

Knowledge Management Acceptance: Success Factors amongst Small and Medium-Size Enterprises

Christine Nya Ling TAN

Knowledge Management Unit, Faculty of Business and Law, Multimedia University,
Jalan Ayer Keroh Lama, 75450 Melaka, Malaysia

Abstract: Problem statement: The value and importance of knowledge, as seen by numerous organisations today, does without a doubt play a crucial role in the current ever-challenging and aggressive business environment. As a result, businesses that aspire to be labelled as being successful and competitive need to seek and find better ways to improve their firms' performance. Hence, Knowledge Management (KM), which is viewed as a source of sustainable competitive advantage, has attracted the attention of various companies all over the business world, including Small and Medium-Size Enterprises (SMEs) in Malaysia. With the realisation of KM, the systematic management of organisation knowledge - a strategic corporate asset not to be taken lightly; can thus be created, transferred, shared and, utilised, in pushing for greater organisational competitiveness, innovativeness and, productivity. This research examined the success factors that help to increase the business performance of SMEs in Malaysia. Besides, it also highlighted the importance and contribution of KM amongst SMEs. Therefore, the reason behind this study is to understand and recognised the acceptance of KM and therefore further classified the success factors that contributed to the business performance outcome amongst SMEs in Malaysia. With this, the success factors observed in this research; culture; leadership; employee participation; Information and Communications Technology (ICT); organisational structure; are thoroughly investigated to explore on whether these factors have an impact on knowledge creation; knowledge transfer; knowledge sharing and knowledge utilisation; of KM processes among SMEs in Malaysia. **Approach:** This study aids to determined and examined the success factors; culture; leadership; employee participation; Information and Communications Technology (ICT); organisational structure; of SMEs that further influences KM processes; knowledge creation, transfer, sharing, utilisation. **Results:** It is hoped that SMEs with the help of this study, are able apply the success factors and KM processes as a guideline in achieving successful KM acceptance. It is anticipated that the factors proposed in this study could help businesses especially SMEs to better organise their KM initiatives, as well as to assists Malaysia in producing a superior and highly acclaimed knowledgeable society. **Conclusion:** The findings may be used as recommendations to SMEs that are keen in accepting and adopting KM in their daily operations. Furthermore, this study may also serve as a basis for future quantitative research studies among researchers, practitioners and professionals alike, in gaining a profound understanding of KM in sectors other than SMEs.

Key words: Knowledge management, success factors, KM processes, medium-size enterprises, Explicit Knowledge (EK), Tacit Knowledge (TK)

INTRODUCTION

In today's business world, the perception and inclination of knowledge is gradually increasing. In this day and age, knowledge is viewed to be the most important organisational resource that carries unprecedented value and therefore should not be left unscrutinised as compared to conventional business

assets, such as land, labour and capital. As a consequence, knowledge together with change and globalisation has become the most important driving force and commercial asset of the 21st century economy. It is this so called 'knowledge' that has in fact become an emerging crucial resource popularly known as Knowledge Management (KM). Firms, who are seen to have accepted and undergone KM activities

Corresponding Author: Christine Tan Nya Ling, Knowledge Management Unit, Faculty of Business and Law, Multimedia University, Jalan Ayer Keroh Lama, 75450 Melaka, Malaysia

as part of their business processes, are undoubtedly reaping the continuous benefits of what KM has to offer. As a result, a number of private and public organisations, attracted by the lucrative returns of what KM has to offer are therefore being lured and seemingly delighted in embracing and implementing KM.

Small and Medium-Size Enterprises (SMEs) are often regarded as the backbone of industrial development and important source of economic growth in Malaysia. For this reason, SMEs plays a crucial responsibility in boosting the financial expansion in Malaysia especially in meeting up with the challenges and demand of the current worldwide business environment (Muhammad *et al.*, 2010). SMEs in Malaysia are divided into two distinct categories: (1) Manufacturing, Manufacturing-Related Services and Agro-based industries and (2) Services, Primary Agriculture and Information and Communication Technology (ICT) (Elias, 2007).

