

# Knowledge Management For SMEs In Developing Countries

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## ABSTRACT:

Knowledge management helps in increasing productivity, effectiveness and efficiency in operations. Overlooking KM can seriously hamper the growth and prosperity of a SME. A comprehensive literature study was undertaken. The study accessed the status of KM in SMEs in developing countries and also examined the factors that influence the adoption of KM for SMEs in developing countries. Many organizations have profited from KM because they recognize the importance of the KM in business growth and development. However the study found SMEs, in developing countries have not realized this importance and still are vulnerable. The study takes this factor into consideration and proposed a KM approach specific to SMEs in developing countries. The study contributes on KM and SMEs literature in developing countries and is one of the few studies conducted in developing countries.

Keywords: *Knowledge management, SME, Developing countries, Organization*

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## 1. Introduction

KM helps in increasing productivity, effectiveness and efficiency in operations. Overlooking KM can seriously hamper the growth and prosperity of an SME. KM creates alternate profitable prospects for SMEs. The study considered the literature on KM with a view to ascertaining how this might be applied to SMEs in developing countries. This is important because KM have received renewed interest with the emergence of the knowledge economy. Many organizations have profited from KM because they recognize the importance of the KM in business growth and development. However the study found SMEs, in developing countries have not realized this importance and still are vulnerable. The study takes this factor into consideration and proposed a KM approach specific to SMEs in developing countries. The study contributes on KM and SMEs literature in developing countries and is one of the few studies conducted in developing countries.

The potential which KM offers in improving efficiency and innovation has been cited as a key source of competitive advantage (MacKinnon et al., 2002). Despite this pressing need, it is widely accepted that small companies – even the most knowledge-intensive ones – are characterized by a lack of uptake of KM initiatives (Nunes et al., 2006). Perhaps due to the reason that KM systems are expensive to purchase, use and maintain. The aim of this study was to propose an alternative approach to developing KM systems for SMEs in developing economies. Instead of usual approaches, where KM needs heavy financial and other resources, study suggested solution centric approach (Patrick & Dotsika, 2007).

Small and medium enterprises (SMEs) make substantial contributions to national economies and are estimated to account for 80 percent of global economic growth (Pavic et al., 2007). Today the business environment has become more competitive than ever before. In this competitive environment knowledge is thought to be the primary resource. The conventional factors of production have become secondary. It is straightforward to obtain them, provided there is knowledge (Chen et al., 2006). Davidson and Griffin (2003) pointed out small businesses have contributed many innovative ideas and technological breakthroughs to our society. In order to maintain and develop further their innovative skills SMEs need to develop their understanding of knowledge management (KM), as a key business driver rather than as a resource-intensive additional initiative (Zanjani et al., 2008). “KM has become the latest strategy in increasing organizational competitiveness” (DeTienne & Jackson, 2001). The critical assumption of KM is that organizations that manage organizational and individual knowledge better will deal more successfully with the challenges of the new business environment. KM is seen as a vital factor in realizing and sustaining organizational success for improved efficiency and innovation. Today, knowledge is the primary

source of competitive advantage and the key to success for organizations in the knowledge economy (MacKinnon et al., 2002; Patriotta, 2003). This study analyzed different aspects of KM with respect to developing countries and proposed strategies for better implementation of KM programs in developing countries.

The study consists of six sections. Following introduction, section 2 contains literature about knowledge, KM, SMEs, and KM & SMEs. Section 3 discussed the role of SMEs in developing countries and the need for KM in SMEs. Section 4 highlighted the benefits of KM for SMEs and section 5 contains the research findings. Section 6 concludes the paper and provides future research directions.

