



**International Conference on Communication, Management and Information Technology
(ICCMIT 2015)**

**Knowledge Management Process in several organizations:
Analytical Study of modeling and several processes.**

Alharithy, Mohammed*

Information science department , King Abdulaziz University ,Jeddah , Saudia Arabia

Abstract

This study highlights knowledge management processes and models, causes of differences in their application and how their strong coherence could lead to misunderstandings in interpretations. After taking into consideration existing point of views, the results indicate that causes of differences in applying the processes and models are due to diversity of strategic attitudes in organizations, the impact of high administration and common thought on knowledge management, size of organizations, sectorial activities and its interest in tacit and explicit knowledge. In addition, it indicates that integration is a significant factor and models formed as a guidance framework for an organization to implement and apply knowledge management. While the processes of knowledge are internal, the process of acquiring knowledge are internally or externally through knowledge management department and its staff. The models are more comprehensive than the processes for their content. The approval of a model at the organizational level done by the higher authorities through strategic resolutions and requires consistency with the internal and external environment of the organization. While the other knowledge management processes are supervised and monitored by the knowledge management department, although that they are offered as a package with the knowledge management model for the organization.

© 2015 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of Universal Society for Applied Research

Keywords: • Knowledge management models ; knowledge management process ; tacit knowledge ; explicit knowledge

* Corresponding author. Tel.: +996555713900.
E-mail address: mmkhh@yahoo.com

1. Introduction

It is evident from previous writings that researchers differentiate between the main process and sub activities of knowledge management. Mekawy [1] observes that knowledge models are an integral part of organizations that have the desire to establish knowledge management systems and that development consists of main steps complimented by necessary sub-processes. Hamod [2] has defined it as an attempt to understand and guide efforts and activities of knowledge management in organizations to manage future strategies, which could be everlasting. From our point of view, a knowledge management system can be defined as a framework that helps in the development of an effective knowledge management strategy in organizations. Various standards that help in forming knowledge management models [3] are as follows:-

- Coordination: knowledge management requires coordination with the existing practices in the organization such as comprehensive quality management and process engineering management.
- Guidance problem: knowledge management must contribute to solve problems by applying thoughts and practices.
- Comprehensive: organization must set terms and thoughts to manage knowledge easily in the internal environment.
- Activity or work guidance: analyzing in knowledge management enables managers to evaluate the impact of tools on the regulatory knowledge base.
- Proper tools: concentrated intervention requires effective tools and providing them is the main aim of knowledge management.
- We can add cognitive rehabilitation for specialized knowledge workers who establish models and prepare a knowledge community inside the organization to help them become a knowledge society.

2. Related Works

In a previous study titled "Knowledge management is an entrance to achieve productive university model", Gwahr [4] tried to determine how knowledge management can be prefaced to increase productivity in Saudi Universities. Hence, there is scope of applying this productive university model to increase the effectiveness of knowledge management processes in organizations. The study aimed to defining knowledge management processes as important factors in achieving a productive university model in Saudi Universities, highlighting obstacles that impede its application, determining statistical connotations based differences for the average of individuals response used as a study sample that included variables such as the university, position, academic degree, experiences years in administrative work, academic background and finally providing recommendations on the process of knowledge management to achieve the required model. A questionnaire was used as a tool to collect information and study sample included 189 people, including university directors, secretaries, faculty and institution deans, their secretary and head of departments of the following universities: Umm Al-Qura, King Abdul-Aziz University, King Fahd University of Petroleum and Minerals and King Khalid University.

