

Knowledge Management Challenges and Opportunities in Indian Small and Medium Enterprises (SMEs)

P. Bhanumathi and Dr. Jayasmita Rathb

Abstract

Knowledge management is an essential tool for efficiently manage the challenges which occur due to turnover of skilled, experienced, and knowledgeable workers. Large scale industries have already taken up these challenges and devised mechanisms to store and manage the intellectual property of an organization, by creating knowledge repositories and patenting innovations. Even though SMEs contribute to major portions in Indian economy, most of them lack innovative approaches towards knowledge management. Compared to international SMEs, Indian SMEs need to increase the use of knowledge management in their day-to-day business activities. This paper is a study on the importance of knowledge sharing, knowledge capturing challenges in the context of SME environment, and setting the motivation for need of knowledge management in SMEs and highlights some case studies pertaining to SMEs in general and Indian SMEs in particular.

Key Words: *Knowledge management, Knowledge creation, SMEs, Knowledge sharing*

1. Introduction

Several market research studies say, the Small and Medium Enterprises (SMEs) in India are witnessing exponential growth, contributing Compound Annual Growth Rate (CAGR) of 5.29 per cent, and developing as a major provider of employment. The demographic distribution of SMEs suggests, more than 55% are in urban India and rest in rural parts of India. 95% of SMEs space in India are Micro enterprises, 4.8% are small businesses and rest 0.2% is medium units. Associated with this high growth rate, Indian SMEs does face some important challenges such as inadequate scale of operation, use of obsolete technology, supply chain inefficiencies due to poor infrastructure support, increased competition in price from products by global industries, higher loan repayments and fluctuating interest rates, inadequate planning while bringing changes in manufacturing strategies and lack of understanding of market scenario. In order to cope up with such problems and to compete with large and global enterprises, SMEs need to adopt innovative approaches in their business processes (Rajesh, 2013) (Supratim

P.Bhanumathia, *Research Scholar, Mysore University, Assistant Professor, M S Ramaiah Institute of Management Studies, Bangalore, India, bhanumathi@msrim.org (Corresponding author)*

Dr. Jayasmita Rath, *Associate Professor, Department of Management Studies, Nitte Meenakshi Institute of Technology, Bangalore, India*

Pratihari, 2013). In this context knowledge capturing, storing, and management is considered as important requirements for Indian SMEs.

1.1 Introduction to Knowledge

Knowledge is a critical organizational resource that provides a sustainable competitive advantage in a competitive and dynamic economy (Davenport, 1998; Foss, 2002; Grant, 1996). It is a complex concept which consists of information and skills acquired through experience, it depicts the condition of having information or of being learned. Knowledge comprised of truths, beliefs, perspectives, judgments, expectations and methodologies (Nonaka, 2003). The capture of an employee's knowledge is vital for the organization, and sometimes they help in making key decisions to improve the performance of an organization.

1.2. Importance of Knowledge Sharing

David DeLong's Book "Lost Knowledge" describes knowledge enables effective actions and supports decision-making without deviating from the context of organizational activity. The knowledge loss would deteriorate the organizational effectiveness and performance. The knowledge transfer aims to identify key places and people, to understand the source of knowledge, the influence of knowledge loss on organizational productivity; and formulate an action plan to ensure the capture of critical knowledge and devise a process to effectively transfer it to the required seeking points.

(Gurteen, 1999) in his work highlighted five important values of knowledge sharing

- Knowledge is viewed as an intangible product which is an outcome of assimilating ideas, plans, processes and required information. In today's knowledge-based economy, it takes the major share of global trade.
- Any organization achieves competitive advantage only through unbiased knowledge sharing.
- Increased turnover of employees in knowledge industries makes the knowledge sharing an important process.
- Poor leveraging of experience and expertise across the organization.
- The threat of knowledge obsolescence, due to rapid changes in technology, business and society.

1.3 Knowledge capture and Steps

Knowledge capture comprised of a set of well defined techniques to enable acquisition of an individual's technical knowledge, such as vision, mission, goals, plans, experiences, attitudes, social networks and others, to minimize or mitigate organizational knowledge loss (Sheng, 2010). A variety of methods could be employed and may vary according to each organization's requirements. These techniques range from informal interviews, mind mapping to blogs and wikis, socializing, externalizing, and so on. Knowledge capture

benefits include, minimizing duplication of work, increases the pace of problem solving, improves teamwork, brings more innovation and better ideas, higher client satisfaction and improvement in employee motivation. Without the full support of management, essential training, motivation, and sincere efforts the knowledge capturing would not be successful.