## **2. Literature Review**

### **2.1. Knowledge**

Knowledge has been defined in multiple ways. Davenport and Prusak (1988) defined knowledge as follows: 'Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knower. In organizations, it is often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms.' Knowledge is the primary resource for individuals, organizations and the economy. Delahaye (2003) concluded that knowledge is a distinctive source as it has no law of diminishing returns, grows from sharing. Wiig (1997) argued that knowledge is not a new concept, from very early times people have transferred knowledge by succession to the next generation. In ancient cultures, this has taken the form of narratives and songs, which were intended to teach the new generation new skills and survival techniques.

Samuel (1775) wrote in his early dictionary "Knowledge is of two kinds: we know a subject ourselves, or we know where we can find information upon it". Knowledge can be divided into two categories: tacit and explicit. Explicit knowledge refers to the knowledge which can be articulated in formal language such as grammatical statements, mathematical expressions, specifications, manuals, and thus can be transmitted across individuals formally and easily. On the contrary, tacit knowledge refers to the knowledge which is hard to articulate with formal language, but is personal knowledge embedded in individual experience and involves intangible factors such as personal belief, perspective, and value systems (David, 2006; Nonaka & Takeuchi, 1995).

### **2.2. Knowledge Management**

KM involves knowledge identification, creation, acquisition, transfer, sharing and exploitation. KM is vital for efficiency and organizational competitiveness (Egbu, 2001). Boh (2007) described that KM is a systematic process for acquiring, organizing, sustaining, applying, sharing and renewing both the tacit and explicit knowledge of employees to enhance organizational performance and create value. Menkhoff et al., (2002) defined KM as the task of developing and exploiting both tangible and intangible knowledge resources of an organization. Pillania (2006c) defined KM as "a systematic, organized, explicit and deliberate ongoing process of creating, disseminating, applying, renewing and updating the knowledge for achieving organizational objectives". KM is a process which involves the management of explicit and tacit knowledge (Nonaka & Takeuchi, 1995).

### **2.3. SMEs And Their Role In Developing Countries**

According to OECD (2000) SMEs make-up the largest proportion of businesses all over the world and play tremendous roles in employment generation, provision of goods and services, creating a better standard of living, as well as immensely contributing to the gross domestic products (GDPs) of many countries. The European Commission gave rise to the term SME in 1996 and defined the term as organizations employing fewer than 250 people (Burns, 2001). In developing countries, SMEs are defined differently for various countries. The term SME covers a heterogeneous group of businesses in a developing economy, ranging from a single artisan working in a small shop making handicrafts for a village market to sophisticated engineering firms selling in overseas markets (Fischer & Reuber, 2003). Generally SMEs in developing countries have not more than 250 employees. Some important characteristics of SMEs include:

- The company is characterized by the entrepreneur who very often also is the owner of the company.
- The entrepreneur normally is the “general manager”, thus he acts on his own risk.
- The entrepreneur has a network of personal contacts to customers, suppliers and the relevant public sector. So the contact is close and rather informal.
- The company usually acts very local.
- The products offered can be very individual to the customer’s needs.
- The form of organization is rather informal and flat.
- The company can react quickly to changes in the environment.
- The company is not dominated or ruled by another company, e.g. part of big business concern.
- The market share is normally small.
- The products are little diversified.
- About 36% of the SMEs are not older than 10 years (specific development stage).

SMEs are the backbone of the industrialization process of many developing countries and play a vital part in expanding a country's economy. In Thailand, SMEs account for more than 90% of the total number of establishments, 65 per cent of employment and 47 per cent of manufacturing value added while in Philippines, SMEs comprise 99 per cent of the total manufacturing establishments and contribute 45 per cent of employment and 18 per cent of value added in the manufacturing sector. Across the South Asia, the contribution of SMEs to the overall economic growth and the GDP is high. It was estimated that SMEs contribute 50% of Bangladesh's industrial GDP and provide employment to 82% of the total industrial sector employment. In Nepal, SMEs constitute more than 98% of all establishments and contribute 63% of the value-added segment. In India, SMEs' contribution to GDP is 30% (Mahmood, 2008).