In another study titled "The relation between Knowledge Management and performance", Yousef [5] has tried to define the relation between the adoption and the use of knowledge management and its performance in modern organizations. The study aimed at formulating more developed notions of knowledge and knowledge management, indicating the effective role of the latter in achieving and maximizing efficiency and effectiveness of modern organizations. The study also seeks to establish a comprehensive and coherent model of relations between cognitive inputs and outputs (performance), indicating the role of knowledge management in effectively putting into use the organization's aims, attitudes, current and future approaches and individual roles in it. This would further help in contributing to a rapid flow of knowledge to the organization and enhance the role of knowledge management to promote and form a supportive regulatory culture of knowledge and innovation. One of the main conclusions of this study was that modern organizations constantly seek to achieve proficiency, effectiveness and good performance and, most importantly, maintain it. This motivates the organization to work constantly to develop and update its goals, strategies, products and use effective tools, methods and techniques. To achieve this, it seeks to obtain renewable knowledge of sciences that are updated and continually developed. Knowledge management is one of the relatively new fields that is not entirely comprehensive yet. The attitude of modern technology towards the application of

knowledge management provides new abilities, special competitive capacities, and wide use of information technology and management. It also provides an accurate and affective system to draw, implement and monitor several functional processes, support philosophy and attitudes of high administration and affect the individuals' behavior, abilities, capacities and attitudes in the organization. An organization's method to select its cognitive types and inputs regarded as important factors in forming a comprehensive model of knowledge management. The researcher provides some recommendations to administration councils in modern organizations to include leaderships who can effectively incorporate ways and means to generate and gain knowledge that fulfill the strategic, competitive and functional needs. The importance of appointing a specialized professional to manage various knowledge activities and efforts in an organization helps form a comprehensive satisfaction level among workers in terms of benefits, earnings and instills positive effects on the success elements of an organization.

The study titled "A Review of Knowledge Management Models"[6] aimed to acritical reviewing of numbers of several models of knowledge management. Results indicated that several models of knowledge management differ in point of views, starting from the essential hypothesis of formulation and transfer tacit and explicit knowledge to more complex hypothesis that regards knowledge as the intellectual capital and the prescriptive machine rather than other important origins which are in need to be managed efficiently to achieve success in organizations. The researcher noticed that the studies connected knowledge management models to processes of knowledge flow management, and classified models mechanically. The model of intellectual capital as an asset of the organization should managed efficiently to achieve success, social progress and learning within, methodology management on all levels, regulatory structure, infrastructure, technology, learning and knowledge strategies as significant principles. Also, he pointed that models, in core, provide the tool to translate administrative activities and guide their efforts to enhance knowledge management in organizations. In models, knowledge management processes are practical steps that used to determine its needs of collecting, adapting and transferring information across organizations.

3. Knowledge Management Processes

We have earlier stated the definition of knowledge management processes. It can be define as all of the activities that are conducted on knowledge by relative authorities individually and collectively inside and outside the organization. Processes in knowledge management refer to all essential and sub activities on knowledge with the nature of said processes differing from one organization to another. There is no agreement among researchers about the number of knowledge management process. Saleh and Bassem [7] has added schedule (1) which indicate the efforts and opinions of researchers in defining knowledge processes. Noor Aldin [8] Enumeration the knowledge management processes as follows:

- Knowledge acquisition: collect, incorporate, relate information with human experiences and knowledge.
- Participation and publishing knowledge: That means that organizations use all types and forms of networks for participation and publishing.
- Utility: through support participation culture, use all information and knowledge as equipment. Hence, it noticed that utility is a result and not a process.

Another researcher [Abdelsatar [9] et al.] stated that the knowledge management process cover the following activities:

- Knowledge diagnosis: defining our knowledge about markets, clients, importers and others and determining its place of existence.
- Knowledge acquisition: inside or outside the organization, knowledge management brings it out through the organization's borders and sources.
- Knowledge generation: create knowledge through innovative solutions.
- Knowledge Store: the regulatory memory, which contains several forms of knowledge such as documents, or data, that are stored in experiential systems.
- Development and distribution of knowledge: increase capacities and skills of knowledge workers so that distribution of knowledge generates profit over costs incurred.
- Knowledge applying: knowledge requires learning and explanation through experiments and applying.