It is also further revealed that the emergences of these SMEs are in fact considered to be exceedingly pertinent in the new Malaysian economic model to transform Malaysia in becoming a high-income economy. As a result, the pursuit of this vibrant economy therefore requires a strong momentum, particularly originating from local Malaysian SMEs when it comes to the successful design and implementation of KM initiative (Wong, 2005). As a matter of fact, the Prime Minister Datuk Seri Najib Tun Razak has revealed in the 10th Malaysia Plan (2011-2015) that the government will continuously support SME development in Malaysia. For that reason, a Working Capital Guarantee Scheme totalling RM7 billion and an Industry Restructuring Loan Guarantee Scheme totalling RM3 billion were set-up to guarantee that SMEs have better access to financing facilities in spearheading the economic development of Malaysia.

This study aims to identify and examine the influence of success factors; culture, leadership, employee participation, Information and Communications Technology (ICT), organisational structure; on KM processes; knowledge creation, knowledge transfer, knowledge sharing, knowledge utilisation specifically in the SMEs industry. The findings of this study will be useful to SMEs, serving as a guideline to discover and to further observe the importance of the above mentioned factors and KM processes within an organisation in achieving sustainable competitive advantage in SMEs with high value-added growth potential in Malaysia.

Literature review:

Knowledge and Knowledge Management (KM): The term 'knowledge', in the views of Gao *et al.* (2008), is apparently consisting of data, information, intelligence, skill, experience, expertise, ideas, intuition, or insight-in the context in which it is used. As often been mentioned, knowledge can be categorised into two types, which are Explicit Knowledge (EK) and Tacit Knowledge (TK). EK is the knowledge that can be shared with others that can be documented, categorized, transmitted to others (Debowski, 2005).

It includes words and numbers and is shared in the form of data, grammatical statements, mathematical expressions, scientific formula, specifications and manuals. Therefore, EK is captured and distributed easily due to its ability to be passed on in the form of physical material (Stevens *et al.*, 2010). Once codified and stored, it can be accessed and used easily by any individual in an organisation (Civi, 2000). Singh (2008) emphasises the need to use EK as a management tool in manipulating organisational knowledge. TK however is obtained by internal individual process and stored in the minds of individuals. Subjective insights, intuitions, and hunches fall into this category of knowledge (Civi, 2000; Joseph *et al.*, 2009). TK is however difficult to access since a worker's know-how is elusive (Marzanah *et al.*, 2010). In organisations, workers have high levels of TK developed through their experience and learning (Debowski, 2005). For this reason, knowledge should therefore be considered as part of as a valuable commodity in organisations that must be shared, applied and improved amongst workers so as to generate creative ideas to existing problems or challenges faced.

KM is predominantly becoming an essential and significant component in business strategy (Iyer and Ravindran, 2009) since the value of workers and organisational data have become more critical to the organisation's outcomes and competitiveness. As postulated by Choong and Wong (2010), KM acts as a means by which the organisation's core competencies can be focused and developed. Therefore, KM should not be viewed as just a management 'fad' since researchers like Chen and Hatzakis (2008) interpreted KM as layers of assortment that can be broken down into norms, practices and, technology that covers most of the aspect of enterprise's core business process in increasing organisational effectiveness.

KM success factors: To date, numerous studies had been carried out to identify the acceptance of success factors in the perspective of SMEs. Since then, success factors have provided important meaning to KM through the identification of the core business process

that is critical to the success of KM adoption in the SME sector. Based on the review of literatures undertaken, five success factors are to be considered and determined in this study: Culture; leadership; employee participation; ICT and organisational structure. Each of the critical factors will be discussed in the following sub-section.

Culture: Each and every organisation conjures and delivers its very own unique significant culture, which inevitably includes values, norms, attitudes and behaviours (Ramus, 2001) that characterised the day-to-day functioning of an organisation. While culture is not the only determinant in the success or failure of a business, a positive culture nevertheless can bring significant advantages to an organisation in terms of providing an enjoyable working environment that increases business performance. This will inevitably increase the level of teamwork, sharing of knowledge and openness to new ideas amongst workers (Goffee and Jones, 1996). A culture that acknowledges the importance of sharing knowledge amongst organisations are in fact important and should therefore be crucially considered especially when implementing KM. Hence, the significance of a culture is thereby recognised as a major contributor to KM as it represents a major source of competitive advantage for organisations especially SMEs in improving their business performance (Wong, 2005), thereby increasing innovation, creativity and providing more opportunities for SMEs to compete.

