

KNOWLEDGE MANAGEMENT FRAMEWORK FOR MALAYSIAN SMALL AND MEDIUM SIZE ENTERPRISES (SME)

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ABSTRACT

This paper reports the extent that Malaysian SMEs' perceived awareness of knowledge management can be linked to six factors drawn from the theory and practice of knowledge management. These factors are: the balance between the need for knowledge and the cost of knowledge acquisition; the extent to which knowledge originates in the external environment; the internal knowledge-processing factory; internal knowledge storage; the use and deployment of knowledge within the organisation; and attention to human resources in knowledge processes. These six factors are compared with the results from a pilot study on the perceived awareness of local SMEs towards knowledge management. The intention is to provide guidance to local SMEs, on what can be effectively applied in their organisations based on their responsiveness towards knowledge management. The results suggest that local SMEs greatest need right now is to build, maintain and use effective and cost efficient knowledge repositories. It must be designed involving the user of the system and be integrated into SMEs everyday practice. In addition, a certain level of empowerment, formal and informal communication, and management commitment are also essential in encouraging the culture of knowledge sharing among SMEs.

Keywords

Small Medium Enterprises (SMEs), knowledge, acquisition, retrieval, management, technology.

1.0 INTRODUCTION: KNOWLEDGE MANAGEMENT (KM) AND SMALL AND MEDIUM SIZE ENTERPRISES (SMEs)

Davenport and Prusak (1998) defined knowledge as “a fluid mix of framed experience, values, contextual information, expert insight and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knower”.

For ‘*knowledge management*’, in the simplest terms, it means exactly that, “management of knowledge” (Tiwana, A., 2000). But there are many other definitions given by KM experts to describe this ‘hot’ topic. Klasson

(1999) suggests that, “knowledge management is the ability to create and retain greater value from core business competencies”. The interest in the use of knowledge management as a means of gaining a competitive edge in business situations has grown considerably in recent years (Lloyd, 1996; Brooking, 1997; Skyrme and Amidon, 1997; Davenport et al 1998; Nahapiet and Ghoshal, 1998). This may have been result from the observation that the ‘best practices’ of yesterday may not be taken for granted as ‘best practices’ of today or tomorrow. The need for knowledge management is a growing reality, 98 percent of senior managers in a KPMG survey believed that knowledge management was more than just a passing fad (Andriesz, 1999).

So far, all the discussions are associated with the relatively exclusive corporation, big in size and scope, operating across international and linguistic divides, employing thousands of people, well resourced and financed. The number of smaller organizations that have ‘dipped their toes into the KM ‘waters’ and found the conditions agreeable are relatively few. Most either rule out knowledge management on the grounds that it is too expensive, or dismiss the discipline as having little to offer their business, others are simply cautious of getting too far out of their depth (www.kmmagazine.com, Dec. 4, 2002). But as Knight (2002) and Webb (2002) pointed out, knowledge management promises SMEs the same benefits experienced by many larger organizations, such as better communications, improved customer knowledge, faster response times, greater efficiency in processes and procedures, and reduced risks from the loss of critical knowledge. If anything, knowledge management has even more to offer smaller businesses. As Knight says, “...the dangers of losing core knowledge to a competitor are often more pronounced among SMEs, while succession planning becomes all the more crucial when specialist knowledge resides with just one or two key employees” (2002).

While there may not be an explosion of interest, nor any great degree of homogeneity on how SMEs approach knowledge management, in the end the pressures associated with operating in a knowledge-based economy will push the need to address issues relating to intangibility, innovation, complexity and succession

planning. To make the most of the advantages of their relative size, a rational knowledge management strategy will be crucial in developing and maintaining SMEs competitive edge.

2.0 OBJECTIVES

This research is pertinent with the advent of the ASEAN Free Trade Area (AFTA) in 2003, and globalization, both affecting Malaysian SMEs, the main national providers of employment as well as products and services. This pilot study was conducted as part of the research programme entitled 'Development of Appropriate Level of Knowledge Management Applications for Malaysian SMEs'.

The aim of the research is to quantify the benefits that knowledge management applications can bring to Malaysia's SMEs, and the overall objectives are to identify the most effective methods of knowledge transference for local SMEs, to analyse the technology needed, to develop a 'Knowledge Management Starter-kit' for Malaysia's SMEs, and to form a Community of Practice within local SMEs for their competitive advantage and for the regional economy as a whole.

Several stages have been established in the process to achieve the main objective of the research. During the first stage, a pilot study on Malaysian SMEs perceived awareness of knowledge management has been conducted in October 2002, and the result has been published by Pan-Pacific XX, Shanghai 2003. The second stage involved a study to associate the findings from the pilot study with current theory in knowledge management.