See Table (1) Difference in researchers' point of views about knowledge management processes.

Table 1: Difference in researchers' point of views about knowledge management processes.

S	Writer/year Page	Knowledge Processes
1	Nonaka & Takeuchi 1995:15	1- Participation 2- Embodiment 3- Coherence 4- Internalization
2	Heisig & Vorbeck 2000:114	1- Knowledge Diagnosis 2- Defying Goals 3- Generate Knowledge 4- Store knowledge 5- Distribute knowledge 6- apply Knowledge
3	Oluik & Vukovic 2001:54-61	1- Collect knowledge 2- Organize knowledge 3- Purify knowledge 4- Represent knowledge 5- Publish knowledge
4	D. Skyrme: 2001:5-6	1- Establish knowledge 2- Determine knowledge 3-Collect and obtain knowledge 4- Regulate knowledge 5- Divide knowledge 6- Learning 7- Apply knowledge 8- Use knowledge 9- Protect knowledge 10- Evaluation
5	Laudon & Laudo: 2001: 376	1- Obtain knowledge 2- Establish knowledge 3-Divide knowledge 4- Distribute and publish knowledge
6	Turban: 2002: 396	1- Establish knowledge 2- Obtain knowledge 3- Purify knowledge 4- Store knowledge 5- Manage knowledge 6- Publish knowledge
7	Hlupic: 2002:1027	1- Generate knowledge 2- Encode knowledge 3-Transfer knowledge
8	Mc Elroy: 2003: 5	1- Knowledge integration includes encode, store, restore, distribute and participate 2- Knowledge production includes generation of knowledge and innovation
9	Bothiller& Shearer: 2004: 24-29	1- Knowledge diagnose 2- Discover knowledge 3- Acquire knowledge 4- Generate knowledge 5- Store and regulate knowledge 6- Use and apply knowledge

4. Important samples of knowledge management models inside organizations and its benefits

4.1. Frid Model of knowledge management

The following model of knowledge management [6] indicted in Fig.1 is a copy of Frid Model.

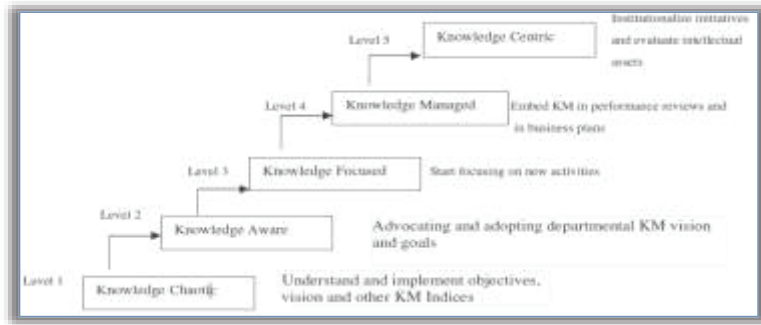


Fig. 1. Frid Model of knowledge management [6]

Frid [6] divided his model into five levels (Knowledge Chaotic, Knowledge Aware, Knowledge Focused, Knowledge Managed and Knowledge Centric). In Level 1, according to the previous classification, the organization understands and implements the model, including its vision, objectives and KM index. In Level 2, the vision and goals adopted according to the model and a road map is developed and used in coordination with the KM office. In Level 3, the organization covers all aspects of the previous levels and focuses on five activities to establish KM therein, including (process engineering, services and training, support and adoption of the cognitive community, monitor and preset index reports and insert knowledge management in budget). In Level 4, the proposed activities of the previous levels adopted and KM established to review performance and plans of the organizations. Finally, in Level 5, the institutional stamp added to the successful initiatives and intellectual assets evaluated. We see that this model presents a conception to establish knowledge management system at an organizational level and to apply KM, taking into consideration the needs of each organization due to the differences between them.