Leadership: Management leadership plays a key role in influencing the success of KM (Holsapple and Joshi, 2000; Horak, 2001). It is therefore strongly supported by Singh (2008) that the importance of leadership should not be taken lightly especially the well sought-after leadership styles, in making sure that KM processes runs smoothly. Leaders are important in acting as role models to exemplify the desired behaviour for KM. Hence a leader such as the manager should therefore be able to influence his or her workers to accomplish their objectives and directs the enterprise in a way that makes it more cohesive and coherent in obtaining the desired organisational results (Sackman, 1992). Likewise, an effective leader capitalises on employees' strengths by making effective decisions and reacts promptly to changing conditions. Consequently, the support and commitment provided by leaders should therefore be ongoing in improving an enterprise business performance in contributing towards the success of KM, eventually making leadership a critical factor in supporting the KM initiative. In essence, it is

this leadership support that enables KM to be implemented in organisations all over (Horak, 2001)

Employee participation: Effective employee participation brings promising employee satisfaction, quality improvement and productivity enhancement in SMEs (Pun *et al.*, 2001). Hence, it is unquestionable that employee participation does play crucial in achieving KM initiative. By functioning in a knowledge-intensive enterprise, employees are able to apply their diverse skills and experiences in work processes and problem solving matters. With this, it is essential for all employees within an organisation, especially SME whereby agility and responsiveness at all levels are to be considered as sources for competitive advantage (McAdam and Reid, 2001). Therefore, encouraging participation is important in fostering the spirit of teamwork among employees to ensure that accurate information is able to reach the right individual at the exact time, which is the true goal of any KM initiative within SMEs. This will inevitably promote employee participation in promoting a culture of sharing (Chin *et al.*, 2008), not only knowledge but essentially crucial knowledge to further increase organisational performance.

Information and Communications Technology (ICT): ICT does play a very significant and crucial role in assisting SMEs in creating both business opportunities and combating competition pressures. It seems that the effectiveness and efficiencies of ICT in supporting KM adoption is an essential requirement at the very beginning and across the KM maturity stages (Hsieh *et al.*, 2009). Besides Maguire *et al.* (2007) had supported the realisation of how firms' competitive advantage can be achieved by adopting ICT and KM in SMEs. Hence, greater use of ICT may inevitably help firms increase their overall efficiency (Dutton *et al.*, 2005). By utilising tools such as e-mails, groupware, the Internet and intranets, employees with indispensable knowledge can be identified and connected to each other by sharing indispensable knowledge. In addition, according to Wong (2005), it is therefore irrefutable that one of the key enablers for implementing KM is ICT.

Organisational structure: In terms of structure, SMEs have distinct advantages when it comes to implementing KM. Rasheed (2005) had theorised that SMEs have a much simpler, flatter and less intricate structure, which thereby ease the change initiative across the entire organisation since functional integration, consisting of both horizontal and vertical,

will be easier to attained. With this, he further iterates that fewer complications will be encountered by SMEs in implementing KM as they have an advantage over large enterprises in respect to this structure. In SMEs, the managers are in most cases the owners, which imply that decision-making is centralised, with fewer layers of management (Rasheed, 2005). Thus, the advantage for proprietors in SMEs, is that they become the key drivers for KM adoption, assuming of course that they do somehow appreciate the importance of KM.

KM processes: As elucidated by Gold *et al.* (2001), KM processes is a planned coordination for controlling knowledge in an effectively way. It is important for organisations to follow the steps of KM processes more effectively. To simplify the analysis of KM processes, this study consist of four processes: (1) knowledge creation, (2) knowledge transfer, (3) knowledge sharing and (4) knowledge utilisation.

Knowledge creation comprises of activities that are associated with the entry of new knowledge into the system, which includes knowledge development, discovery and capture. Hence, the creation of new knowledge in turn generates higher levels of innovative output, which is then manifested in maintaining business performance. The process of conversion involves creation of TK through informal sharing, moving from TK to explicit and enhancing explicit content by combining codified knowledge and using EK to create new TK through thinking and sharing.

The most common method of knowledge transfer across companies in all industries is informal interactions between experts and practitioners through sustained mentoring or apprentice relationship, or through brief discussions by phone or video conference. Besides, transfer of knowledge requires an individual or a group to cooperate with each other to distribute knowledge and achieve mutual benefits (Syed-Ikhsan and Rowland, 2004).

