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Awareness and Problems in Implementing Knowledge Management Systems in Medium Sized Business Organizations in Malaysia

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ABSTRACT Knowledge management is the process through which organizations can generate value from their intellectual and knowledge-based assets. Most often, generating value from such assets involves sharing them among employees, departments and even with other companies in an effort to devise best practices. The research is conducted to identify the problems and explore the possibilities of implementing knowledge management systems in medium-sized manufacturing firms in Malaysia. The study hypothesized that the implementation of knowledge management is crucial to medium-sized manufacturing firms to sustain and further increase the GDP level of Malaysia. Methodology used, findings and conclusion are reported. A model KM System is suggested.

INTRODUCTION

Today, knowledge is assumed to be the key asset, the effective exploitation which determines success for the firm (Michailova and Nielsen 2006). Knowledge is of limited organizational value if it is not shared. The ability to collect, integrate and apply specialized knowledge of an organization's members is fundamental to a firm's ability to create and sustain competitive advantage. Knowledge production is the most important value creating activity, not only for large knowledge-based firms, but also for society in general (Drucker 1993; Stehr 1994). Emphasis on knowledge management has resulted from the economic, industrial and cultural developments adding competitive value to products and services by the application of human knowledge. It is the process through which knowledge is generated, synthesized, and used from the people for the people at the right time (Coulson and Thomas 2004). Businesses are now realizing the importance of Knowledge Management Systems as a critical success factor in today's dynamic borderless society.

Knowledge Management Systems help in creating, sharing and using the collective knowledge of its products, processes and people to increase workplace productivity and reduce activities that 'reinvent the wheel' (Fontaine 2002). It is the process through which organizations can generate value from their intellectual and knowledge-based assets. Most often, generating value from such assets involves sharing them among employees, departments and even with other companies in an effort to devise best practices. It helps to create a sustainable organization as it generates increasing returns and continuing advantages. It is found that ninety percent of companies, which deploy Knowledge Management solutions benefit from better decision-making and 81 percent notice increased productivity (Reuters Survey 2001).

Some of the core reasons for implementing Knowledge Management Systems in business organisations are (Skyrme and Amildon 2003)

- Globalization and competition
- Restructuring and downsizing
- Sharing of best practices
- Successful Innovation

In Malaysia, there are limited applications in incorporating knowledge management as a basis for competitive advantage. According to Pervaiz et al.(1999) the identification of problems and the benefits derived from knowledge management are important. But organizations are not really aware of what the problems are in real terms. In this paper, the authors have identified the major problems in implementing knowledge management among medium-sized manufacturing firms in Malaysia.

The results of this research are of significant

value to organizations and provide an insight into the problems in implementing knowledge management systems. Identification of knowledge management problems will provide a valid foundation to establish successful implementation while a deep understanding on the benefits would lead organization to continue emphasizing the importance of knowledge management in coming years. A better understanding of problems in knowledge management could well prepare these organizations to be more aware and alert during the implementation.

Literature Review

Identifying the problems in implementing Knowledge Management systems is an important issue. Bartczak (2002) argues that an interim step towards realizing the goal of knowledge management is to identify the problems or challenges that discourage knowledge transfer in organizations. When a problem is understood, organizations may be able to implement strategies to boost organizational efficacy through better knowledge management (Beijerse 2000). According to Hsiu (2004), negative influences from people, procedures and competitors may occur in the process of knowledge sharing and these problems are difficult to be diagnosed. Organizations must make great efforts to deal with such problems in order to facilitate the implementation of its knowledge management system (Nonaka and Takeuchi 2000).

De Long's (2003) study reveals that organizational culture has a positive correlation with knowledge management. Through empirical testing, the study strongly supports the notion that certain culture types do have some impact on the implementation of knowledge management. Organizations that are aware of their organizational culture types can plan strategically and make informed decisions on the type of knowledge management initiatives to employ (Dyer 2000). On the other hand, Skyrme (2003) is of the view that knowledge management is the explicit and systematic management of vital knowledge and its associated processes of creating, gathering, organizing, diffusion, use and exploitation. It requires turning personal knowledge into corporate knowledge than can be widely shared throughout an organization and appropriately applied.

This view is further supported by Hariharan (2005) by grouping the success of Knowledge Management into four 'pillars' that will support the KM initiatives. The 'pillars' are leadership, people and culture, KM process and technology, Relevance to business and Measurement of KM. If these 'pillars' are not in place, Knowledge Management will only become a passing fad to these organizations.

In a more recent study, Debowski (2006) stated that "Core values are those values which are believed to be essential to the organisation's growth and achievement of its goals. The desired core values in the knowledge community need to be identified, encouraged and monitored".

