STUDYING THE ROLE AND EFFECT OF KNOWLEDGE PROCESS IN
ESTABLISHING KM IN EDUCATION

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ABSTRACT

The main objective of this article is to identify the role and effect of knowledge process in establishing knowledge management (KM) in education. Today, one of the most important and most valuable capitals of every organization is knowledge. In modern organizations, knowledge has been identified as the most significant factor in competitive advantage and their success. In the modern age, KM has brought about dramatic changes in managerial issues. KM is aimed at capturing knowledge, wisdom and experiences with added value of employees and also implementing, retrieving and maintaining knowledge as organizational assets. The knowledge process in KM is the collection and organization of organizational knowledge and utilization of these knowledge capitals and it's a collection that is capable of effectively and efficiently collecting, organizing and processing organizational knowledge and protecting organizational knowledge capital. In this article, using the descriptive, documentary method and a review of the findings obtained from other studies and articles available on electronic research databases and library resources, we will investigate and identify the role and effect of knowledge process in establishing KM in education. This article is extracted from the MA thesis on Educational Management.

KEYWORDS: knowledge process, knowledge management, knowledge processing, knowledge exchange, knowledge sharing

KM refers to the processes of creation, collection, organization, dissemination, constant refinement and utilization of knowledge. KM in an organization is comprised of strategies and processes which are capable of fulfilling the knowledge needs of the whole organization, customers and employees (Kermani Alquraishi; 2005). In today's world, intangible and intellectual assets which are called knowledge are viewed as a significant and crucial factor. To be precise, organizations that manage to improve and develop their intangible and intellectual asset (knowledge) are the ones which will succeed despite transformations. As stated by Peter Drucker, successful organizations are the ones that are provided with more knowledge human resources and deploy human resources in order to overcome the competitive and changeable environment of business. Future organizations are learning organizations which in other words, can be named knowledge-creating organizations. In such organizations, creation of new knowledge and information, inventions and innovations is not a specialized and specific task; rather, it's a kind of public behavior, a method which all members of the organization act accordingly. Thus, one of the basic ways of converting to a learning organization is the deployment of KM in the organization. By facilitating the process of knowledge creation and sharing, besides providing positive work environments and effective reward systems, KM expedites organizational learning and helps the organization to conform to today's rapid changes and successfully survive consistent with changes (Rahimi and Najafi; 2007). KM refers to the processes of creation, collection, organization, dissemination, constant refinement and utilization of knowledge. KM in an organization is comprised of strategies and process that are capable of fulfilling the knowledge needs of the whole organization, customers and employees (Kermani Alquraishi; 2005). Knowledge is necessary as a resource for survival of organizations and the key to the success of organizations lies in their access to a deep knowledge and understanding at all levels. Therefore, it must be made possible for management of organizations to adopt more reasonable decisions and improve knowledge-
Based performance by relying on superior knowledge (Probest and Rob and Rumhart; 2006). Due to daily transformations and scientific and technological developments and in order to prevent waste of deployment resources, KM has a special importance in organizations and its implementation required accurate planning and studying (Behyan; 2005). KM is a key solution for creating constant competitive advantage for business organizations (Ardichvili and Yoon; 2009). If one can't reach all the goals, employees' efficiency, increase in the level of organizational knowledge, updating of knowledge, increase in the ability to solve organizational issues and problems and tens of proposed objectives by planning and using new systems like KM, at least they can be partly fulfilled; yet in order to establish KM, provision of mental and cultural, skill and educational contexts, knowledge centers and provision of technological contexts are required and attention to knowledge infrastructures is of substantial importance. The bases or foundations necessary to construct a system, organization or structure are called infrastructures (Hasanzadeh; 2007). Knowledge in modern organizations is identified as the most significant factor in competitive advantage and their success (Peiravi; 2007). The changes and pressures of the modern society which is also in turmoil have rendered knowledge as vital for survival of the organization. As stated by "Bryan Queen", "the intangible factors that cause the growth and increase in the value of goods and services, are knowledge-based" (Ja'afari and Akhavan; 2006). According to the definitions above, it could be said that KM has been accepted in the current organizations as a necessity; this is why organizations must bring about an environment for sharing, transfer and contrast of knowledge among their members and educate members for conceptualization of their interactions. The basic problem of this study is to answer the question of what the role of knowledge process in establishing KM in education is.

