

## Knowledge Management Activities in Small and Medium Enterprises/Industries: A Conceptual Framework

Mum Wai Yip <sup>1,a</sup>, Alex Hou Hong Ng <sup>2</sup>, Sabariyah binti Din<sup>3</sup>

<sup>1</sup> Tunku Abdul Rahman College Jalan Genting Kelang, Setapak, 53300 Kuala Lumpur, Malaysia

<sup>2</sup> Swinburne University of Technology, Jalan Simpang Tiga, 93350 Kuching Sarawak, Malaysia

<sup>3</sup> University Technology Malaysia, International Campus, Jalan Semarak, 54100 Kuala Lumpur,

<sup>a</sup> yipmw@mail.tarc.edu.my

**Abstract.** This *paper* aims to identify knowledge management (KM) activities in Small and Medium Enterprises (SME) and Small and Medium Industries (SMI) in Malaysia. From the literature, many researchers and KM practitioners have identified knowledge identification, knowledge acquisition, knowledge application, knowledge sharing, knowledge development, knowledge creation, knowledge preservation and knowledge measurement as the important activities in KM implementation. From the literature, this forms the basis for the proposed KM conceptual framework of KM implementation in Small and Medium Enterprises (SME) and Small and Medium Industries (SMI) in Malaysia. A conceptual framework has been developed with the intention to fill the gap on the topic of KM research in Malaysia. The most significant contribution of this study is to provide a KM activities framework for SME/SMI. The paper concludes with a proposed KM conceptual framework and as well as the limitations of this study and the directions of future research.

**Keywords:** knowledge management, knowledge management activities, small and medium enterprises, small and medium industries.

### 1. Introduction

The organizations competitiveness in knowledge based economy has shifted from tangible resources to knowledge resources [5]. Nevertheless, the transformation of knowledge based resources into new sources of competitive advantage requires the understanding of the nature of knowledge [6]. Therefore, many organizations view that practice of KM is essential in this knowledge based economy. However, systematic framework for KM activities is not completely developed. This paper reviews the existing KM activities proposed by various researchers and KM practitioners. From the literature, proposed framework for KM activities will be developed.

### 2. Knowledge Management Activities

Many literature have identified knowledge identification, knowledge acquisition, knowledge application, knowledge sharing, knowledge development, knowledge creation, knowledge preservation and knowledge measurement as knowledge management activities in an organization [1,2,5,7].

#### 2.1. Knowledge Identification.

An enterprise must state its business strategies and objectives. The knowledge requirements have to be identified to meet these goals. The difference between what the enterprise requires and what it currently has is what is called the *knowledge gap*. Besides that, it can be used to identify the knowledge gap of the individual employees which is shown in Figure 1. A to C shows the current and specialized knowledge that

employee requires in an organization. If the individual employee has the existing knowledge from A1 to B1, there will be a knowledge gap in the employee which is shown from B1 to C1 [1].

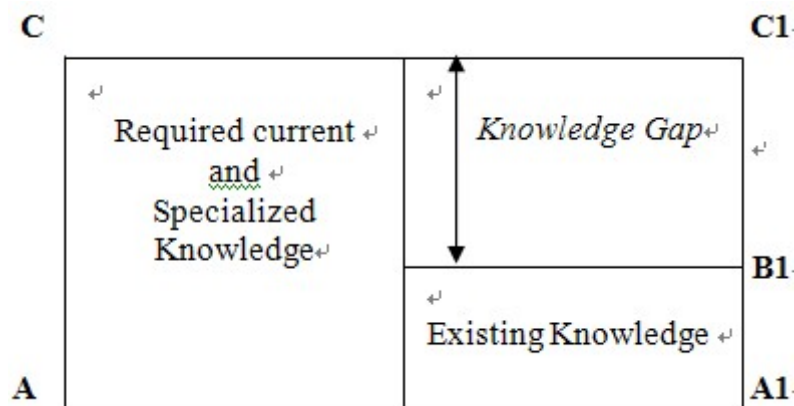


Fig. 1 Schemata of Individual Knowledge Needs [1]

## 2.2. Knowledge Acquisition.

After determining the knowledge gap, the next step is to close the knowledge gap by applying knowledge acquisition or knowledge import. Companies import a substantial part of their knowledge from outside sources. Relationships with customers, suppliers, competitors and partners in co-operative ventures have considerable potential to provide knowledge - a potential that is seldom fully utilized. Firms can also buy knowledge which they could not develop themselves by recruiting experts or acquiring other particularly innovative companies.

Knowledge acquisition is quite simply the process of acquiring knowledge that is available somewhere. For an organization, this might entail capturing knowledge from existing documents. It could mean capturing the tacit knowledge of its people into its repositories. Or it might mean identifying external sources of either process/technology expertise or market intelligence so that this knowledge can be purchased [2].

## 2.3. Knowledge Application.

After acquiring knowledge, knowledge must be applied in an organization. Knowledge application means making knowledge more active and relevant for an organization in creating values. *Knowledge* application deals with the fact that employees continually apply their knowledge to their working situation. We have to make local knowledge usable in global application. Organizational knowledge needs to be employed into a company's products, processes and services. If an organization does not find it easy to locate the right kind of knowledge in the right form, the organization may find it difficult to sustain its competitive advantage [1].

## 2.4. Knowledge Sharing.

After applying the knowledge in an organization, the next step is knowledge sharing. The sharing and distribution of knowledge within an organization are a vital precondition for turning isolated information or experiences into something which the whole organization can use. The most important step is to analyze the transition of knowledge from the individual to group or organization [2]. In knowledge based economy, knowledge itself is not power, when knowledge is shared, it become power.