Knowledge sharing is all about disseminating and making available what is already known (Tiwana, 2000). For that reason, knowledge sharing is critical to a firm's success as it leads to faster knowledge deployment to various segments of the organisation that can greatly benefit from it (Syed-Ikhsan and Rowland, 2004). Hence, with this in mind, many SMEs wish to share knowledge, as they view co-operation with consumers as vital and without a doubt beneficial.

Lastly, knowledge utilisation includes activities and events connected with the application of knowledge to business processes. Research shows that knowledge utilisation in enterprises results from the mutually dependent influences of organisational processes,

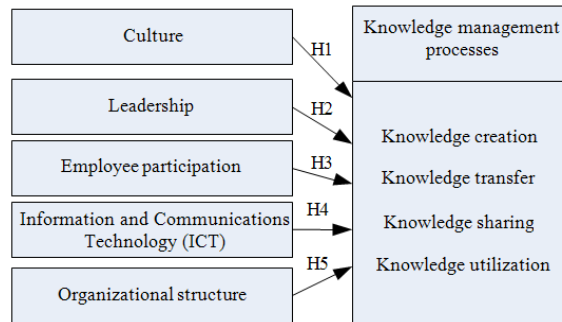


Fig 1: Research conceptual framework

control opportunities and control problems that arise through organisational structure. The effective utilisation and application of knowledge are dependent on factors such as clear understanding of roles, opportunities in using it, a need to take action and an awareness of the benefits to be gained from its application (Wong, 2004).

The conceptual framework for this study is shown in Fig. 1. In this framework, one (1) dependent variable i.e., KM Processes, which includes knowledge creation, transfer, sharing and utilisation and five independent variables i.e., culture, leadership, employee participation, Information and Communication Technology (ICT) and organisational structure to be tested.

A questionnaire method was used as the primary research instrument to collect necessary data. The questionnaire consists of three (3) sections. Section A consists of questions related to respondents and organisational demographic characteristics, using ordinal and nominal scale to measure the respondents' answer. Section B contains questions on the degree of KM practices in the organisation. Each variable is measured using a five-point Likert scale (not implemented to extensively implemented) to examine the importance of KM adoption among Malaysia's SMEs. Section C measures the success factors that motivate KM processes in SMEs. These questionnaires were sent to SMEs in both the state of Johor and Melaka.

RESULTS AND DISCUSSION

From the collected questionnaires that were distributed by means of mail or personally administered, a total of 173 responses were obtained and tested in this research; achieving 86.9% of the total 200 questionnaires sent out based on a list of SMEs obtained from Small and Medium Industries Development Corporation (SMIDEC). The profile of the respondents is shown in Table 1.

Table 1: Profile of the respondents

Respondent's Profile	Frequency	Percentage	(%)
Gender	Male	80	46.2
	Female	93	53.8
Age	21-25	37	21.4
	26-30	52	30.1
	31-35	43	24.9
	36-40	20	11.6
	41-45	12	6.9
	46-50	7	4.0
	51 and above	2	1.2
Position	Manager	31	17.9
	Supervisor	22	12.7
	Executive	86	49.7
	Non management	34	19.7
Department	Finance	15	8.7
	Human Resource	28	16.2
	Marketing /Sales	32	18.5
	Engineering	2	1.2
	Quality control/assurance	13	7.5
	Research and Development	1	0.6
	Information Technology	7	4.0
	Production	53	30.6
	Customer Service	21	12.1
	Others	1	0.6

Table 2: Summary of means and standard deviations of Success factors and KM processes

Variables	Success factors			No. of item
	Mean	Standard deviation	α	
Culture	3.48	0.589	0.735	4
Leadership	3.55	0.595	0.726	4
Employee Participation	3.43	0.603	0.760	4
ICT	3.48	0.554	0.726	5
Organisational structure	3.15	0.562	0.709	5
KM processes				
KM processes	3.40	0.455	0.788	10

The respondents were instructed to indicate type of ownership, type of industrial sector, significant investment in KM, stage of KM development and technological facilities investment in KM. Based on the feedback given, a total of 146 are sole proprietorship businesses whereas the remaining 27 are partnerships. Large proportions of the respondents came from the manufacturing industry (43.4%). The second highest came from the services industry (33.5%), followed by

agriculture (9.2%), food (8.7%), automation (3.5%), while the electronic sector is having the lowest representation (1.7%). It seems that 81 out of the 173 businesses had only recently spent 1-2 years of significant investment in KM. Further, 78 respondents indicated that they are currently evaluating the importance of the KM implementation in their businesses. In terms of technological facilities, 93 respondents (53.8%) had access to internet at study.