Knowledge Process

Conceptualization of knowledge and KM seems to be rather difficult. To implement KM, some experts use the concept of process since in their views, the constant KM process exists in the organization and its presence in a short period will not have any results; rather, its result will be revealed due to its constant presence as the basic principle in organizations (Anvari Rostami and Shahhabi; 2008). Knowledge process in KM refers to the collection and organization of organizational knowledge and utilization of these knowledge capitals (Ourmazdi; 2006). Knowledge process is a collection that is capable of effectively and efficiently collecting, organizing and processing organizational knowledge and protecting organizational knowledge and organizational knowledge capital (Robins; 2007).

Knowledge Process Components

The knowledge process in this study is evaluated with the three components of knowledge processing, knowledge exchange and knowledge sharing each of which will be explained in what follows.

Knowledge Processing

In the processing stage, raw knowledge is changed into knowledge with organizational value. Processing includes storing, refining, organizing, analyzing, comparing, and excavating. This covers slightly beyond title-giving to knowledge in such a way that others can simply retrieve it when needed or that it requires complex, advanced and statistical analysis so as to discover and reveal the relations and approaches hidden in that.

Evidently and accurately, two kinds of processing are required so as to expedite the process of knowledge creation from raw data:

A) Extraction: the process of defining the objective data and adopting them from production systems and databases where the data is placed, are called extraction. The objective is to extract only the optimal data and not all the other data.

B) Transformation or Conversion: the process of converting the raw data extracted to forms applicable to other data and information, is in the data storage. Data conversion speeds up access to the data storage and the higher processing of them and parallel with that, eventually part of the data is also converted into knowledge (Radyng; 2006).

Knowledge Transfer

Knowledge transfer refers to the increase of organizational capability in doing tasks and eventually enhancing its value. In general, the richer and more intangible knowledge is, more technologies must be used for its transfer so as to allow its demanders an immediate sharing in that; but the values, norms and behaviors that constitute the culture of a company, are the main determinants of the success of valuable knowledge transfer. The main factor in success of each design...
of knowledge transfer is creation of a common language among the colleagues. Nonaka & Takeuchi’s emphasis on repeatability or overlapping of specialized fields and the discussion of Thomas Alen regarding cultural incompatibilities as the obstacles of technology transfer, reveal the necessity of access to a common language or a single language. According to Alen, if some people convert the cultural symptoms of two different cultures or environmental symptoms of two different areas into perceived boundaries, a common language and consequently the background of establishing relationship and knowledge exchange will be provided (Allen; 2002).

**Knowledge Sharing**

Qilich Lee maintains that knowledge sharing includes coordination, collection and access and retrieval of knowledge. Davenport & prosak (1996) also in their theory consider knowledge sharing as knowledge exchange and sharing of experiences among different organizational units so as to access the current and future benefits (Qilich Lee; 2008). Knowledge sharing is aimed at creating new knowledge by means of different combinations of the available knowledge or better utilization of it. In order to bring about a sharing process, people’s effective knowledge must be endowed with a high level of willingness and competence. Knowledge sharing is interpreted as the process of identification, distribution and utilization of the available knowledge in order to solve the problems more optimally compared with the past. The goal of knowledge sharing can be the creation of new knowledge by means of different combinations of the available knowledge or its better utilization. In order to bring about an effective knowledge sharing process, individuals must have a high level of willingness and competence (Sharifzadeh and Bouldaei; 2007).