## 2.5. Knowledge Development.

Knowledge development is a building block which complements knowledge acquisition. Its focus is on generating new skills, new products, better ideas and more efficient processes. Knowledge development includes all management efforts consciously aimed at producing capabilities which are not yet present within the organization or which do not exist either inside or outside it. Traditionally, knowledge development was anchored in the company's market research and in its research and development department; however,

important knowledge can also spring from any other part of the organization. This can provide the company general ways of dealing with new ideas and utilizing the creativity of the employees [3].

## 2.6. Knowledge Creation.

Knowledge creation is the key focus about creating new knowledge or innovating existing knowledge for the organization. Nonaka and Takeuchi (1995) suggested a KM model in terms of knowledge creation perspectives based on four kinds of process knowledge conversions. The spiral – type conversions between explicit knowledge and tacit knowledge, i.e. the SECI model [4,9]. They are as follows:

- (1) from tacit knowledge to tacit knowledge (Socialization)
- (2) from tacit knowledge to explicit knowledge (Externalization)
- (3) from explicit knowledge to explicit knowledge (Combination)
- (4) from explicit knowledge to tacit knowledge (Internalization)

## 2.7. Knowledge Preservation.

Competencies once acquired are not automatically available for all time. The selective retention of information, documents and experience requires management. Organizations commonly complain that recognition has cost them part of the memory. The processes for selecting, storing and regularly updating knowledge of potential future value must therefore be carefully structured. Knowledge once acquired needs to be preserved. Storing or preserving is certainly not about putting it somewhere and forgetting all about it. Unless knowledge is constantly updated and kept relevant, it ceases to be knowledge. Obsolete knowledge can be most dangerous [2].

## 2.8. Knowledge Measurement.

The next activity is knowledge measurement; this is to measure the impact and effects after implementing knowledge management in an organization such as customer satisfaction, efficiency, productivity, quality and etc [10]. This must be developed to link actions to strategies, monitor changes in intellectual capital and encourage value-creating work.

Besides that, a comprehensive survey of the German TOP 1000 and European TOP 200 companies showed that KM helps to achieve the goals of a company. KM can best be used to increase innovation ability, increase of product quality, reduction of goals, increase of effectiveness and customer satisfaction [8].

## 3. Conceptual Framework

Based on the literature above, the conceptual framework for KM activities is proposed in Figure 2.

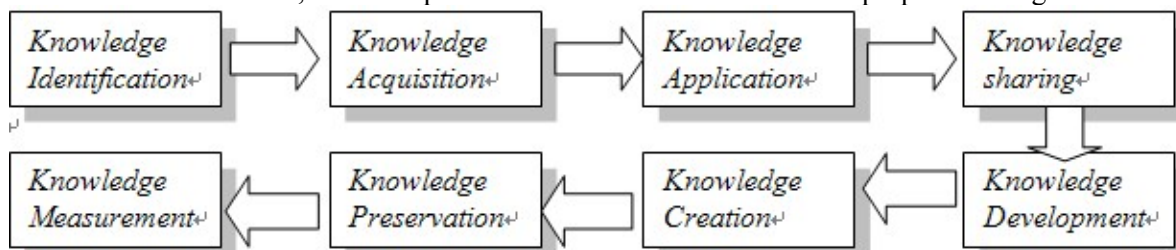


Fig. 2 Conceptual Framework for KM Activities [1, 2, 5, 7]

## 4. Conclusion and Recommendation

This study concluded that KM activities consist of knowledge identification, knowledge acquisition, knowledge application, knowledge sharing, knowledge development, knowledge creation, knowledge preservation and knowledge measurement. The most significant contribution of this study is to provide a KM activities framework for SME/SMI. The proposed conceptual framework may indicate some limitations in term of validity and applicability. For the future research, the authors will implement these KM activities in SME/SMI and following by qualitative and quantitative survey in order to validate the above proposed framework. Questionnaire survey and structured interview are proposed to use for future research. The use of these methods is suggested in order to broaden the finding on this research.

## 5. References

- [1] C.K.Ow, R.J. Willett, and K.L. Yap: Building a Knowledge-based Business School. *Education & Training*. 2001, 43 (4/5): 268-274.
- [2] G. Natarajan, and S. Shekhar. *Knowledge Management: Enabling Business Growth*. McGraw Hill International Edition, Boston Burr Ridge, 2000.
- [3] G. Probst, S. Raub, and K. Romhardt. *Managing Knowledge: Building Blocks for Success*. John Wiley and Son Ltd, New York, 2000.
- [4] I. Nonaka, and H. Takeuchi. *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press, New York, 1995.
- [5] American Productivity and Quality Center Knowledge Management. Executive Summary: Consortium Benchmarking Study Best-Practice Report. American Productivity and Quality Center, Houston, 1999.
- [6] M. Migdadi. KM enablers and outcomes in the small and medium sized enterprise. *Industrial Management & Data Systems*. 2009, 109 (6): 840-858.
- [7] S.C. Chong, Y.K. Wong, and L. Binshan. Criteria for measuring knowledge management performance outcomes in organisations. *Industrial Management & Data Systems*. 2006, 106 (7): 917-936.
- [8] K. Mertins, P.Heisig, and J. Vorbeck. *Knowledge Management: Best Practices in Europe*. Springer-Verlag Berlin Heidelberg, New York, 2001.
- [9] I. Nonaka, and R. Toyama. Knowledge creation as a synthesizing process in Takeuchi, H. and Nonaka, I. (Eds). *Hitot Subashi on KM*. Wiley, Singapore, 2004.
- [10] M. Santosus, and J. Surmacz, *The ABCs of Knowledge Management*. CIO, 2001.