Objectives

The research is conducted to identify the problems and explore the possibilities of implementing knowledge management systems in medium-sized manufacturing firms in Malaysia. The objectives are:

1. To identify the problems of knowledge management at the implementation level among medium-sized manufacturing firms in Malaysia.
2. To determine the ways to handle the problems of knowledge management at the implementation level
3. To highlight the benefits of knowledge management to these organizations, according to its priorities
4. To suggest ways to prevent and solve problems in knowledge management.

In this paper, the authors have reported the findings of the first two objectives.

Hypothesis

The study hypothesized that the implementation of knowledge management is crucial to medium-sized manufacturing firms to sustain and further increase the GDP level of Malaysia. Further, a firm has competitive advantage if it is creating more economic value than its rivals. While there are different strategies, implementing Knowledge Management Strategy into a firm's strategic management process will help to gain competitive advantage in Malaysian companies.

METHODOLOGY

This research is focused on medium-sized

manufacturing firms that are registered under the Federation of Malaysian Manufacturers (FMM). Companies are classified as medium-sized manufacturing firms with an annual sales of less than RM25 million and consist of less than 150 employees (SMIDEC). Since July 1968, FMM has been working alongside the manufacturing sector as its representative. It operates as a business organization by promoting and supporting manufacturing sector's interests. FMM offers a wide range of services and activities to facilitate business operations and serves as an important focal point for those seeking links with Malaysian manufacturers for investment, trade and services. Medium-sized manufacturing firms provide major contribution to the Gross Domestic Product (GDP) of the Country. According to the Economic Report 2004/2005, medium-sized manufacturing firms have contributed approximately 7.6% to the GDP of the Country. There are more than 2000 medium-sized manufacturing firms listed and most of them are centered in seven main states - Kuala Lumpur, Selangor, Johor, Pulau Pinang, Kedah, Melaka and Negeri Sembilan. For this research, industries in Kuala Lumpur, Pulau Pinang and Johor have been identified. Kuala Lumpur consists of 75 medium-sized manufacturing firms; followed by Pulau Pinang with 105 and Johor 128 firms (FMM Directory 2005).

Research Sampling and Data Collection: Random sampling method has been used to identify employees from managerial to operational levels from these three main locations. The Employees were surveyed to obtain a widespread view of the implementation of knowledge management. Data for this research was collected through questionnaires, which had 36 open-ended and closed questions. The questionnaire consists of 5 Parts, covering the areas such as demography, awareness, problems, challenges and benefits of knowledge management; and opinions and suggestions of the respondents on the subject of knowledge management. The respondents were to rate the statements on a 5-point Likert scale. Both English and Malay versions of the questions were distributed.

Theoretical Framework: A conceptual framework has been designed to identify the problems in knowledge management among medium-sized manufacturing firms as well as the ways to handle these problems and determine the benefits that can be gained through the implementation of knowledge management.

The framework consists of two elements, Phases and the Problems. Under Phases, four distinct areas have been identified as independent variables.

- Acquisition
- Dissemination
- Utilization and
- Evaluation

The dependent variables are the problems of knowledge management. The theoretical framework shows that the phases of knowledge management as independent variables determine the types of problems (dependent variables) that are being encountered in the implementation of knowledge management.

Data Analysis: In this study, Statistical Package for Social Sciences (SPSS) has been used as the statistical analysis tool. Results of data collection and data analysis are presented. Results of the reliability test are also included.

Reliability: Reliability of the research instrument is concerned with constancy. Cronbach Alpha method is used to assess the instrument of this research. Alpha values of 0.7 are normally acceptable indicators of internal consistency of an instrument (Schneider 2003). The alpha value for this study is found to be 0.892, which indicates that all the scales are reliable.

Sample Description: The sample of this study consists of 95 respondents from medium-sized manufacturing firms throughout Johor, Pulau Pinang and Kuala Lumpur. The respondents are from the various management levels from different departments, such as administration, human resources, accounts and payroll departments.

Demographic Data: Part 1 of the questionnaire is designed to collect demographic data such as gender, age, type of business, organizational structure, number of employees in the organization and the annual sales turnover. The response shows majority of respondents are male (80%) against 20% of females. 46.3% (44 respondents) fall within the age group of 31-40 years. The category of 41-50 years has the least number of respondents, i.e. 17 (17.9%). 40 (42.1%) respondents are from businesses, such as ceramic, textiles, food, confectioneries, paper and rubber based industries. Other businesses represented are electronic based industry 34 (35.8%), chemical based industry 18 (18.9%) and plastic based industry 3 (3.2%). 58% of the respondents represent industries with 600-900 employees and 18.9% representing over 1000 employees.