This paper therefore provides suggestion for local SMEs on which factors drawn from the theory and general practice of knowledge management can be suitably applied to their organisation, base on their current awareness on the topics.

3.0 CURRENT THEORY AND PRACTICE IN KNOWLEDGE MANAGEMENT

Knowledge management practitioners assume that knowledge is a modern organisation's most important resource, the only resource not readily imitated by competitors, and therefore the source of its uniqueness and competitive advantage (Davenport and Prusak, 1998). Modern knowledge management practice emphasises the creation of new knowledge and the timely application of organisational knowledge to maintain strategic advantage. It assumes that systems exist within an organisation to support knowledge creation, and the relevant knowledge from internal and also external sources has been captured and arrange in such a way that it can be retrieved and used easily. Different aspects of the processes and their relevance to information professionals have been discussed in some

detail by Abell et al. (1999), Broadbent (1997), Davenport and Prusak (1998) and Klobas (1997). Klobas illustrated key relationships in a diagram, from which Figure 1 is drawn.

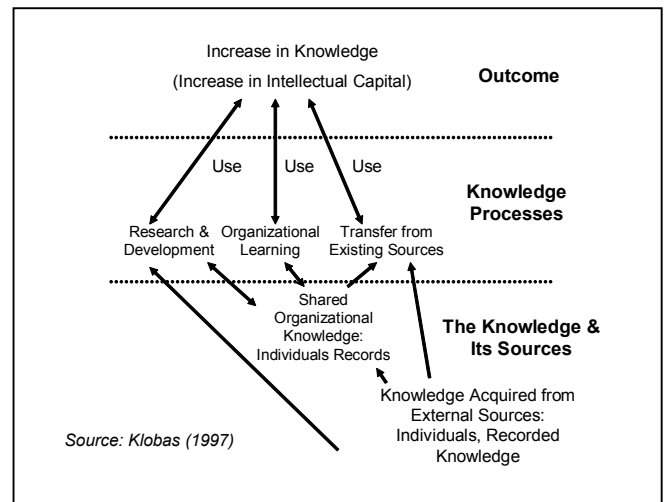


Figure 1

Most recent writing about knowledge management has emphasised methods and systems for recording, retrieving and sharing the intangible knowledge of an organisation rather than methods for management of information, or knowledge that is already recorded. While the processes and methods described by McShane and Glinow (1999) reflect the knowledge management concerns of authors, management consultants and managers, they are not well reflected in knowledge management practice. Knowledge is difficult to capture and organise because it is based on experience and specific context. It is not surprising, therefore, that in practice most efforts to capture and organise knowledge use methods which assume that a computer will be used to store the knowledge itself or directories of knowledge and where it resides in the organisation. Most system sold as "knowledge management systems" are primarily systems for better recording, indexing, and distribution of existing documents and information sources within an organisation or for integrating corporate and external sources of information. The assumption that knowledge management requires computer-based technology is universally accepted, though the need for the equivalent human skills is not equally recognised.

4.0 THEORY AND PRACTICE OF KNOWLEDGE MANAGEMENT FOR SMEs

While most current literature provides insights into the knowledge management strategies adopted by large multinational corporations (MNCs), the reality is most organisations especially SMEs differ from them. Other than differences in the number of personnel, SMEs tend to be regionally or locally focussed, have a narrower scope of business, and less financial and administrative

resources. This has been one of the excuses for SMEs for not paying greater attention towards knowledge management. But if so called tacit knowledge remains the most important form of knowledge for organisational success, SMEs remain highly reliant on such knowledge. They rely on the knowledge brought into the organisation by new employees, consultants and contractors, and also clients. Furthermore, they are highly vulnerable to the loss of employees seeking better compensation packages and prestige associated with larger organisations. The issue now is how can SMEs benefited from all the theory and general practice which have been derived from those MNCs.

Through a careful understanding of local SMEs perceived awareness towards knowledge management (Hamzah and Woods, 2003), there is a method in which SMEs can benefit from all the existing theories and practices. For example several thoughtful practitioners have developed guidelines for successful knowledge management implementation. Davenport and Prusak (1998) suggest that knowledge management can be achieved by effectively utilising the existing resources within an organisation. A unique characteristic of their work is the acknowledgement that much knowledge is driven by recognition of a need or demand for knowledge. They note that successful knowledge transfer relies on a culture which supports knowledge sharing and includes trusts among members of the organisation.

