

Burn, J., Marshall, P. and Burnett, M. (2002). E-Business Strategies for Virtual Organizations, Oxford: Butterworth-Heinemann.

Darroch, J. (2005). Knowledge Management, Innovation and Firm Performance, Journal of Knowledge Management, Vol. 9, No. 3, PP. 101-115.

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

De Jarnet, L. (1996). Knowledge, The Latest Thing, Information Strategy: The Executives Journal, Vol. 12, No.2, PP. 3-5.

Delphi G., (1998). Knowledge Management, Research and Perspectives on Today's Knowledge Landscape, Delphi Group, [On-line]. Available: http://www.delphigroup.com.

Demarest, M. (1997). Understanding Knowledge Management, Long Range Planning, Vol. 30, No. 3, PP. 374-384.

Drucker, P., (1994). The Age of Social Transformation, in the Atlantic Monthly.

Dubois, N., and Wilkerson, T., (2008). Knowledge Management: Background Paper for the Development of a Knowledge Management Strategy for Public Health in Canada, Prepared for the National Collaborating Centre for Methods and Tools, October, PP.1-51.

Dyer, G. and McDonough, B. (2001). The State of Knowledge Management, Journal of Knowledge Management, Vol. 4, No. 5, PP. 31-36.

Earl, M., (2001). Knowledge Management Strategies: Toward a Taxonomy, Journal of Management Information Systems, Vol. 18, No. 1, PP. 215-233.

Ernst and Young (1998). Consulting Methodology for Knowledge Management, Ernst and Young Management Consulting.

Eskild, D., (1999). The Impact Of Greativity And Learning On Business Excellence ,Total Quality Management ,10: 129-138.

Frost, T., Birkinshaw J., and Ensign P., (2002). Centers of Excellence in Multinational Corporation, Strategic Management Journal, 23(11): 997-1018.

Gilgeous V., Gilgeous, M., (1999). A framework for manufacturing excellence, Integrated Manufacturing Systems, 10 (1) PP. 33-44.

Gilgeous, V. (1997). Operations and Management Change", London: Pitman.

Gloet, M. and Terziovski, M. (2004), Exploring The Relationship Between Knowledge Management and Innovation Performance, Journal of Manufacturing Technology Management, Vol. 15, No. 5, PP. 402-409.

Goh, A., (2005). Adoption of Customer Relationship Management Solutions as an Effective Knowledge Management Tool: A Systems Value Diagnostic, Journal of Knowledge Management Practice, Vol. 6, [On-line]. Available: http://www. tlainc.com/jkmpv6.htm, ISSN1705-9232.

Gottschalk, P. (2002). Toward a Model of Growth Stages for Knowledge Management Technology in Law Firms, Informing Science, Vol. 5, No.2, PP.79-93.

Grant, Robert (2000). Contemporary Strategy Analysis, Oxford, UK.

Grote, D., (2002). The Performance Appraisal Question And Answer Book Survival Guide For Managers, United States of America.

Hesslbein, F, and Johnston, R, (2002). On Mission and Leadership: A Leader to Leader Guide, U.S.A.

Jakob, E. (2003). Knowledge Management in German Industry ",German Pilot Study, Donor's Association of German Industry for the Advancement of Science, Germany.

Jang, J., and Lee, H. (1998). Knowledge Architecture for Knowledge Creating Organizational Memory. First Ed., Knowledge Management Symposium, PP. 211-235.

Kalling, T. (2003). Knowledge Management and the Occasional Links with Performance, Journal of Knowledge Management, Vol. 7, No. 3, PP. 67-81.

Kandula, S. (2002). Strategic Human Resource Development", Meenakshi Printers, Delhi

Kang, J. (2007). Testing Impact of Knowledge Characteristics and Relationship Ties on Project Performance, Journal of Knowledge Management, Vol. 11, No. 3, PP.126-144.

Karadsheh, L., Mansour, E., Alhawari, S., Azar, G., and El-Bathy, N., (2009). A Theoretical Framework for Knowledge Management: Towards Improving Knowledge Performance, Communications of the IBIMA, Vol. 7, ISSN: 1943-7765, PP. 67-79.