Essentially, knowledge capturing involves following steps;

- *Identify a potential user for the knowledge.* This is a primary step, which provides proper orientation and focus to knowledge capturing process. Identifying an end user of knowledge helps in creating suitable tools for knowledge capturing.
- *Identify a practicing community.* The community includes people who are sources of knowledge, future users of the knowledge, and the people who decide the correctness of the captured knowledge.
- *Establish clarity on what the captured knowledge is really about.* This fixes the scope for knowledge capturing process, which is essential to set milestones for knowledge capturing process.
- *Creating guidelines.* Provide context for people to understand the purpose and relevance of the knowledge.
- *Validate the Guidelines.* Circulate the guidelines around the relevant community of practitioners and knowledge sources.
- *Generate the knowledge.* The source would be individuals, teams and groups with relevant experience. This can be accomplished through retrospective interviews of individuals, or formal learning processes and meetings designed to codify the knowledge gained (Kitimaporn, 2012).
- *Distill the knowledge.* This process is technically challenging, where you need to classify the knowledge into levels, priorities, key insights, lessons and practices. While grouping it is essential to bring common knowledge together, filter the redundant knowledge, and highlight the niche knowledge.
- *Publish the knowledge.* It is important to make use of technologies of the current trend to store and manage the captured knowledge, keeping the factors such as easy accessibility, privileged access, security against misuse, and provisions to involve knowledge users in updating knowledge base.

2. Knowledge Capturing Challenges in SMES

SMEs face challenges while transforming tacit knowledge into explicit knowledge. In the changing employment scenario, its organizations' ability decides the retention of old knowledge and acquisition of new knowledge. Much of the knowledge within SMEs is tacit and held by experienced people. Various studies have suggested that tacit knowledge appeared not to be effectively passed on to others and was lost when key individuals left the organization. This caused problems in succession planning. Various challenges in SMEs for knowledge capturing are broadly classified under following issues.

2.1 Social Issues

Knowledge is an inherent strength of any human being, social issues such as work culture, location influence, interest levels, enthusiasm, ability to communicate, soft skills, and above all the very structure of the SMEs will attribute to knowledge sharing attitude of people. As a culture, many experienced professionals are knowledge authoritarians and are reluctant to share it and on the contrary, most people are also reluctant to learn from others experience. Mutual trust among people will surely facilitate spontaneous and efficient knowledge sharing, but the culture of Asian countries, suggests people usually do not trust each other to share the knowledge that they possess, and enter into unhealthy competition (Norizzati, 2009; Chowdhury, 2006). People are also lacking confidence to share and exchange expertise. Many people think that if they share knowledge and make their opinions openly available to others, they will lose out in some way. Psychologists accept that Asians are generally less vocal and critical in the workplace compared to Westerners.

2.2 Technological Issues

The Information-Communication-Technology has become part and parcel of most of the business processes. Right from traditional desktop computing to today's mobile enabled cloud computing, groupware, semantic networks, data mining, content management systems, organizations are embarking on the use of technologies. These technologies with suitable application software will augment the process of knowledge capturing (Kitimaporn, 2012). Some of the technological issues with respect to Indian SMEs identified from the study (Mike, 2003; Anand, 2011) are: no uniform standards across organizations which may lead to wrong interpretations, restricted access to IT facilities, and poor organizational investments on IT resources such as software and technical support.

2.3 Financial Issues

The intention of knowledge capturing from an ongoing project could possibly conflict with the project management plan, including project completion date and budget of a specific project. This may result in cost trip ups, and increased payments of incentives offered. This factor would affect SMEs budget planning.

2.4. Process Issues

When the question of the amount of knowledge to be captured arises, one need to balance between the tacit and the explicit knowledge. Opening up tacit knowledge and making it explicit or maintaining in its native form becomes a central process issue during knowledge capturing. This situation demands effective mechanisms for knowledge codification. The adopting proper codification will help in putting efficient knowledge dissemination processes in place. Since knowledge capturing is a slow and labor intensive

process, it becomes a challenge to keep an account of discussions, decisions made, and team spirit when projects are of short term period are usually carried out by SMEs.