4.2. Duffy Model of KM processes

Duffy [10] provides in his study a model of KM processes indicated in figure NO. 2



Fig.2. Duffy Model of knowledge management [10]

The researcher indicated that the organization has its specifications like information and other external factors such as interaction and integration of strategies, individuals, techniques and processes. Inputs are then converted into knowledge that include processes (acquire, customize, retrieve, distribute and maintain) and knowledge management

processes contribute to the final outputs of the organization effectively. We notice that this model needs development by adding final outputs and feedback for improvement and updating.

4.3. SECI Model of Forming Knowledge

Nonaka & Takuchi [11] indicated in their study the SECI model to form a creative framework of knowledge and understand the knowledge composition by applying the following principles:

- The existence types of tacit and explicit knowledge.
- Dynamic interaction between tacit and explicit knowledge.
- The existence of three levels of social interactions (individuals, groups and surrounding environment).

The benefits of the knowledge models can indicated as the following:

- Understanding: it means that the reader of the model has a picture of KM in the organization, including two points of view; administrative and processes.
 - Integration with regulatory processes.
 - Help: it means that the models provide help to enhance the KM performance through step-by-step approach.
 - Comparability through draw maps of KM activities with any other models.
- Constant improvement and discovering shortcomings at any stage.

Hence, we notice that a high percentage of applicable concept can added with little adjustment in similar organizations.

4.3.1. Types of activities and processes that shaped knowledge

The types of activities and processes that shape knowledge indicated in figure NO.3 consist of four important factors: socialization, externalization, combination and internalization. We noted here that the processes and activities included in this model referred to as its main content. The processes of the contents are running as in the following steps:-

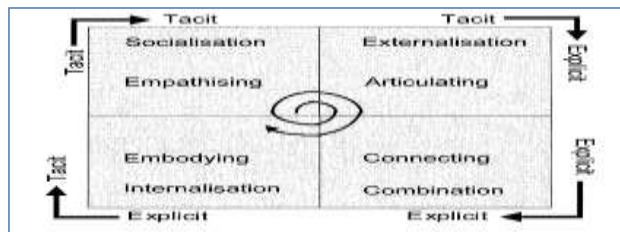


Fig 3. SECI Model to form knowledge

- Socialization formed when people share tacit knowledge through trade.
- Externalization formed through transfer of tacit knowledge to explicit knowledge.
- Combination formed through transfer of explicit knowledge through communication between groups or shared knowledge.
- Internalization formed through transfer of explicit knowledge to tacit knowledge as part of transferring organizational knowledge on a daily basis.

The model shown in Fig.3 is considered as one of the most famous models of knowledge formation in organizations. As mentioned by Abu Farah [5] through another researcher called Karl M. Wiig many models of

knowledge management including the model of organizational knowledge development course consist of the following stages:

- 1- Stage of developing and preparing knowledge.
- 2- Stage of raising knowledge.
- 3- Stage of knowledge acquisition.
- 4- Stage of classifying and clarifying knowledge.
- 5- Stage of distributing and publishing knowledge.

From the above, we noted that those models contain a number of knowledge management processes. Also Alaklaby [12] showed that processes and models are like two sides of the same coin; they are integral to each other's functioning and can't operate separately. The researcher also informed that the models contain a number of processes to enable the organizations to manage knowledge in a way that it makes it easy for the staff to complete the rest of the processes and obtain knowledge under different conditions such as:

- When the organization determines a model to transfer tacit knowledge to explicit knowledge in order to execute that by knowledge management. For example, when we need tacit knowledge that exists in the experts' minds and has passed through many processes such as search, organize, preserve, transmission and others conducted in many ways such as speaking with experts and delegating work to them according to their experiences and knowledge, and then monitoring and transferring it to explicit knowledge.

We agreed with this author view that there is an integral sharing point between the models and processes of knowledge. However, this did not match them at all.

5. Research problem and methodology

The research problem focused on the overlapping of process knowledge management and its models, and the connection leading to ambiguity in definitions that need to be explained. We try to build on the theoretic basis to view some models and processes of knowledge management. We then conclude the differences between them and their reasons in application among organizations.