Kathryn B., Anne W., Stanislav K., May A., (2005). Evolution towards excellence: use of business excellence programs by Canadian organizations, Measuring Business Excellence, 9(4): 4-15.

Kim, K., Lim, S., and Mitchell, B. (2004). Building A Knowledge Model: A Decision-Making Approach, Journal of Knowledge Management Practice, Vol. 5, [On-line]. Available: http://www. tlainc.com/article68.htm.

Kolb, D. (1984). Experiential Learning, Englewood Cliffs, New Jersey, Prentice-Hall.

KPMG. (1998). The Power of Knowledge, A Client Business Guide, KPMG Consulting.

Laudon, K., and Laudon, J., (1999). Management Information Systems: Organization and Technology in the Networked Enterprise, Prentice Hall, Englewood Cliffs, New Jersey.

Laudon, K., and Laudon, J., (1999). Management Information Systems: Organization and Technology in the Networked Enterprise, Prentice Hall, Englewood Cliffs, New Jersey.

Lee, J., and Kim, Y., (2001). Effects of Managerial Drivers and Climate Maturity on Knowledge Management Performance: Empirical Validation, Proceeding of Pacific Asia Conference on Information Systems, PP. 1097-1111.

Leonard-Barton. D. (1995). Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation. Boston: Harvard Business School Press.

Liss, K. (1999), Do We Know How to Do That? Understanding Knowledge Management, Harvard Management Update, February, PP. 1-4.

Lurdvall, B and Nielsen, P. (2007). Knowledge Management Innovation Performance, International Journal of Management, Vol. 28, No. 3, PP. 207-223.

Malhotra, Y. and Galletta, D. (2005). A Multidimensional Commitment Model of Volitional Systems Adoption and Usage Behavior, Journal of Management Information Systems, Vol. 22, PP. 117-151.

Martensen, A. Jens, J. and Dahlgard, S. (2007). Measuring and diagnosing innovation excellence: Simple Conta advanced Approached: A Danish Study, Measuring Business Excellence, 11(4), PP. 51-65.

McCann, J., and Buckner, M. (2004). Strategically Integrating Knowledge Management Initiatives. Journal of Knowledge Management, Vol. 8, No. 1, PP. 47-63.

Mcgregor, B., (1994). Public Service Status Review The Excellence Agend, Public Administration, 54(3): 296-301.

Miltiadis, L., Pouloudi, A., and Poulymenakou, A. (2002). Knowledge Management Convergence Expanding Learning Frontiers, Journal of Knowledge Management, Vol. 6, No.1, PP. 40-51.

National Electronic Library for Health (2008). What is knowledge management? Retrieved December 6, 2006, From [On-line]. Available: http://www.library.nhs.uk/knowledgemanagement/ViewResource. aspx?resID=88741

Nazari, K., and Emami, M. (2012). Knowledge Management: From Theory To Practice. Australian Journal of Business and Management Research, 1(11), 22–30.

Nevis, E. Anthony, D. and Gould, J. (1995). Understanding Organizations as Learning Systems, Sloan Management Review, PP. 73-85.

Nonaka, I. (2007). Strategy as Distributed Phronesis: Knowledge Creation for the Common Good. Proceedings of the International Productivity Conference, Bangkok, Thailand, Knowledge Management, From Brain to Business Proceedings.

Pan, S., and Scarbrough, H. (1998). A Socio-Technical View of Knowledge-Sharing at Buckman Laboratories. Journal of Knowledge Management, Vol.2, No.1, PP. 55-66.

Parikh M. (2001). Knowledge Management Framework for High tech Research and Development, Engineering Management Journal, Vol. 13, No. 3, PP. 27-34.

Pentland, B., (1995). Information Systems and Organizational Learning: The Social Epistemology of Organizational Knowledge Systems, Accounting, Management and Information Technology, Vol. 5, No.1, PP. 1-21.