Similarly, Marshall (2000) advises organisations that their most important knowledge management task is to take care to retain existing employees. He emphasise that capturing employee knowledge and managing that knowledge must become a company culture. In the use of information technology, he says that the vehicle to capture the knowledge can be as simple as an inexpensive, user-friendly computer software programme available from the local computer store, however, the use of such a system must be embedded in the company's culture and be used regularly as part of the organisation's day-to-day work for it to be successful. In addition, he suggests offering financial incentives to employees to share their knowledge, and further suggests that dedicated staff are needed to manage the system and ensure that it contains only up to date knowledge.

Note that all the highlight points from these experts do not require SMEs to be 'large' enterprises to be able to implement knowledge management. By utilising their existing resources, encouraging a knowledge sharing culture and using free and low cost computer programme software are enough for local SMEs to start implementing knowledge management.

A more detailed framework of knowledge management for local SMEs would be discussed in the next part.

5.0 FRAMEWORK OF CHARACTERISTICS OF KNOWLEDGE MANAGEMENT FOR SMEs

Lim and Klobas (2000) classified organisational conditions, attitudes, decisions, and activities believed to be crucial for effective knowledge management in organisations, into six factors. These are:

- i. the balance between the need for and the cost of knowledge acquisition;
- ii. the extent to which knowledge originates in the external environment;
- iii. the internal knowledge-processing factory;
- iv. internal knowledge storage;
- v. use and deployment of knowledge within the organisation;
- vi. attention to human resources in knowledge processes

These six factors are compared with the result from the pilot study on the perceived awareness of local SMEs towards knowledge management.

5.1 Factor One : The Balance between the Need for Knowledge and the Cost of Knowledge Acquisition

A recognised need or demand for new knowledge often drives the knowledge acquisition process (Davenport and Prusak, 1998). The importance of an information need may govern investment in effort and assets in knowledge acquisition. Interestingly, findings from the pilot study show that cost issues only rank third in the main concerns for local SMEs in implementing KM. The effectiveness of the approach ranked first, followed by the availability of human resources who have or can acquire the skills needed in implementing the approaches. The time frame or how fast they can see the result seems to be of less concern (ranked 4th), likewise the cultural problem of 'resistance to change' by SMEs employees (ranked 5th). Given these, it seems that local SMEs understand that in order to gain advantage through KM they are ready to incur some associated cost.

5.2 Factor Two : The Extent to Which Knowledge Originates in the External Environment

All the models reviewed in previous researches either explicitly or implicitly acknowledge that much knowledge originates in the external environment. When using consultants or recruiting new employees, the organisation is tapping the external environment for new knowledge and information. The external environment is likely to be an important source of knowledge and information for smaller organisations; they have fewer people and therefore less capacity to generate new knowledge internally. As mentioned above, the local SMEs concern ranked second by most respondents is the availability of human resources who have the skills needed. While most SMEs may not bother with formal

environmental scanning for new knowledge and information, they have recognised that they need to regularly provide staff with training or hire new employees with the special skills needed.

5.3 Factor Three : The Internal Knowledge-Processing Factory

While knowledge is gathered from the external environment, there is a need for it to be adapted to meet organisation-specific needs. Figure 1 demonstrates how knowledge gathered from external sources needs to be processed through shared organisational knowledge, research and development, organisational learning, or be transferred from existing sources to become useful knowledge within the organisation. McShane and Glinow (1999) observe that new knowledge is developed through individual learning and experimentation as well as from external sources. All respondents from the survey understood that KM involved a process of creation, capture, storage and utilization of knowledge. With that understanding, it should not be difficult to persuade them to see the benefit for their internal processes to convert knowledge into forms which can be used and shared with the organisation. Given the nature of SMEs, the responsibility for records management should not be on the owners solely, but the employees must also be persuaded to become responsible for records management. Information gained from close contact with clients, suppliers and sometimes competitors, by every employee in SMEs is essential knowledge for the organisation.

5.4 Factor Four : Internal Knowledge Storage

In many models of KM processes, an internal knowledge repository provides the link between knowledge and its use. Klobas (1997) describes shared organisational knowledge, which may be stored in an electronic repository or simply in the minds of the employees. Davenport and Prusak (1998) describe a knowledge repository to store information or records of knowledge. They suggest that tools such as expert systems, modelling, and technology systems be used to make sense of knowledge acquired. While smaller organisations are unlikely to demand solutions of the size and complexity provided to large corporations, they still need a means for documentation of events to ensure that knowledge and experiences gained are not lost through employee turnover or the passage of time. The typical goal for this is to take knowledge embodied in documents such as memos, reports, presentations, articles, and so forth, and put it into a repository where it can be easily stored and retrieved. A less structured form of accumulated knowledge is the discussion database, in which participants record their own experiences on an issue and react to comments by others. All these can easily be done by local SMEs, at least by having the basic infrastructure such as personal computer and Internet. From the pilot study survey, it is evident that