Data on Awareness and Problems: Information regarding the awareness and problems of knowledge management has been collected and analysed through questions in Part II and Part III of the questionnaire. Majority of respondents (80%) of respondents have stated that the organisations have a long term vision to implement Knowledge management strategies. 82.2% indicated that the organisations have formulated systematic processes and strategies with regard to the acquisition, sharing and evaluation of knowledge available within their organisations. This shows that most organizations are keen to systematically gear the competencies of the individual employees by various methods. The study has also suggested that the recording of knowledge and skills need to be made as part of the assessment.

Majority of respondents (73.7%) indicated that the style of management within the organisations stimulate the acquiring, sharing and evaluating knowledge between the employees. 62 out of 95 respondents expressed that their organisation has been highly motivated, committed and participative towards implementing a knowledge-based environment.

Survey shows 99% of the organisations have taken initiatives and provide facilities to determine a strategic implementation of knowledge management. This includes determining knowledge gaps and developing and sharing knowledge.

It is remarkable to find that 100% of the respondents revealed that the organisations were keen in building trust among employees and encourage them to share the knowledge they have acquired. This shows that all the organizations are playing a crucial role to put together their employees in the process of implementing knowledge management. Summary of other questions relating to problems is attached in Table 1.

The study shows, majority of respondents lack skills in using various technologies and tools to access relevant knowledge. Therefore, the organizations would need to place a greater emphasis on building relevant skills among employees. Furthermore, in shaping the infrastructure capability for competitive advantage, most important factor is the human skill, not the infrastructure itself.

RESULTS AND DISCUSSION

The findings of this research relate to the implementation of knowledge management in medium-sized firms in Malaysia. Results of this research include discussion on demographic characteristics of the respondents, awareness and problems of knowledge management, and the ways to handle them.

Findings of this research shows that total respondents based on their gender distinctiveness is uneven - i.e. the male respondents (76) dominated against female respondents (19). The results have also indicated that majority respondents are aged between 31-40 years compared to other age categories. With regard to the business category, “other types of business” has the highest number of respondents (40) compared to electric/electronic, chemical and plastic based industries. In addition, the moderate complex organizational structure category has more number of respondents, i.e. 47. Majority of the respondents (58) are from organizations with 600-900 employees.

Awareness and Problems of Knowledge Management

Notably, the results of this research highlighted that 70% and above have stated the

Table 1: Problems of knowledge management implementation

Question	*Percentage of respondents*
Language causes difficulties in implementing knowledge management within the organization.	39 %
The organization has insufficient amount of funding and investment to embark on current and future knowledge management activities/projects.	52.6 %
Employees face difficulties in accessing to relevant knowledge due to lack of skills in using various technologies and tools.	81 %
Specialization of labor within the organization requires distribution of different knowledge to different units, making integration more difficult.	59 %
The organization does not have knowledge leaders who are able to promote knowledge management agendas.	69 %
Lack of expertise to identify the key knowledge sources within the organization.	79 %
The introvert culture of the organization hinders the acquiring of external knowledge.	84 %

organizations have long-term vision about the knowledge needed for future development (80%). The organizations have formulated systematic process and strategies with regard to the acquisition, sharing and evaluation of knowledge within the organization (82.2%). The existing organizational culture motivates the implementation of knowledge management within the organization (72.6%). The style of management within the organization stimulates the acquirement, sharing and evaluation of knowledge among the employees (73.6%).

However, the response rate for the question that states workforce is highly motivated, committed and participative comprises 65.3% whilst 100% rated the knowledge infrastructures within the organization that secure the necessary continuing steps to determine knowledge gaps, develop knowledge and evaluate knowledge acceptable. Similarly, the entire respondents have accepted that the management is responsible for building trust among employees in the organization so that they can share knowledge. Furthermore, the results have also signified that more than 60% of respondents have accepted, that language causes difficulties in implementing knowledge management; employees face difficulties in accessing to relevant knowledge due to lack of skills in using various technologies and tools; organizations do not have knowledge leaders who are able to promote knowledge management agendas; lack of expertise to identify the key knowledge sources within the organization.

The study shows that most organizations as well as the respondents are aware of the importance of knowledge management. Nonetheless, the responses have also shown that the problems in implementing knowledge management activities do occur in these organizations. Responses relating to questions on the benefits of knowledge management are quite interesting. Feedback for this section reveals that majority of respondents drew notable disagreement or lack of opinion (neutral). Therefore, the findings denoted that respondents held different views on the perceived benefits of knowledge management to the organizations. More than 50% of respondents stated that they agree or strongly agree with the following:

- Able to improve the market position by operating more intelligently (73.7%).
- Able to enhance the continuity and profitability of the organization (52.6%).
- Provide a better foundation for problem solving and making decisions like make-or-buy of new knowledge and technology, alliances and merges (65.2%).
- Improves internal and external communication (65.3%).
- Make the organization focus on the core business and on critical organization knowledge (56.9%).