Probst, G. Raub, S. and Romhardt, K. (1999): Wissen Managen: Wie Unternehmen ihre wertvollste Ressource optimal nutzen, Gabler Verlag, Frankfurt

Rahman S. (2001). Total quality management practices and business outcome: evidence from small and medium enterprises in Western Australia, Total Quality Management, Volume 12, Number 2, 1 March 2001: 201-210(10).

Randerre, E. (2006). Knowledge Management: Securing The Future, Journal of Knowledge Management, Vol.10, No. 4,PP. 144-156.

Rašul, J., Vukšić, V., and Štemberger, M. (2012). The Impact of Knowledge on Organizational Performance. Economic and Business Review, 14(2), 147–168.

Ruggles, R. (1997). Knowledge Management Tools, Boston: Butterworth-Heinemann.

Rumizen, M. (2002). The Complete Idiot's Guide to Knowledge Management, Indianapolis, IN: Alpha Books.

Sarrafzadeh, M., (2005). The Implication of Knowledge Management for the Library and Information Professions, Journal of Knowledge Management, Vol.2, No.1, PP. 1834-3554.

Sasmita P., Nayantara P., (2003). Measuring effectiveness of TQM training: an Indian study International Journal of Training and Development, 7 (3), 203–216.

Scarbrough, H., and Swan, J. (1999). Knowledge Management: A Literature Review, London, Institute of Personal and Development.

Schuppel, J., Muller-Stewens, G.; and Gomez, P. (1998). The Knowledge Spiral. In G. Krough, J. Roos, and D. Kleine (eds.), Knowing In Firms, Thousand Oaks, CA: Sage Publications, PP. 223-252.

Schuppel, J., Muller-Stewens, G.; and Gomez, P. (1998). The Knowledge Spiral. In G. Krough, J. Roos, and D. Kleine (eds.), Knowing In Firms, Thousand Oaks, CA: Sage Publications, PP. 223-252.

Simard C., and Rice R., (2006). Managerial information behaviour: Relationships among Total Quality Management orientation, information use environments, and managerial roles. Total Quality Management and Business Excellence. 17 (1): 79-95.

Snowden, D. (1998). A Framework for Creating a Sustainable Knowledge Management Program., In The Knowledge Management Yearbook 1999-2000, Cortada, J., and Woods, J., (Eds.), Butterworth-Heinemann, Boston, MA.

Spek, R., and Spijkervet, A. (1997). Knowledge Management: Dealing Intelligently with Knowledge. In J. Liebowitz, and L. Wilcox (Eds.), Knowledge Management and Its Integrative Elements, Boca Raton: CRC Press, PP. 31-59.

Standards Australia. (2003). Knowledge Management Interim Standard AS 5037.

Sveiby, K (1997). Skandia AFS Business Navigator, Retrieved March 15 2006 from http://www.sveiby.com.au/IntangAss/SkandiaAFS.html.

Tahir, S., Basit, T., Haque, M., Mushtaq, A., and Anwar, C., (2010). Knowledge Management Practices: Role of Organizational Cultural, Proceedings of ASBBS, ASBBS Annual Conference, Las Vegas, Vol.17, No.1, PP.1027-1036.

Tanriverdi, H. (2005). Information Technology Relatedness, Knowledge Management Capability, and Performance of Multibusiness Firms, MIS Quarterly, Vol. 29, No. 2, PP. 311-334.

Von Krogh, G. (1998). Care in Knowledge Creation, California Management Review, Vol. 40, No. 3, PP. 133-153.

Wiig, K. (1995). Knowledge Management Methods, Arlington, TX: Schema Press.

Wiig, K., (2003). Knowledge Management Foundation, Thinking About Thinking-How People and Organizations Represent Create and Use Knowledge, Arlington: Schema Press, Arlington, Texas.

Zack, M., (1999). Introduction, in Knowledge and Strategy, M.H. Zack, Editor, Butterworth-Heinemann, Boston. P. vii-xii.

Zack, M., McKeen J., and Singh, S., (2009). Knowledge Management and Organizational Performance: An Exploratory Analysis, Journal of Knowledge Management, Vol.13, No.6, PP. 392-409.