3. Knowledge Management Opportunities in SMES

With the impact of globalization, to survive in this competitive world of economy, SMEs need to adopt a dynamic and a self-sustaining culture of innovation and cluster based approach for the development. Consistent learning is the key enabler for today's knowledge-based economy, the tangible outcome of organizational learning activities is the creation of vital resource of knowledge. The organizations, social and economic values are measured by the ideas and intellectual property generated. This accumulated knowledge will enhance the performance of the organization, which in turn promotes innovation. SMEs offers the following advantages to implement KM practices over large enterprises (McAdam, 2001; Wong, 2004):

- Minimum time to take decisions, due to most of SMEs is managed by the owners, which imply that decision making is centralized (Davidson, 2003).
- The organizational structure of SMEs is simple, usually flatter and less complex. This advantage will greatly help the easy adaptation of various initiatives of knowledge management in both horizontal and vertical business processes.
- SMEs have the advantage of focused workforce, which is usually united under common beliefs and values.
- There is a deep and broad scope of knowledge commonality among members of the SMEs. This will ease out the process of knowledge capturing, knowledge maintenance, knowledge transfer, and knowledge application.

(Desouza, 2006), discuss five key peculiarities that differentiate knowledge management practices in SMEs and larger companies: 1. Every Manager in SME acts as the knowledge repository, 2. The existence of common knowledge among members of the SMEs is deep and broad. 3. SMEs has deliberate mechanisms to avoid pitfalls of knowledge loss, which includes the close social ties between members of the SME act as deterrence against employees leaving the business. 4. SMEs look for exploiting foreign sources of knowledge. 5. SMEs knowingly or unknowingly, manage knowledge in the humanistic way.

In the 'impact of knowledge management on SMEs', (Nazar, 2005), states that retention of high caliber employees is a major concern. Usually employees leave SMEs and join larger organizations, for higher salaries and bonuses. There is also an issue of limited opportunities in SMEs for career progression, and the existence of better prospects in larger organizations. The turnover of highly knowledgeable employees is a major threat to SMEs.

4. Benefits of Knowledge Management in SMES

Even though the primary goal of Knowledge Management (KM) is to capture the knowledge, the importance is given to efficiently manage the captured knowledge for organizational use. This collected knowledge should be used effectively to realize

organizational mission and vision. There are many initiatives from the Government to inculcate the knowledge management culture among Indian SMEs. In comparison to international SMEs, the Indian SMEs lag in capturing and storing relevant knowledge, making timely use of this, and reap the benefit of this domain. Apart from managing the internal knowledge, an important need of the day is Indian manufacturers should make the best use of the knowledge repositories created by government agencies and industry associations. Some of the major barriers for implementation of Knowledge Management in Indian SMEs are cultural resistance, slow penetration of technology, consumer awareness, cost, and lack of need. Few studies have focused on the benefits of KM for SMEs. We cover some of the benefits here.

4.1 Improved Competitiveness

Competence development is currently accepted as a key tool for fostering the competitiveness of enterprises. Every employee must be competent enough to manage his or her work, by acquiring suitable skills and knowledge empowerment. Tacit knowledge has a central role to play in competency development in SMEs.

4.2 Improved Human Resources

One of the classifications of KM (Bozbura, 2007) considers that KM can be analyzed by means of four dimensions: employee empowerment by training, counseling and mentoring, establishing proper guidelines and strategies for KM, knowledge acquisition from outside world, and the influence of organizational culture. It can be understood from this classification that human resources are the most important element in the organization, which generates the required creativity to produce new knowledge, which improves the level of innovation and development.

4.3 Better Financial Results

Improving performance in fund management, results in higher achievements with respect to productivity, innovation, efficiency, customer satisfaction and getting an edge over competitors. The outcome of KM can be best seen through better financial results (Fugate, 2009).

4.4 Improved Innovation

New knowledge is an enabler for innovation. Any innovation to become successful, it should link knowledge of operating processes in an effective and efficient way. The factors involved in knowledge management process have a great influence on innovation. Many researchers claimed that the majority of the KM frameworks only focuses on the knowledge processes without considering the factors which influence them in the context of systems thinking. Some of these factors include vision of the organization, knowledge availability, technical know-how, learning attitude, and work culture. It is the

organization's responsibility to link various KM related resources to the strategic goals of the organization (Rubenstein, 2004).

4.5 Improved Decision Making

SMEs can improve their capabilities in problem solving, continuous learning, strategic planning, decision making, and so on, by successfully adapting various KM activities, which includes knowledge acquisition, knowledge storage, knowledge creation, and application of shared knowledge (Zack, 2009).

4.6 Improved Performance

SMEs performance will be strongly influenced by the rapid, effective and innovative utilization of the resources and knowledge assets, infrastructures, processes and technologies (Darroch, 2005).

5. Some of Knowledge Management Research Findings in SMES

This section provides some of the research findings, including the purpose of investigation, the source of secondary data used for research and research findings.