However, response rates are below 50% for the following:

- Organization improves in efficiency (41%).
- Optimize the interaction between product development and marketing (38.9%).
- Organization can improve worker independence and the relevant (group) competencies (43.2%).
- Able to ensure that knowledge-workers stay with the organization (32.6%).
- Reduces the operating costs of the organization (6.3%).
- Enables the management to deliver the right information and knowledge to the right people at the right time (27.4%).
- Improves organization's ability to sustain a competitive advantage in the global market (30.5%).

The challenges in implementing Knowledge Management put forward by the respondents are:

- distributing the right knowledge to the right person at the right time.
- acceptance of the employees to implement knowledge management strategies
- difficulties among employees in adapting to knowledge based culture
- difficulties in knowledge sharing
- managers resistant to change
- lack of information technology savvy among employees.

Some of the suggestions to handle these problems are:

- Monitor employees who access and contribute to knowledge management system and reward them
- Provide relevant training
- Support from the top management
- Practice an appropriate style of leadership to implement knowledge management
- Organization's policy on the implementation of knowledge management should be clearly stated and explained to the employees.
- Explain the benefits and importance of knowledge management to the employees.

Knowledge Management System: A Model for Medium-Sized Firms

Business firms rely on the collaboration and goodwill of their individual members to stimulate and enhance the knowledge context (Salisbury 2003). There are several core values that may influence the knowledge culture such as collaborative orientation, flexibility, open communication, interaction, and a willingness to trust (Bhatt 2001). Firms need to nurture innovative and creative thinkers. Employees need to be encouraged to think outside their normal routine and to identify different ways of looking at issues and possibilities, which will have pertinence to the business (Fei et al. 2002). An effective knowledge culture encourages innovation, from the initial creative idea to the experimentation and sharing of insights with others. There is a need to encourage flexible and adaptable behaviour. Routines and processes need to be flexible as it encourages people to look for opportunities to work towards creative alternatives (Debowski 2006). From the above study, a model is suggested that would suit most of the business organizations in Malaysia to capture tacit and valuable business knowledge that is generated across the enterprise.

One of the most sophisticated means is to set up an exclusive team who can constantly work towards improvement of knowledge base and knowledge sharing across the organization. The primary responsibility of this group is to capture and manage the knowledge generated from various sources like Technical Support Consultants, Production Support team, Product development team and Subject Matter experts. The group supports the development and usage of the knowledge management system that acts as a knowledge base of the organization to resolve issues. The team will be responsible for converting tacit knowledge by taking inputs from cross-functional areas across the organization and converting it into enterprise wide explicit knowledge. The team takes inputs from the product development team through the use of informal communication, online communities and other internal business processes as a way to capture their tacit knowledge. The team works towards continuous advancement that allows the business organization to increase its competency and offer solutions for new product releases (Fig. 1).

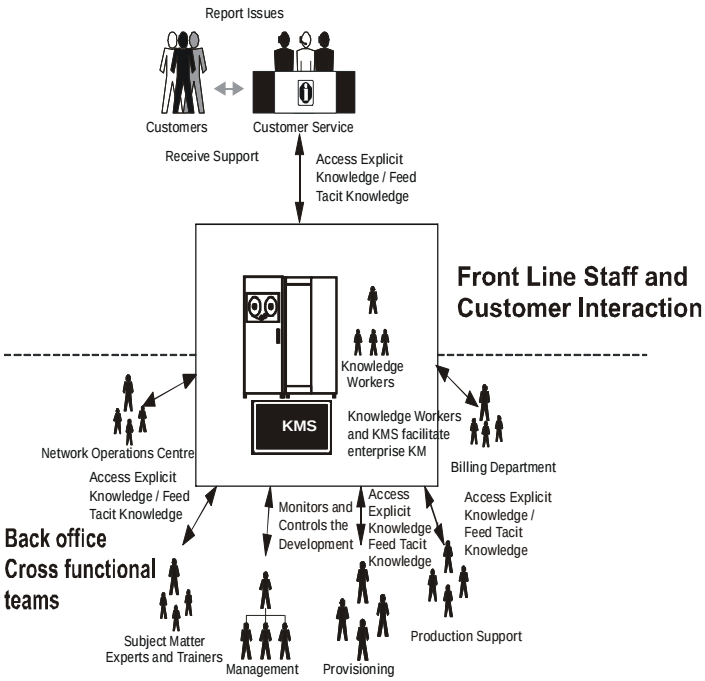

Fig. 1. KM Model

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