Reliability analyses were conducted on all the independent and dependent variables. Result yield Cronbach Alpha (α) value ranging from 0.709-0.788 as shown on Table 2, which is higher than the agreed upon lower limit of 0.70.

Table 2 shows the mean and standard deviation of the success factors of SMEs and KM processes in Malaysia.

Among all the variables tested in this study, Leadership has the highest mean of 3.55 with a standard deviation of 0.595. This is because leaders are roles models to exemplify the desired behaviour for KM (Wong, 2005). Likewise, this shows that top management incorporating leadership styles have direct impact on how enterprises should approach and deal with KM processes (Singh, 2008). The overall mean and standard deviation score for KM processes is 3.40 and 0.455. With this, it is thus proven that KM processes does help in creating, transferring, sharing and utilising organisation's TK and EK (Becerra-Fernandez *et al.*, 2004).

In many statistical analyses, normality is often easily understood without conducting any empirical evidence. Herewith, normality is critical in many statistical methods. Table 3 shows the result of the normality test on the success factors and KM processes. The significant p-value is less than 0.05 and it means that data distribution significantly varies from a normal distribution. Thus, the data is not normally distributed.

As a result of the non-normal nature of the data, a Spearman's Rho correlation is used instead of Pearson correlation to decide on whether there was a relationship between the variables. There were five hypotheses developed in this research and tested by using correlation test. The results indicated on Table 4 shows that Spearman correlation *r*-value for culture, leadership, employee participation, Information and Communications Technology (ICT) and Organisational Structure are significant at 0.01 respectively. Therefore, the test concludes that there is a significant correlation between success factors and KM Processes. So, H1-H5 is rejected.

Table 3: Normality test for variables

Variables	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	DF	Sig.	Statistic	DF	Sig.
Culture	0.202	173	0.000	0.936	173	0.000
Leadership	0.163	173	0.000	0.968	173	0.001
Employee Participation	0.155	173	0.000	0.961	173	0.000
ICT	0.150	173	0.000	0.970	173	0.001
Organisational Structure	0.094	173	0.001	0.973	173	0.002
KM processes	0.112	173	0.000	0.966	173	0.000

Table 4: Summary of correlation test between success factors and KM processes

Hypothesis	Independent variable	Dependent variables	(Success factors) (KM processes)
H1	Culture	Spearman correlation Significant (2-tailed) N	0.516 0.000 173.000
H2	Leadership	Spearman correlation Significant (2-tailed) N	0.447 0.000 17300.000
H3	Employee Participation	Spearman correlation Significant (2-tailed) N	0.206 0.007 173.000
H4	ICT	Spearman correlation Significant (2-tailed) N	0.502 0.000 173.000
H5	Organisational Structure	Spearman correlation Significant (2-tailed) N	0.542 0.000 173.000

CONCLUSION

KM has become an accepted part in both the business and academic arena. For this reason, organisations are well aware of the importance of KM in influencing current and future SMEs performance. Equally, measuring the business value of KM initiatives has become essential to ensure that certain business opportunities are therefore being realised.

This research determines that generally SMEs do execute KM inside the organisation and had also plan to invest in a number of KM application. Unfortunately, it seems that SMEs are unable to fully utilise the benefit of KM in their organisations. Nevertheless, it is hoped that SMEs with the help of this study, are able apply the success factors and KM processes as a guideline in achieving successful KM adoption. It is anticipated that the factors proposed in this study could help businesses especially SMEs to better organise their KM initiatives, as well as to assists our country in producing knowledgeable society and at the same time creating exceptional wealth.

Hence, the findings of the present study have deepened the understanding of knowledge in the field of KM, especially among SMEs in Malaysia. Besides identifying and subsequently reinforcing the importance

of various KM success factors, this study had also identified the level of KM processes in these enterprises. Therefore, the research findings are able to assists our Malaysian SMEs to understand better the various proposed critical factors so that action can be taken to overcome unwarranted gaps. In addition, this study may provide insights to SMEs on how to properly frame their KM strategies and activities in the right perspective.