![Knowledge Processing, Knowledge Exchange, Knowledge Sharing](image)

**Research Background**

Haghnazar, Fereshteh (2008) in a study entitled "Explaining and Evaluating Background Factors Effective in Implementing KM (Case Study: Administrative Units of Iran’s National Company)" has come to the conclusion that organizational structure, organizational culture, IT and knowledge processes are the foundations of KM infrastructure such that organizational structure, organizational culture and knowledge processes were not optimal for implementation of KM, but IT for implementation of KM was at an average level (Haghnazar; 2008). Abrahim, Maryam & Vahidi, Arash (2008) in a study entitled "Knowledge Management and Knowledge Sharing in Petrochemical Research and Technology", have concluded that there is a significant relationship between understanding of knowledge workers, organization’s learning atmosphere, development of competence and use of tools and technology, and the knowledge sharing behavior (Ebrahimim and Vahidi; 2008). Rahnavard & Khavandkar (2007) in a study which was conducted with the purpose of identifying effectiveness of knowledge sharing in success of companies active in IT in outsourcing of services, focused on knowledge sharing among different dimensions of KM. This study that was undertaken by means of the questionnaire tools and was analyzed by the regression correlation and coefficient, showed that if knowledge sharing is coupled with a mediating variable called the partnership relationship, it affects the successful outsourcing of IT services as an independent variable (Rahnavard and Khavand kar; 2007). Rahman Seresht & Afsar (2007) in their study investigated the effectiveness of knowledge sharing with the title of "Information Sharing" in competitive strategies and supply chain performance which was aimed at identifying the effectiveness of knowledge sharing in competitive strategies of supply chain members of steel industry. For this purpose, by investigating the managers and experts of companies active in the steel industry and analysis of findings by structural equation modeling approach, they concluded that there is a direct and significant relationship between information sharing and supply chain
competitive strategies, and that there is also a direct
and significant relationship between supply chain
competitive strategies and the supply chain
performance (Rahman Seresht, and Afsar; 2007).
Brewer (2004) in a study he conducted under the
title of "A Study and Investigation of How
Knowledge Management is Implemented in the
West Regional Electricity Company", by means of
a survey of the population in the West Regional
Electricity Company and using the comments of
employees in the research population regarding the
KM indices in the Regional Electricity Company, it
was determined that a mechanism that can conduct
KM doesn't exist at present and all employees and
experts who collaborated in this survey, stated that
access to the data necessary for the organizational
tasks and duties is hard and mostly after spending a
lot of time, some information is obtained which is
not accurate or relevant, organizational knowledge
doesn't have much value and importance and access
to information and knowledge resources is not
easily possible. The culture of documentation and
transfer of knowledge and experiences to others
doesn't exist while under the current conditions it is
necessary that the organization start and gradually
institutionalize KM in the organization in order to
access productivity of human resources,
empowerment of employees, reduction of the time
decision-making and doing tasks, organizational
effectiveness, employees' job satisfaction, frugality
in the organization and reduction of costs,
avantage of increasing creativity and innovation,
etc (Brewer; 2004). B. Dave & L. Koskela (2009)
in a study entitled "knowledge Sharing
Management and its Application in Structural
Industry", have reached the conclusion that
management and participation in using public
knowledge, is the best solution for acquisition
of knowledge and information related to different
projects and also communications and information
technology can supply proper solutions in order to
implement public knowledge development (Dave
entitled "the Effect of IT on KM Systems" have
concluded that IT plays a significant role in
determining the success or failure of KM system
such that growth and advance of KM is greatly
dependent on communicational and information
technology and it can expedite the advance trend of
KM only through advance in IT (Tseng; 2008). Abdolah et al (2008) have carried out a study
entitled "An Experimental Study on the
Implementation of KM System in Public Higher
Education Institutions" in Malaysia. The study has
been conducted in survey and by distribution of
questionnaire in six state universities of the Klang
Valley area. The analysis of results obtained has
shown that implementation of KM system has been
accepted in public higher education institutions in
Malaysia; however, the knowledge sharing culture
in these institutions is not at an optimal level yet.
The situation of organizational structure is not
adequate either in the public higher education
institutions of the Klang Valley area in Malaysia
for implementation of this system; but the results
regarding the readiness status of IT for
implementing KM in the aforementioned higher
education institutions have been indicative of the
proper readiness of this infrastructure (Abdullah
a study entitled "One by One Knowledge Sharing
in Technology Cooperative Groups", showed that
associations are communities with an informal
structure that make employees committed by
means of their informal communications and
sharing of experiences with one another. These
associations are proper tools for creation and
sharing of organizational knowledge. In this study,
features of knowledge sharing and the role of
cooperative groups in the one by one knowledge
sharing have been discussed in accordance with
behavioral characteristics of employees. They
believe that a knowledge which employees
voluntarily share or obtain from others will
effectively increase their capabilities (Wang and et
al; 2007).