the availability of the infrastructure is not a major problem for all SMEs representative since 100 percent of them claim to have their own Personal Computer, and majority (87.5%) respond that they do have an access to the Internet. Even though the biggest time percentage spent on it was in the work applications, such as preparing reports and slides presentations, and also for administrative work, and followed by browsing for information in the Internet, local SMEs show that they are already aware of the advantage of digitizing knowledge embodied in documents, the only thing left is to show them how to put it into a proper repository system to avoid it being lost and also for an easily retrieval. SMEs can realistically have a single PC act as a database for all these documents to be stored in a standard way, and have all other PCs link to each other and to the database PC through a local network. SMEs need to know that documents such as project blueprints, reports and especially minutes of meetings are critical information that can provide a better knowledge for significant decision making.

5.5 Factor Five : Use and Deployment of Knowledge within the Organisation

Nonaka and Takeuchi (1995) describe how different forms of knowledge can be converted into others, and particularly how tacit knowledge can be made explicit. Several of the reviewed KM models describe trust and organisational culture as pre-conditions for effective transfer or sharing of knowledge. In the absence of systems for sharing knowledge, knowledge related to an organisation's core competencies is held as tacit knowledge in the minds of key employees. Organisational culture and systems for knowledge sharing are therefore critical for the long-term, success and survival of small organisations as well as large. The study found that local SMEs were conscious that the absence of systems and culture for knowledge sharing in their organisation produced some bad experiences, such as decision making postponed due to unavailability of the responsible staff, and three-quarters confirmed they faced problems where project or business process knowledge resides in just one or two key employees. When these persons were transferred or left, the company faced difficulties in tracking back the knowledge about the project or the process. Again three-quarters of them also agreed that there were times when they themselves were not sure what projects their colleagues were involved in. This happens because of knowledge flow weakness inside the organisation. SMEs should take advantage of their smaller number of employees to encourage a culture of 'talking'. As Davenport and Prusak (1998) claim in their book of 'Working Knowledge', conversations at the water cooler or in the company pantry are often occasions for knowledge transfer. Influenced by outdated theories of the nature of work, management sometimes assumes that water cooler socializing is wasting time. Although some of the talk will be about sports and the weather, most

water cooler conversations focus on work, people ask each other about current projects, they bounce ideas off one another, and they get advice on how to solve problems. These conversations are work.

5.6 Factor Six : Attention to Human Resources in Knowledge Processes

Methods for acquisition and retention of key human resources are explicit or implicit in all KM models. Drucker (1993) argued that the resource that distinguishes one organisation from another is human capital. Issues such as empowerment, communication, and management commitment and support for knowledge sharing affect all the other factors in the model. If small organisation are to manage their knowledge effectively, they need to manage their people effectively.

Local SMEs owners tended to hold the power and knowledge closely to them because it was easier for owners to be fully involved with every aspect of the business. This of course lead to the practice of having all documents about a particular project or process which has been successfully completed, filed and labelled '*Confidential*', where no one was supposed to open it (over sixty percent of respondents agreed with this). Thus every project is considered as a "new" project, everything starting from scratch (again over sixty percent agreement).

To encourage a knowledge sharing environment, it is important for SMEs management to have a high degree of trust and encourage employee autonomy. As stated by Lim and Klobas (2000), empowered employees will ensure that a knowledge-sharing organisation is created, in addition to the higher job satisfaction and commitment demonstrated by the employees.

6.0 SUMMARY

"In ancient times, as small businesses moved towards growth, and the eventual development of ancient international business activity, knowledge of foreign markets, customs, customers, trade winds, and pirates, were what distinguished winners from losers" (Ann Hylton, 2000).

This was knowledge management in action, initiated, implemented and practiced by SMEs. Clearly knowledge management is not a new thing for SMEs, but has always been unconsciously employed by them. The only important difference with modern day 'new style' knowledge management is the changed environment in which businesses operate, and technology enabling tools that are available to help the knowledge management process.