Limitations of study: Several limitations had been identified in this research. Firstly, this research had only analysed the SMEs based on the degree of implication of the success factors and KM processes, therefore the results obtained may be directly applicable to this market segment only. For this reason, it may not be applicable to other industries besides the SMEs of Malaysia. Secondly, it may also not able to directly generalise SMEs in terms of success factors and KM processes of other countries in the same segment. Thirdly, this study consists of a limited sample size of 173 respondents. Therefore, the results obtained may not be generalised. Moreover, the targeted area is quite limited as it only focuses on SMEs from both the state of Johor and Melaka only instead of the whole of Malaysia (including Sabah and Sarawak). Thus the outcomes of this study may not be able to represent the entire SMEs in Malaysia. Lastly, the respondents are limited as only the top management level had participated in this study.

Future study: The current research reveals an important substantiation to the theoretical findings identified in advance in literatures with respect to the crucial factors that are important in ensuring the successful adoption of KM among Malaysia's SMEs.

With this, researchers and practitioners alike may study the adoption of KM in other segments of the industry. This will further help to increase the competencies of SMEs in managing knowledge and increasing organisational performance. Likewise, the scope of study can be extended to the whole of Malaysia including East Malaysia consisting of both Sabah and Sarawak so as to substantially increase the number of respondents as well as to maintain concise accuracy in terms of results.

Moreover, in future studies, it is expected that researchers may be able to recognise other critical factors in KM adoption not only in SMEs but also in other industries as well. For researchers who are keen in conducting similar research, this study can be further analyse and can act as a guide and reference to enhance the understanding of KM's success factors and KM

processes that had earlier been identified. In addition, other additional factors that have not been measured in this research need to be taken into consideration in future studies.

REFERENCES

- Becerra-Fernandez, I., A. Gonzalez and R. Sabherwal, 2004. Knowledge Management: Challenges, Solutions and Technologies. 1st Edn., Pearson Education, New Jersey, ISBN: 0-13-101606-7 2004, pp: 19.
- Chen, W. and T. Hatzakis, 2008. Knowledge management, absorptive capacity and organizational culture: A case study from Chinese SMEs. *Int. J. Knowl. Manage. Stud.*, 2: 371-381. DOI: 10.1504/IJKMS.2008.018798
- Chin, K.S., B.L. Chan and P.K. Lam, 2008. Identifying and prioritizing critical success factors for coepetition strategy. *Indus. Manage. Data Syst.*, 108: 437-454. DOI: 10.1108/02635570810868326
- Choong, K.F. and S.K.E. Wong, 2010. The social-technical view of knowledge management in services industries. *J. Soc. Sci.*, 6: 256-264. DOI: 10.3844/jssp.2010.256.264
- Civi, E., 2000. Knowledge management as a competitive asset: A review. *Market. Intelligent Plann.*, 18: 166-174. DOI: 10.1108/02634500010333280
- Debowski, S., 2005. Knowledge Management: A Strategic Management Perspective. 1st Edn., John Wiley and Sons Ltd, ISBN: 0-47-080538-2, pp: 17.
- Dutton, W.H., B. Kahin, R. O'Callaghan and A.W. Wyckoff, 2005. Transforming Enterprise: The Economic and Social Implications of Information Technology. 1st Edn., MIT Press, MA, Cambridge, ISBN: 0-26-204221-5 2005, pp: 36.
- Elias, N.F., 2007. Validating the IS-impact measurement model in Malaysia : A research in progress paper. Proceeding of the 18th Australasian Conference on Information Systems, Dec. 2007, Toowoomba, Australia, pp: 1-11. ISBN: 9780909756970
- Gao, F., M. Li and S. Clarke, 2008. Knowledge, management and knowledge management in business operations. *J. Knowl. Manage.*, 12: 3-17. DOI: 10.1108/13673270810859479
- Goffee, R. and G. Jones, 1996. What holds the modern company together? *Harvard Bus. Rev.*, 74: 138-148. DOI: 10.1225/96605
- Gold, A.H., A. Malhotra and A.H. Segars, 2001. Knowledge management: An organizational capabilities perspective. *J. Manage. Inform. Syst.*, 18: 185-214. DOI: 10.1234/12345678
- Holsapple, C.W. and K.D. Joshi, 2000. An investigation of factors that influence the management of knowledge in organizations. *J. Strat. Inform. Syst.*, 9: 235-261. DOI: 10.1016/S0963-8687(00)00046-9
- Horak, B.J., 2001. Dealing with human factors and managing change in knowledge management: A phased approach. *Topics Health Inform. Manage.*, 21: 8-17. PMID: 11234733
- Hsieh, P.J., B. Lin and C. Lin, 2009. The construction and application of knowledge navigator model (KNMTM): An evaluation of knowledge management maturity. *Exp. Syst. Appl.*, 36: 4087-4100. DOI: 10.1016/j.eswa.2008.03.005
- Iyer, G.S. and S. Ravindran, 2009. Usefulness, incentives and knowledge management. *J. Knowl. Manage.*, 13:, 410-430. DOI: 10.1108/13673270910997097
- Joseph, F.H., W.C. Black, B.J. Babin and R.E Anderson, 2009. Multivariate Data Analysis: Global Edition. 7th Edn., Pearson Education, ISBN: 0-13-515309-3 2009, pp: 125.
- Maguire, S., S.C.L. Koh and A. Magrys, 2007. The adoption of e-business and knowledge management in SMEs. *Benchmarking. Int. J.*, 14: 37-58. DOI: 10.1108/14635770710730928
- Marzanah, A.J., F. Sidi and M.H. Selamat, 2010. Tacit knowledge codification. *J. Comput. Sci.*, 6: 1170-1176. DOI: 10.3844/jcssp.2010.1170.1176
- McAdam, R. and R. Reid, 2001. SME and large organization perceptions of knowledge management: Comparison and contracts. *J. Knowl. Manage.*, 5: 231-241. DOI: 10.1234/12345678
- Muhammad, M.Z., A.K. Char, M.R.B. Yaso and Z. Hassan, 2010. Small and Medium Enterprises (SMEs) competing in the global business environment: A case of Malaysia. *Int. Bus. Res.*, 3: 66-75. <http://www.ccsenet.org/journal/index.php/ibr/article/view/3893/3945>
- Pun, K.F., K.S. Chin and R. Gill, 2001. Determinants of employee involvement practices in manufacturing enterprises. *Total Q. Manage.*, 12: 95-110. DOI: 10.1080/09544120020010129
- Ramus, C.A., 2001. Organizational support for employees: Encouraging creative ideas for environmental sustainability. *California Manage. Rev.*, 43: 85-105. <http://hbr.org/product/organizational-support-for-employees-encouraging-c/an/CMR201-PDF-ENG>
- Rasheed, N., 2005. The Impact of knowledge management on SMEs. <https://secure.knowledgeboard.com/download/2539/THE-IMPACT-OF-KM-ON-SMEs.pdf>