Reference	Purpose of Investigation	Secondary Data	Findings
(Haibo, 2009)	To empirically investigate the relationship between knowledge management and innovation behaviors in SMEs.	This paper uses a sub-sample of firm-level data from the SME Business Policy Panel that has been tracked longitudinally by EIM Business Policy and Research since 1998. The total panel consists of about 2000 SMEs and is stratified according to sectors (manufacture, construction, retail and wholesale, and service) and size classes (0-9, 10-49 and 50-99 employees).	The researchers propose that: 1) engaging in knowledge management can develop absorptive capacity of a firm, which consequently contributes to innovation orientation and in turn, innovation behavior of the firm; 2) knowledge management, including external acquisition and internal sharing, has a positive effect on innovation behavior of a firm; and 3) innovation orientation plays a mediating role in the relationship between knowledge management and innovation behavior.

(Haibo, 2009)	The research considers three aspects of the knowledge Management practices which include external acquisition, internal sharing and storing of knowledge.	This paper uses a sub-sample of firm-level data from a longitudinal SME Business Policy Panel of Dutch SME funded by the Dutch government. The panel data are collected by EIM Business and Policy Research three times per year. The total panel consists of about 2000 SMEs and is stratified according to sectors (manufacturing, construction, retail and wholesale, and service, etc.) and size classes (0-9, 10-49 and 50-99 employees).	The study indicates that knowledge management practices and organizational learning are closely interrelated with each other in SMEs.
(Miguel, 2010)	This paper model structural relationships between knowledge management and the growth of the activity of the SMEs with greater focus on innovation.	608 companies are considered for sampling. 441 surveys are received, representing 72.5% sample. From these, 208 companies have been detected with greater focus on innovation, and full economic and financial information from a total of 163 companies for the 2003, 2004 and 2005 years were collected.	One of the main conclusions from the suggested model and the research developed is the existing relationship between the proxy variables of the Intellectual capital management and the growth rates of the business activity in the companies with a greater strategic focus
(Tunc, 2007)	The aim is to find out the senior managers' perceptions about the extent to which the components of KM contribute to the success of SMEs in Turkey.	A questionnaire prepared to gather knowledge from randomly selected manufacturing companies was sent to their senior managers. It is asked to be filled by the presidents, general managers, directors, assistant directors, etc. who work for the company for at least three years.	The results of the survey show that Turkish SMEs have no inclination towards sharing knowledge even inside the company. There is a fear of losing control by managers.

<p>(Egbu, 2000)</p>	<p>The paper highlights the importance of structure, culture, commitment and motivation as important variables in the effective management of organizational knowledge.</p>	<p>The information presented in this article has taken from three main sources. Firstly, some of the materials presented are based on a two-year research project funded by the Economic and Social Research Council (ESRC) under its innovation Programme. The study involved four case studies from four different innovative construction organizations; over 50 ethnographic interviews, company archive documents and video capture of innovative Processes and products.</p>	<p>The paper makes an attempt to analyze, a thorough consideration of the knowledge content, people, processes, culture and technology, and their interdependence is vital in any coherent and robust strategy for managing organizational knowledge in construction.</p>
<p>(Rajesh, 2008)</p>	<p>Carried research works to study strategic issues in KM in SMEs in India, with particular reference to the automotive component sector.</p>	<p>Collected from Indian automotive component manufactures SMEs.</p>	<p>Some of the important opinions of the research include, customer-focused knowledge is the most common KM strategy among Indian automotive component manufacturers. Top management is more active and supportive in KM initiatives in international auto component manufacturers. Indian SMEs need to focus more on the strategic issues in KM for reaping the benefits of KM for sustainable competitiveness. The research conducted has also highlighted the need of IT for KM in Indian SMEs.</p>

6. Conclusions

The current study article covers some of the issues and challenges pertaining to the implementation of knowledge management in Indian SMEs. The article provides the importance of knowledge, knowledge capturing and steps, knowledge capturing challenges, and knowledge management opportunities and advantageous pertaining to Indian SMEs. It also highlights some of the important research findings in integrating KM in SME sector.