It seems then, given the perceived awareness of local SMEs towards knowledge management, their greatest

need right now is to build, maintain and use effective and cost efficient knowledge repositories. Such knowledge repositories might take several forms, from the physical records management to formal computer-based management systems. For a formal information management, SMEs can choose to buy on the shelf programme available at a very reasonable cost or engaged a consultant to build not so expensive knowledge management system which can be readily integrated into the organisation's everyday practice. The system however must be designed not solely by the consultants, but should involve all the users of the system. SMEs thereafter would need to make sure that they will get a proper training in operating the system. Another way is for SMEs to hire its own system developer in which will reduce the cost of maintenance and upgrading in the future. Whichever way, SMEs need to understand that they built system must be acceptable for the user of the system.

A formal information management system which is well integrated into SMEs day-to-day work, would improve their ability to share and retrieve documents and information. Here the role of SMEs management must be reviewed. Management cannot be the sole originators and user of knowledge, all staff who add knowledge, who create it, and who retrieve it will be those who need to use it most. In addition to formal systems, it would certainly help SMEs to implement KM by encouraging a more conducive knowledge sharing environment, informally, in their organisation. For example, to have a tea break together at the office pantry, and not being prejudice against those employees who are not 'glued' to their working space.

Knowledge management should not be taken as a novel approach, but more about encouraging people to realize what they already have, and how to effectively make use of it. ('If only we knew what we know' – Lew Platt (O'dell and Grayson, 1998).

There are many reasons that prevent or discourage SMEs from implementing knowledge management. It is acknowledged however that these companies are likely to have more to lose than larger companies. They are more likely to employ one or two individuals who are the only holders of key company knowledge. And when these key persons leave the company, they take this valuable knowledge with them. Similarly, when an urgent need for data, information and even people causes delay, there can be a loss of commercial opportunity.

SMEs eventually will need to know what their knowledge assets are and then how to manage and make use of these assets to get maximum return. In this global economy, to remain competitive, companies have to know and then co-ordinate and use what they know, regardless of their size.

7.0 REFERENCES

- Abell, A., Chandler, L., Kibby, P., Martin, N., Oxbrow, N., Parnell, A., Sanderson, F. and Stenson, A. (1999). *Skills for Knowledge Management: Building a Knowledge Economy*, TFPL, London.
- Andriesz, M. (1999). *Managing Knowledge, The Scotsman*, Glasgow, Scotland.
- Broadbent, M. (1997). *The Emergence Phenomenon of Knowledge Management*, *Australian Library Journal*, Vol. 46 No. 1.
- Brooking, A. (1997) *The Management of Intellectual Capital, Long Range Planning*.
- Davenport, T., and Prusak L. (1998). *Working Knowledge: How Organizations Manage What They Know*, *Harvard Business School Press*, Boston.
- Davenport, T., DeLong D. and Beers M. (1998). *Successful Knowledge Management Projects*, *Sloan Management Review*.
- Drucker, P. F. (1993). *Post-Capitalist Society*, *Butterworth-Heinemann*, Oxford.
- Hamzah, Niza and Woods, P. (2003). *Current Awareness of Knowledge Management in Malaysian Small and Medium Size Enterprises (SMEs)*, *Pan-Pacific Conference 2003*, Shanghai, China.
- Hylton (2000). *Small Companies Also Need Knowledge Management*.
www.hyltonassociates.com
- Klasson, K. (1999). *Managing Knowledge for Advantage: Content and Collaboration Technologies*, *The Cambridge Information Network Journal*, vol. 1, no. 1.
- Klobas, J.E. (1997). *Information Services for New Millennium Organisations: Librarians and Knowledge Management*, *Library Association Publishing*, London.
- Knight, T. (2002). *A Blueprint for Delivery*, *Butterworth-Heinemann*.
- Lim, D. and Klobas, J. (2000). *Knowledge Management In Small Enterprises*, *The Electronic Library*, *MCB University Press*.
- Lloyd, B. (1996). *Knowledge Management: The Key to Long-Term Organisational Success*, *Long Range Planning*, Vol. 29 No. 4.
- Marshall, M. P. (2000). *Managing Your Company's Knowledge*, *Agency Sales*, Irvine.
- McShane, S. L. and Glinow, M. A. (1999). *Organizational Behaviour*, *Irwin Professional*.
- Nonaka, I. and Takeuchi, N. (1995). *The Knowledge-Creating Company*, *Oxford University Press*, New York.
- O'Dell and Grayson, Jr. (1998). *If Only We Knew What We Know*, *The Free Press*.
- Skyrme, D. and Amidon, D. (1997) *Creating The Knowledge Based Business*, *Business Intelligence Ltd.*, London.
- Tiwana, A. (2000). *The Knowledge Management Toolkit*, *Prentice Hal*.
- Webb J. (2002), Proprietor and consultant at Azione.
www.kmmagazine.com, Dec. 4, 2002