- Sackman, S., 1992. Cultural knowledge in organizations: Exploring the collective mind. *Long Range Plann.*, 94: 992-993. DOI: 10.1525/aa.1992.94.4.02a00710
- Singh, S.K., 2008. Role of leadership in knowledge management: A study. *J. Knowl. Manage.*, 12: 3-15. DOI: 10.1108/13673270810884219
- Stevens, R.H., J. Millage and S. Clark, 2010. Waves of knowledge management: The flow between explicit and tacit knowledge. *Am. J. Econ. Bus. Admin.*, 2: 129-135. DOI: 10.3844/ajebasp.2010.129.135
- Syed-Ikhsan, S. and F. Rowland, 2004. Knowledge management in public organizations: A study on relationship between organizational elements and the performance of knowledge transfer. *J. Knowl. Manage.*, 8: 95-111. DOI: 10.1108/13673270410529145
- Tiwana, A., 2000. *The Knowledge Management Toolkit: Practical Techniques for Building a Knowledge Management System*. 2nd Edn., Upper Saddle River, NJ, Pearson Education. USA, ISBN: 0-13-009224-X 2000, pp: 50.
- Wong, K.Y., 2004. Characterizing knowledge management in the small business environment. *J. Knowl. Manage.*, 8: 44-61. DOI: 10.1108/13673270410541033
- Wong, K.Y., 2005. Critical success factors for implementing knowledge management in small and medium enterprises. *Indus. Manage. Data Syst.*, 105: 261-279. DOI: 10.1108/02635570510590101
- Wong, K.Y., 2005. Critical success factors for implementing knowledge management in small and medium enterprises. *Indus. Manage. Data Syst.*, 105: 261-279. DOI: 10.1108/02635570510590101