According to economic survey of Pakistan (2008-09) SMEs have made the most significant contribution to the economic growth in 2008-09. SMEs' sector has emerged as a lifeline of Pakistan's economy constituting nearly 99.06 percent of all economic establishments. These establishments jointly contribute 30 percent to GDP employing 80 percent of the non-agricultural labor force, 25 percent to total export and 35 percent to manufacturing value addition.

SMEs' contain various advantages in income growth, entrepreneurial training, creation of technological capabilities, greater flexibility to changing market circumstances, job creation and lower wage inequality and dispersion of industry away from urban areas and regional development (Berry, 1998; Katrak and Strange, 2002). Other benefits of promoting SMEs in a developing country like Pakistan are: i) SMEs foster an entrepreneurial culture and provide resilience in the economy ii) contribute to exports iii) poverty reduction through employment generation iv) facilitate learning geographically and across the sectors v) Their efficiency in resource allocation is higher vi) reduce inequalities in the economy by distribution of wealth (Mahmood, 2008).

### **3. The Need For KM In SMEs**

Both large and small firms, require continuous generation, sharing and implementation of knowledge in order to maximize their competitiveness and survival chances in the modern information society (Nunes et al., 2006; Pillania, 2008b). However SMEs relatively need more focused approach towards KM as they face severe competition. Saloja et al., (2005) described that a more conscious and systematic approach to KM enhance SMEs performance and competitive advantage. KM also promotes innovation and business entrepreneurship, help manage change, and empower employees (Nonaka & Takeuchi, 1995). Zanjani et al., (2008) stated that SMEs need to make operational, tactical and strategic decisions and without accurate information they are unable to undertake this role.

The knowledge of employees of an organization is an important asset and such knowledge should be garnered for the ultimate good of the company. Wong and Aspinwall (2004) described two complementary perspectives about KM importance in SMEs. "Pull" perspective, which identifies the potential benefits or improvements that are crucial for small businesses, include for example improved competency, efficiency, innovation, learning and knowledge sharing. And "push" perspective, which deals with the external or environmental thrusts that push them to the forefront of KM, include amongst others, competitive pressure, globalization, movement of large companies toward knowledge based organizations (Davenport & Prusak, 1988). There are some other underlying reasons for which SMEs need to manage their knowledge resources. i) SMEs compete on the basis of their competencies and knowledge is an important resource to be competent, hence have to use knowledge more than traditional resources. ii) The owner of SMEs, usually are also manager needs to transfer knowledge to employees. iii) SMEs usually did not find or unable to retain good minds; hence they must settle for less qualified but motivated human resources. iv) Key stake holders like lending institutions, investors, suppliers, and customers, judged SMEs on the basis of their knowledge and strategies to put knowledge in right use. (Zanjani, Mehrasa & Modiri, 2008). Another factor, which explains the emergence of KM concepts, is the continuous 'rightsizing' trend. Starting in the 1980s, corporate downsizing measures led to the loss of valuable information and knowledge resources and subsequently to the emergence of KM as strategic countermeasure.

The driving forces like globalization have lead individuals and organizations to appreciate the important role of knowledge in an increasingly competitive world market (Davenport & Prusak, 1988). SMEs as a part of business sectors are no different from any other business sector. KM plays an important role for many SME companies in gaining competitive advantage and business survival. Knowledge in a company should be properly managed and controlled to be effective and competitive, therefore, there is no excuse or option to them to manage individual and organizational knowledge to continuously improve their process and compete in market.

By and large, SMEs have a set of distinctive needs as described earlier that call for the deployment of a KM system for generating, sharing, and refining organizational knowledge. However, in practice, SMEs are still very reluctant to take KM principles into their strategic thinking and daily routines (McAdam & Reid, 2001; Nunes et al., 2006).

