

Knowledge Management Practices in Small Enterprises

Onwika Kaewchur ¹⁺ and Kongkiti Phusavat ²

¹ Faculty of Engineering, Kasetsart University, Bangkok, Thailand

² Center of Advanced Studies in Industrial Technology, Kasetsart University, Bangkok, Thailand

Abstract. This study aims to investigate the current knowledge management practices in small firms. The qualitative method was employed in this study. The data was collected from the semi structural interviews, the checklist, and the observation of relevant documents. Two companies were selected as the case companies. Moreover, the owner managers of both case companies had participated as the interviewees. The results discussed by identifying the activities concerning KM processes of both case companies which were knowledge creation, knowledge storage, knowledge transferring, and knowledge application. In addition, the barriers in KM implementation of both case companies also discussed. The results would provide small firms with the guidelines for a successful implementation of knowledge management principles.

Keywords: Knowledge Management, Small Firm, Small Enterprise, SME

1. Introduction

In the knowledge-based economy, various organizations have paid a lot of attention on utilizing and retaining their knowledge within organization to sustainable competitiveness as seen in many literatures. In addition, many earlier KM researches had focused on the large firms rather than small firms. KM is appropriate not only large firms but also a wider range of organizations [1]. However, the KM strategy and implementation of small firms generally differ from the large firm because small firms are at disadvantage as compared to the large firms when dealing with the phenomenon of globalization [2]. These disadvantages may include budget, personnel, knowledge, skill, machinery, and technology [3].

Therefore, the objective of this paper aims to explore the current practices of KM implementation which include the activities concerning KM process and the barrier in KM implementation in small firms in order to provide small firms with the guidelines for an implementation of knowledge management principle.

2. Literature Review

As the earlier KM researches, many scholars had given the meaning of KM in their own ways. Jennex [4] defined the definition of KM as “KM is the practice of selectively applying knowledge from previous experiences of decision making to create and future decision-making activities with the express purpose of improving the organization’s effectiveness.” Moreover, Alavi and Leidener [1] identified the KM framework which consists of four main processes as follows;

- Knowledge acquisition is the process of creating the knowledge from acquiring it from various sources both internal and external sources.
- Knowledge storage is to construct and store the knowledge within organization for further use. This should be easily to access and formalize.
- Knowledge transfer is the process of sharing and distributing the knowledge to make it available to those who need it. This is not only within organization, but also the external organization such as customer and supplier.
- Knowledge application is the process of utilize knowledge to product or service of organization in order to gain its value.

3. Methodology

⁺ Corresponding author. Tel.: (+66) 869992759.
E-mail address: onwika@hotmail.com

TABLE 1: The results from checklist of activities concerning KM process

KM process	Activities concerning KM	Company A	Company B	
Knowledge creation	Doing market research			
	Doing R&D			
	Take some time to read a trade journal			
	Doing a customer satisfaction study			
	Involving knowledge of customers and suppliers			
	Being market-oriented by obtaining customer and industry information			
	Being sensitive to information about changes in the marketplace			
	Working in partnership with international customers; and getting information from market surveys			
	Experimenting, "trail-and-error"			
	Excusing employees for a certain amount of time to let them work out their ideas			
Knowledge storage	Hiring know-how			
	Valuing employee's attitudes and opinions and encouraging employees to up-grade their skills			
	Employing and retaining a large number of people trained in science, engineering and math			
	Creating an open culture			
	Creating organizational cultural conditional for the introduction of knowledge management			
	Databases			
	The central achieving of projects of which the results are easily accessible for everyone			
	Knowledge sharing	Readily disseminating market information inside the organization		
		Disseminating knowledge on-the-job		
		Using technology (such as teleconferencing, videoconferencing and groupware) to facilitate communication		
Facilitating a consultation culture				
Facilitating private chats (informal events)				
Organizing after work get-together				
Creating work groups				
Intranet and other information technology				
Product and sales meetings				
Job rotation				
Knowledge application	Electronic networks			
	Using specific techniques such as quality circles			
	Mentoring and coaching and written case notes			
	Responding to knowledge about customers			
	Responding to technology about competitors			
	Responding to knowledge about technology			

To answer the research question, the qualitative method was employed in this study. The semi structural interviews and observation of relevant documents techniques were used as the tools in collecting data. Examples of relevant documents included the annual report, work procedures, and audit report. Two

companies from agricultural and pharmaceutical sectors were selected as the case companies. Moreover, the owner managers of both case companies had participated as the interviewees in the interview process. The interview process was about 30 to 45 minutes. The interview questions and document observation were along with the checklist of KM process and activities, which were based on Alavi and Leidener [1] and Massa and Testa [5]. The findings would be compared with concerning literature in the way of analysis.

In addition, the case companies were selected based on Small and Medium Enterprises Promotion Act B.E. 2543 (A.D. 2000), which are categorized by the number of employees (<200 employees) and fix assets (<200 Million Baht). The background of case companies would be described as follows;

Company A is in the agricultural production sector. It was established in 1991. The amount of employees is about 190 employees. The main product is the organic fertilizers. Their products are controlled under the standard of Good Manufacturing Practice (GMP) and ISO9001:2008. Sixty percentages of products are exported to international market and the remaining is traded in the domestic market.