References

- Anand, A., & Singh, M.D. (2011). Knowledge Management implementation steps for Indian Small and Medium sized enterprises. *International Journal of Engineering Science and Technology (IJEST)*, 3(12), 8255-8261.
- Bozbura, F.T. (2007). Knowledge management practices in Turkish SMEs. *Journal of Enterprise Information Management*, 20(2), 209-221.
- Chowdhury, N. (2006). Building Knowledge Management in Malaysia. *Inside Knowledge*, 9(7).
- Darroch, J. (2005). Knowledge Management, Innovation, and Firm Performance. *Journal of Knowledge Management*, 9(3), 101-115.
- Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Boston, MA: Harvard Business School Press.
- Davidson, P., & Griffin, R.W. (2003). *Management: An Australasian Perspective*. John Wiley & Sons: Brisbane, Australia (2nd edn.).
- Desouza, K.C., & Awazu, Y. (2006). Knowledge Management at SMEs: Five Peculiarities. *Journal of Knowledge Management*, 10(1), 32-43.
- Egbu, C. (2000). Knowledge management in construction SMEs: coping with the issues of structure, culture, commitment, and motivation. *16th Annual ARCOM Conference*, 1, 83-92.
- Foss, N. J., & Pedersen, T. (2002). Transferring knowledge in MNCs: The role of sources of subsidiary knowledge and organizational context. *Journal of International Management*, 8(1), 49-67.
- Fugate, B. S., Stank, T. P., & Mentzer, J. T. (2009). Linking Improved Knowledge Management to Operational and Organizational Performance. *Journal of Operations Management*, 27(3), 247-264.
- Haibo, Z., & Lorraine U. (2009). *Knowledge Management as a Strategic Tool to Foster Innovativeness of SMEs*. ERIM Report Series Research in Management.
- Haibo Z., & Lorraine U. (2009). Knowledge Management in the SME and its Relationship to Strategy, Family Orientation and Organization Learning. *ERIM Report Series Research in Management*. Retrieved from website: <http://hdl.handle.net/1765/15914>.
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 109-122.

- Gurteen, D. (1999). Creating a Knowledge Sharing Culture. *Knowledge Management Magazine*, 2(5).
- Kitimaporn, C.(2012). An Analysis of Knowledge Management Process for SMEs in Developing Countries: A Case Study of SMEs in India and Thailand. *International Journal of Information and Education Technology*, 2(3), 239-242.
- Mcadam, R., & Reid, R. (2001). SME and large organisation perceptions of knowledge management: comparisons and contrasts. *Journal of Knowledge Management*, 5(3).
- Miguel, G. L., & Pedro, F. D. (2010). Structural relationship between knowledge management and the growth of the activity in the Galician SMEs with greater strategic focus on innovation. *1st Conference of the International Network of Business & Management Journals (INBAM)*, Valencia.
- Mike, B., Linda, E., Sue, N., Harry, S., & JackySwan (2003). Social practices and the management of knowledge in project environments. *International Journal of Project Management*, 21, 157-166.
- Nazar, R. (2005). The Impact of Knowledge management on SMEs. *Knowledge Board*, 1-15.
- Nonaka, I., & Toyama, R. (2003). The knowledge creating theory revisited : knowledge creation as synthesizing process. *Knowledge management research and practice*, 1(1), 2-10.
- Norizzati, A., Nor Ismail, M., & Zainab, T. (2009). Knowledge sharing among workers: a study on their contribution through informal communication in Cyberjaya, Malaysia. *International Journal of Knowledge Management and E-Learning*, 1(2), 139-162.
- Rajesh, C., & Palanivelu, P. (2013). Business Knowledge and Information Technology of Functional Managers with Reference to SME's in Coimbatore City. *International Global Research Analysis*, 2(6), 145 – 147.
- Rajesh, K. P. (2008), Strategic issues in knowledge management in small and medium enterprise. *Knowledge Management Research & Practice*, 6, 334-338.
- Rubenstein, M. B., Liebowitz, G., Buchwalter, J., McCaw, D., Newman, B., & Rebeck, K. (2004). A Systems Thinking Framework for Knowledge Management. *Journal of Decision Support Systems*, 3(1), 5-16.
- Sheng, W., & Raymond, A. N. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20, 115-131.
- SupratimPratihari, E., & Avaya, K. S. (2013). Innovation and Challenges in MSME Sector. *DRIEMS Business Review*, 1(1), 81 – 85.
- Tunc, B. F. (2007). Knowledge Management Practices in Turkish SMEs. *Emerald-Journal of Enterprise Information Management*, 20(2), 209-221.
- Wong, K.Y., & Aspinwall, E. (2004). Characterizing knowledge management in the small business environment, *Journal of Knowledge Management*, 8(3).
- Zack, M., McKeen, J., & Singh, S. (2009). Knowledge Management and Organizational Performance: an Exploratory Analysis. *Journal of Knowledge Management*, 13(6), 392-409.