SMEs usually lack resources such as land, labor, and capital. Therefore, SMEs must do more with less (Desouza & Awazu, 2006). SMEs need to be creative in working in order to manage knowledge with limited resources (Zanjani et al., 2008). Though SMEs in developing countries, in comparison with large enterprises are on back step for the availability of resources to manage knowledge. SMEs do have certain advantages in KM practice. i) SMEs flat structure and short decision making process allows shorter and faster information flow which can improve communication, as well as easier to permeate new change initiatives. ii) SMEs flexible culture provides a good foundation for a change, for example the practices of quality initiatives. iii) People dominated together with organic behaviour, rather than bureaucratic and system dominated, and this helps improve the chances of success for new initiatives. iv) The high incidence of innovativeness can nurture a continuous improvement culture. Knowledge, if properly harnessed, enables SMEs to stand out in the competition and outperform their rivals, thus maintaining a competitive edge (Wong, 2005).

#### **4. Challenges For KM**

Organizations have a wealth of knowledge which, is embedded in people's head, work practices, and systems. The challenge for organization is to be able to capture that knowledge and to leverage it throughout the organization. Spender (2002) asserts that the intangible nature of knowledge makes it harder to identify and manage; consequently it cannot be treated in the same way as other organizational assets. SMEs in developing countries have to face many challenges regarding KM adoption. Many SME owner-managers lack even fundamental concepts about KM and are unaware about underlying benefits of KM. Cultural barriers such as distrust, lack of recognition and communication, knowledge is power mindsets, retrenchment concerns and so forth act as demotivators with regard to effective knowledge sharing and utilization of 'what we know'. Organizational culture plays a critical role in adoption and successful implementation of KM in SMEs. Von Krogh (1998) stated "high organizational care culture" as a key element in KM development as its helps people to share ideas, information and knowledge. Developing KM competencies and visionary leadership is also challenging for SMEs. Other challenges SMEs face regarding KM are; i) SMEs rarely have a KM policy on strategic level; ii) Delegation of

decision-making authority; iii) use of more sophisticated KM tools (Von Krogh, 1998). Handzic and Hasan (2003a) identify two major challenges for KM: achieving an objective picture of the field, based on formal and sound research, which integrates diverse perspectives of researchers and practitioners; and bridging the gap between theory and practice, thereby providing well-established KM strategies, tools and procedures for managers. Consequently such challenges and resistance to change in KM adoption and successful implementation is natural. This resistance was manageable as it was because of lack of KM knowledge and lack of training about KM implementation.

## **5. KM Strategy For SMEs In Developing Countries**

KM strategy depicts the general approach an organization aim to take to align its knowledge resources and capabilities to the intellectual requirements of its strategy, thus reducing the knowledge gap existing between what a company must know to perform its strategy and what it does know. (Zanjani et al., 2008)