6. Conclusion

This work addresses the various application models of knowledge management process between organizations as follows:

- Differences of strategic directions in organizations and the effect of the senior management and the common concept of knowledge management.
- Differences of organizations' size (local, regional, international).
- Differences of practiced activities of organizations and its different sectors (industry, trade, education...etc.).
- Differences of administrative structures of organizations and its formation (flat, horizontal, vertical).
- Differences of goals between organizations (profit, non-profit, governmental).
- Differences of interest in tacit and explicit knowledge by companies.

In view point of variances between models and processes of knowledge management; we know that integration forms an important factor, and researchers have presented a model as a higher process of knowledge management in organizations, including other major and minor processes. We also know that models shaped in organizations as frameworks and guidelines to execute and apply knowledge management. While the processes of knowledge are internal, the process of acquiring knowledge are internally or externally through knowledge management department and its staff.

Therefore, models are comprehensive in included processes. In addition, models are approved in organizations through strategic decisions by senior management, and require compliance with the inside and outside environment.

In addition, there is a difference between goals among models and processes between the highest and lowest level. Also, there is a difference between inputs, outputs and processes. There is no doubt that referenced scientific and cultural differences of researchers, show case many different views and ideas in this progressive field. However,

there is still an existing need for research in knowledge management fields especially in processes and models to make a progress in knowledge development especially in the Arab world.

References

1. Mekawy, Ibrahim (2007). Knowledge management: practices and definitions. The first copy, Oman: Alwaraq for Publication & Distribution.
2. Hamod, Khoudir (2010). Knowledge Organization. The first copy, Oman: Alsafaa for Publication & Distribution.
3. Gilbert J. B. Probst. (N.D.) Practical Knowledge Management: A Model That Works. Available at: <http://genevaknowledgeforum.ch/downloads/prismartikel.pdf> (10-11-2013)
4. Alwathynany, Gwahr (2007). Knowledge management of entrance to achieve the productivity university model. Master research. Available on: (19-3-2014) <http://libback.uqu.edu.sa/hipres/ABS/ind8757.pdf>
5. Abu Farah, Yousef (2004). Relation between usage and performance of entrance of knowledge management. The fourth scientific conference “knowledge management” Faculty of Economics and Administrative Sciences- Al Zaytoonah University of Jordan, Oman.
6. Haslinda , Sarinah .(2009). A Review of Knowledge Management Models. Available at: http://www.sosyalarastirmalar.com/cilt2/sayi9pdf/haslinda_sarinah.pdf (9-11_2013)
7. Alnaimy, Saleh and Abdel Naif, Bassem. (D.T). "role of processes of knowledge management in building an educational organization. Available on <http://www.iasj.net/iasj?func=fulltext&ald=53499>(8-11-2013).
8. Nour Aldin, Essam (2010). Knowledge management and modern technology, the first copy, Oman: Dar Osama for Publication & Distribution.
9. Alali, Abdelsatar and Kandilgy, Amir and Omary , Ghasan .(2012).Entrance of knowledge management, the third version, Oman : Dar Almasera for publication &Distribution .
10. Duffy, J. (2000).Knowledge Management: To Be or Not to Be?.Information Management Journal.34, 1 page 64.
11. Nonaka, Ikujiro & Toyama, Ryoko & Konno, Noboru. (2000). SECI, Ba and Leadership: a Unified Model of Dynamic Knowledge Creation. Available at: <http://www.sciencedirect.com/science/article/pii/S0024630199001156> (19-3-2014)
12. Alaklaby, Ali (2012). Relation between knowledge models and processes. Available on: <http://alaklubi.wordpress.com/2012/04/22/%D8%B9%D9%84%D8%A7%D9%82%D8%A9-D9%86%D9%85%D8%A7%D8%B0%D8%AC-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-> (7-11-2013)