Solutions of Implementing KM in Educational
Organizations

Here after investigating these frameworks,
we will only refer to factors which are effective in
successful implementation of KM.

1- Definition of the role of leadership and
determining the duties of management: this
requires the cooperation of senior managers,
understanding the governing organizational culture
and planning based on that.

2- Identification of the distance between the
available knowledge and the optimal knowledge

3- Increase in the individuals' awareness of KM
advantages: so that individuals must be taught that
although its monopoly is considered as a power, yet
its sharing is a double power.
4- The manager must first seek for quantity: welcoming quantity encourages individuals to think about their favorite comments.

5- Institutionalization of creating a sense of urgency and immediacy of change: not only should managers adapt themselves and the organizations to changes, they should also take the first steps in order to make changes and seek to create this feeling among employees that change is an immediate and essential need.

6- Constitution of a committee for identification of active people and acknowledging them: these people not only include those who provide their knowledge with others, but also include those who accurately use knowledge of others.

7- Content management: content management as the center of KM focuses on marketing, distribution, and application of the available knowledge which is obtained before. Keeping knowledge up to date and effective in accordance with employees' needs and demand is one of the key activities in content management.

8- Creating an environment based on trust in order to share knowledge among people

9- Provision of conditions for creation of short-term victories and successes (Baghaei-nya; 2006)

**Research Methodology**

In this paper, by means of descriptive, documentary method and a review of the findings obtained from other studies and articles available in electronic research databases and library resources, we will investigate and identify the role and effect of the knowledge process in establishing KM in education.

**Propositions**

1- Increase in information processing which includes: A- using the knowledge of experienced people actively and also knowledge exchange with other internal and external companies. B- Access to technical and specialized knowledge used by similar internal and external companies through computer systems for all employees.

2- Increase of knowledge exchange in establishing KM through: A- the performance evaluation system must be designed and implemented to evaluate the participation of employees in the process of creation, exchange and use of knowledge assets. This could be known as one of the job requirements of individuals in succession planning. B- Creation of possibilities for the knowledge exchange of specialists with one another and holding effective and applicable meetings constantly.

3- Increase of knowledge sharing through: A- material and value reward system to encourage and acknowledge employees who have had the highest participation and role in the field of knowledge acquisition, production and transfer, should be codified and implemented. B- Comprehensive planning for implementation of information sharing culture

**CONCLUSIONS**

Today, knowledge is proposed as a valuable and strategic resource and also an asset. Simultaneously with the growth in the idea of knowledge as a strategic source in the 21st century, knowledge has been given serious attention as an important competitive advantage in pioneering organizations. The most basic feature of smart organizations in 21st century is emphasis on knowledge and information. Knowledge is a powerful tool that can bring about changes in the world and make innovations possible. Processes in KM refer to the collection and organization of organizational knowledge and utilization and protection of these knowledge capitals. KM processes in the organization must have the capability to effectively and efficiently process the required knowledge in order to fulfill organizational business processes. In order for educational managers to have knowledge-based employees, they must strive to adapt themselves with the latest knowledge of the day. In terms of KM, the most valuable resources of the organization are the knowledge of employees. The only way of progress for future organizations, is the effective use of KM and due to its great importance, education has a critical and fundamental role among organizations.

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