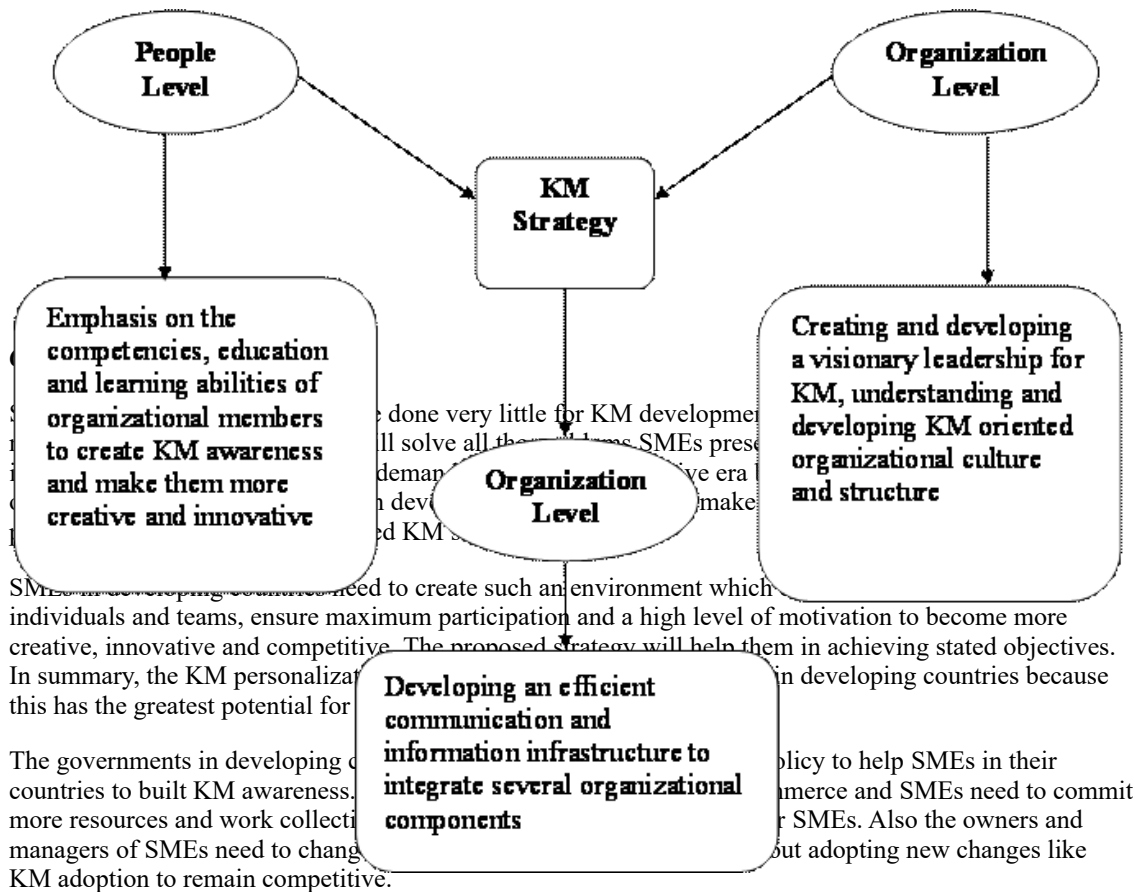
Considering the nature and requirements of SMEs in developing countries, researchers proposed personalization strategy for KM. Personalization is a strategy to manage the knowledge that is formed via human communication. Personalization strategy focuses on dialogue between individuals, not knowledge objects in a database. It is a person-to-person approach where knowledge is shared not only face-to-face, but also by electronic communications, thus building networks of people (Cendan et al., 2007).

Personalization, on the other hand, provides a rich medium for communication, as it is concerned with the use of people as a mechanism for sharing knowledge (Boh, 2007). If the business strategy focuses on generating new or customer specific solutions or product innovations the personalization strategy should be chosen rather than the codification strategy (Greiner et al., 2007). Personalization strategy is more suitable for SMEs conducting tasks that are more innovative in nature (Zanjani et al., 2008).

Through the suggested KM strategy of personalization, SMEs will able to leverage upon its tangible and intangible assets, to learn from past experiences, whether successful or unsuccessful, and to create new knowledge. This KM strategy needs to implement at three different levels in SMEs, people level, organizational level and technological level as described in figure 1. At the people level, KM needs to emphasis on the competencies, education and learning abilities of organizational members to create KM awareness and make them more creative and innovative. At organizational level, KM is concerned about the development of a visionary leadership and a sound organizational culture to ensure maximum sharing of innovative and creative knowledge. Chan and Mauborgne (2003) also suggested constructive leadership behavior and development of a healthy organizational culture as important enabler of KM.

Technologically, effective KM requires the efficient organization of a suitable communication and information infrastructure (e.g. intranet) based on suitable and relevant taxonomies and knowledge repositories (where applicable).