Company B is in the pharmaceutical sector. It was established in 1976. The amount of employees is about 180 employees. The main products are the medicine and health products. Their products are controlled under the standard of Good Manufacturing Practice (GMP) and ISO9001:2008. The domestic market is the main customer, while some products are also traded in the international market.

Furthermore, the managers of both case companies, who have the main responsibility in controlling the company, are the owners. Both case companies have implemented KM since 2009.

4. Findings

According to the interview with both owner managers and their relevant documents, the results showed that the beginning of KM implementation in case companies were different, since company A hired a KM specialist to conduct their KM implementation, while company B trained their staffs in an external training institute to be KM leaders. However, both companies had conducted the KM implementation in the same way. As KM implementations of both case companies were not implemented in the whole organizations, some departments were selected as samples for other departments. Moreover, both case companies had attempted to create their own KM goals and documents that were suitable for their organizations because each organization had a differed background with its own cultures and resources. Furthermore, the activities concerning the KM process of case studies can be summarized and shown in Table 1.

Moreover, the barriers, which were the weakness, in KM implementation of both case companies are summarized in Table 2.

TABLE 2: The barriers in KM implementation of both case companies

Company A	Company B
Lack of KM staffs	Lack of KM staffs
Unclear procedures of KM implementation	No KM evaluation / audit system
No KM evaluation / audit system	In sufficient KM knowledge of employees
In sufficient KM knowledge of employees	Less experience in organization development
No focus on technology	No focus on technology
Employee participation	No focus on competitor
Unclear KM central goals	Employee participation
	Unclear KM central goals

5. Conclusion

In the knowledge creation stage, the external and internal knowledge sources had been used in both case companies. The research and development departments had established with the purpose of developing products and processes. As both case companies also offered an OEM service, some ideas were generated from the customer as well. Moreover, the training was also emphasized in order to develop the employee's knowledge and skill. An incentive system was also provided to motivate the employee in creating new ideas.

In the knowledge storage stage, the IT system was used as the basis for storing database. Most knowledge was first stored paper-based, and then changed into the database system. Therefore, at this stage, sometimes the data might be lost or missed due to a lack of staff to directly take care of the system. Moreover, the quality documents, such as ISO9001 documents, were used as the basic information for the knowledge center as well.

In the knowledge sharing stage, various techniques were used in order to disseminate knowledge and information within both case companies such as emailing, bulletin board, and intranet. Moreover, the information system was used in both case companies with the purpose of sharing knowledge. Besides, company B had focused on social network to share knowledge with customers and within the company. Both case companies had focused on transferring knowledge within the team rather than at the organizational level. Moreover, both case companies had focused on sharing knowledge between employees within the organization and customers, but with less focus on sharing their knowledge with suppliers. Furthermore, explicit knowledge was focused on and shared more than tacit knowledge.

In the knowledge application stage, to achieve the company's goals and satisfy customer needs, both case companies had focused on applying knowledge about customers and market trends. Moreover, applying knowledge about competitors was a major focus only in company A because they focused on producing products that were more innovative and unique than their competitors while company B focused more on producing products that customers need. Furthermore, the responding on knowledge about technology has not been exploited in both case companies.

The main barriers or weakness of KM implementation in both case companies can be categorized into the following:

- Misunderstanding the concept of KM which can occur at both manager and employee level, and then it can lead to an unsuccessful KM implementation.
- Unclear plans and goals for KM implementation within the organization.
- Inconsistent goals in each department because each department has set up their own goals, then sometimes it was difficult to collaborate or match with other departments in creating or sharing knowledge.
- Lack of collaboration among employees because most employees are not aware of the KM system and its benefits and may take a long time to adapt to the KM system. Moreover, they felt that by implementing KM, their tasks have increased compared to what they had earlier.
- Lack of human resources to control the KM system due to SME generally having a limited amount of employees. Then, the staffs are selected for implementing KM; normally have their own routine responsibility and thus cannot implement the KM process effectively.
- Lack of learning environment and supplementary activities for conducting knowledge sharing or learning between employees within the organization.
- No KM evaluation/audit system; this could lead to unknown situations in KM implementation and performance.

6. Further Research

Further research should expand this study to include more organizations or other industries, nationalities, and regions. The exploration at each stage of the KM process may be more deeply examined. Moreover, the perspectives of employees should be focused on to investigate the gap between the level of management and staff. In addition, the key factors in KM implementation should be thoroughly investigated if implementation is to succeed. Besides, the quantitative method should be used in order to support the findings in the next step. Finally, the interrelationship between KM implementation and organizational performance should be further examined.

7. Acknowledgement

This research was supported by Ministry of Science and Technology of Thailand.

8. References

- [1] M. Alavi and D. Leidner, "Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues," *Management Information Systems Quarterly*, vol. 25, no. 1, Mar. 2001.
- [2] OECD, "Globalization and Small and Medium Enterprises (SMEs): Synthesis Report," OECD, Paris, 1997.
- [3] J. C. Casillas, F. J. Acedo, and A. M. Moreno, *International entrepreneurship in family businesses*. Edward Elgar Publishing, 2007.
- [4] M. E. Jennex, "What Is KM?," *International Journal of Knowledge Management*, vol. 1, no. 4, p. i–v.
- [5] S. Massa and S. Testa, "A knowledge management approach to organizational competitive advantage: Evidence from the food sector," *European Management Journal*, vol. 27, no. 2, pp. 129–141, Apr. 2009.