**Figure 1: KM Strategy For SMEs**



## 7. References

- A.L. Meron˜o-Cerdan, C. Lopez-Nicolas & R. Sabater-Sa´nchez (2007), "Knowledge management strategy diagnosis from KM instruments use", *Journal of knowledge management*, Vol. 11, No. 2, pp. 60-72.
- Berry, A. (1998), "The Potential Role of the SME Sector in Pakistan in a World of Increasing International Trade", *The Pakistan Development Review* Vol. 37, No. 4, pp. 25-49.
- Boh, W. F. (2007), "Mechanisms for sharing knowledge in project-based organizations", *Information and Organization*, No. 17, pp. 27-58.
- Burns, P. (2001), *Entrepreneursip and Small Business*. Great Britain
- Cerdan, Moren˜o-A.L., Lopez-Nicolas, C., & Sabater-Sa´nchez, R. (2007), "Knowledge management strategy diagnosis from KM instruments use", *Journal of knowledge management*, Vol. 11, No. 2, pp. 60-72.
- Chan, K.W. & Mauborgne, R. (2003), "Fair Process: Managing in the Knowledge Economy", *Harvard Business Review*, Vol 81, No. 1, pp. 127-136.
- Chen, S., Duan, Y., Edwards S. & Lehaney, B. (2006), "Toward understanding inter organizational knowledge transfer needs in SMEs: insight from a UK investigation", *Journal of Knowledge Management*, Vol. 10, No. 3, pp. 6-23.
- Chesebrough, E. D. (2006), "Knowledge Management A tool for SMEs to enhance Competitiveness", *CACCI Journal*, Vol. 1

- Davenport, T.H. & Prusak, L. (1988), *Working knowledge how organizations manage what they know*. Boston, MA: Harvard Business School Press.
- Davidson, P & Griffin, R.W. (2003), *Management: An Australasian Perspective* (2nd edn.), John Wiley & Sons, Brisbane, Australia.
- Delahaye, B.L. (2003), *Human Resource Development and the Management of Knowledge Capital*, in R. Wiesner & B.Millett (eds.), *Human Resource Management: Challenges and Future Directions*, John Wiley & Sons, Brisbane, Australia.
- Desouza C.K. & Awazu, Y. (2006), "Knowledge management at SMEs: five peculiarities", *Journal of Knowledge Management*, Vol. 10, No. 1, pp. 32-43.
- DeTienne, K.B. & Jackson, L.A. (2001), "Knowledge Management: Understanding Theory and Developing Strategy", *Competitiveness Review*, Vol 11, No. 1, pp. 1-9.
- Economic Survey of Pakistan (2008-09), [www.pro-pakistan.com/.../download-economic-survey-of-pakistan-2008-09/](http://www.pro-pakistan.com/.../download-economic-survey-of-pakistan-2008-09/) accessed October 1, 2009.
- Egbu, C.O. (2001), *Knowledge management in small and medium enterprises in the construction industry: challenges and opportunities*. Managing Knowledge: conversation and Critiques. Proceedings of an international conference convened at the University of Leicester, UK.
- Fischer, E. & Reuber, R. (2003), in G. Wignaraja (ed.), *Competitiveness Strategy in Developing Countries: A Manuel for Policy Analysis*, London: Routledge.
- Greiner, M. E., Hmann, T. B. & Krcmar, H. (2007), "A strategy for knowledge management", *Journal of Knowledge Management*, Vol. 11, No. 6, pp. 3-15.
- Handzic M. & Hasan H. (2003a), *The Search for an Integrated KM Framework*, Chapter 1, pp. 3-34, UOW Press, Wollongong.
- Katrak, H. & Strange, R. (2002), "Introduction and Overview" in Katrak, H. & R. Strange (ed), *Small Scale Enterprises in Developing and Transition Economies*, Basingstoke (UK): Palgrave.
- Kevin C. D. & Awazu, Y. (2006), "Knowledge management at SMEs: five peculiarities", *Journal of Knowledge Management*, Vol. 10, No. 1, pp. 32-43.
- MacKinnon, D., Cumbers, A. & Chapman, K. (2002), "Learning, innovation and regional development: a critical appraisal of recent debates", *Progress in Human Geography*, Vol. 26, No. 3, pp. 293-311.
- Mahmood, S. (2008), "Corporate Governance and Business Ethics for SMEs in Developing Countries: Challenges and Way Forward"
- McAdam, R. & Reid, R. (2001), "SME and large organization perceptions of knowledge management: comparisons and contrasts", *Journal of Knowledge Management*, Vol. 5, No. 3, pp.231-241.
- Mehdi, S. Z., Shohreh, M. & Mandana, M. (2008), "Organizational Dimensions as Determinant Factors of KM Approaches in SMEs" Proceedings of World Academy of Science, Engineering and Technology Volume 35 ISSN 2070-3740.
- Menkhoff, T., Wah, C.Y. & Loh, B. (2002), *Towards Strategic Knowledge Management in Singapore's Small Business Sector*, presented at the International Conference on Globalization, Innovation and Human Resource Development for Competitive Advantage. Bangkok, Thailand.
- Nonaka, I. & Takeuchi, H. (1995), *The Knowledge-creating Company*, New York: Oxford University Press, p.7.

- Nunes, M.B., Annansingh, F. & Eaglestone, B. (2006), "Knowledge management issues in knowledge-intensive SMEs", *Journal of Documentation*, Vol. 62, No.1, pp. 101-119.
- Organization for Economic Co-operation and Development (OECD) 2000. "Small and Medium-sized Enterprises: local Strength, global reach", *OECD Policy Review*, June, pp. 1-8.
- Patrick, K. & Dotsika, F. (2007), "Knowledge sharing: developing from within. The Learning Organization" Vol.14, No. 5, pp.395-406.
- Patriotta, G. (2003), *Organizational Knowledge in the Making - How Firms Create, Use, and Institutionalise Knowledge*, Oxford University Press, Oxford.
- Pillania, R.K. (2006c), "Current status of storage and access of knowledge in Indian industry", *Journal of Information and Knowledge Management*, Vol. 5, No. 1, pp.37-46.
- Pillania, R.K. (2008b), "Information technology strategy for knowledge management in SMEs", *Knowledge and Process Management*, Vol. 15, No. 3, pp.41-49.
- Pavic, S., Koh, S.C.L, Simpson, M. & Padmore, J. (2007), "Could e-business create a competitive advantage in UK SMEs?" *Benchmarking: An International Journal*, Vol. 14, No. 3, pp. 320-351.
- Saloja, S., Furu, P. & Sveiby, K. (2005), "Knowledge management and growth in Finnish SMEs", *Journal of Knowledge Management*, Vol. 9, No. 2, pp. 103-122.
- Samuel Johnson's Dictionary, published, 1755.
- Spender, J. C. (2002), "Knowledge Management, Uncertainty, and an Emergent Theory of the Firm", *The Strategic Management of Intellectual Capital and Organizational Knowledge*, Editors: Choo, C.W. & Bontis, N. Oxford University Press, Oxford, pp 149-162.
- Von Krogh, G. (1998), "Care in Knowledge Creation", *California Management Review*, Vol. 40, No. 3, pp. 133-154.
- Wiig, K. M. (1997), "Knowledge Management: An introduction and Perspective", *The Journal of Knowledge Management*, Vol.1, No.1, pp. 6-14.
- Wong, K. Y. & Aspinwall, E. (2004), "Characterizing knowledge management in the small business environment", *Journal of Knowledge Management*, Vol. 8, No. 3, pp. 44-61.
- Wong, K.Y. & Aspinwall, E. (2005), "An empirical study of the important factors for knowledge management adoption in the SME sector", *Journal of Knowledge Management*, Vol. 9, No. 3, pp. 64-82.
- Zanjani, S., Mehdi, S.M. & Mandana, M. (2008), "Organizational Dimensions as Determinant Factors of KM Approaches in SMEs" Proceedings of World Academy of Science, Engineering and Technology Volume 35 ISSN 2070-3740.

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