

Waves of Knowledge Management: The Flow between Explicit and Tacit Knowledge

Roxanne Helm Stevens, Joshua Millage and Sondra Clark
School of Business and Management, Azusa Pacific University, USA

Abstract: Problem statement: Knowledge Management (KM) is often equated with content management. Indeed, robust knowledge management processes include a database; but, information becomes knowledge when it is understood, manipulated and can become tied to a purpose or idea. By equating KM with content management and by equating the purpose of KM with predictability and control, companies may inadvertently de-emphasize knowledge creation and transfer. To keep pace with global market dynamics, an explicit focus on the creation and transference of new knowledge and transferring has to be encouraged. Companies that are able to foster new knowledge creation and transference alongside the more traditional view of KM are able to strike a balance between effectiveness and efficiency and between innovation and productivity. But, how do companies foster knowledge creation and, further, how do they transfer such knowledge? **Approach:** The purpose of this study was to explore the various connections between knowledge transfer focusing on explicit and tacit knowledge. **Results:** The research argued and resulted impacting the discipline of Knowledge Transfer (KT). The discipline's main ideas and their directions and limitations were examined. **Conclusion:** Additionally, the researchers proposed a knowledge transfer model which diagrams the transfer flow between explicit and tacit knowledge. The authors put forth a new direction of exploration in the transference of explicit and tacit knowledge-the knowledge transfer flow model.

Key words: Knowledge management, knowledge transfer, organizational learning

INTRODUCTION

Knowledge is the key resource we possess as a country both militarily and economically, it is only through managing that knowledge that we can successfully move forward in our progress towards innovation (Drucker, 1994).

Knowledge management was founded out of a void in the industry in the ability to capture, share and manage knowledge (Alavi and Leidner, 2001). Moffett *et al.* (2003), state "Knowledge Management (KM) has its origins in a number of related business improvement area, such as Total Quality Management (TQM), Business Process Re-engineering (BPR), Information Systems (IS) and Human Resource Development (HRD). Knowledge management is the culmination and implementation of methodologies and devices to effectively translate data into practical information for the company and individual (Randeree, 2006).

MacMillan (2008) defined knowledge management as the handoff of knowledge. Indeed, a particular importance of knowledge management is to gather and use the best available knowledge to produce competent managers and in turn make the organization more successful (Wiig, 1999). Indeed, beyond simply

looking at the bottom-line, corporations are increasingly focused on gaining strategic advantage by capitalizing upon their know-how (Helm, 2010).

Gathering the best available knowledge is not always easy; organizations must understand who holds key knowledge; otherwise knowledge management loses all importance. Perhaps the most crucial element for organizations to understand is that knowledge management is not a single set of skills or use of technologies, rather it is a collection of ideas and experiences only to be passed on by those who lived and understood it (Aronson and McCarthy, 2004).

Differentiating between Information and knowledge: When is information knowledge? Information has potential if it properly managed. All knowledge is based on information but all information does not rise to the level of knowledge. Can knowledge management help make piles of information into trends, products and increased profitability for businesses?

In the purest form, all robust knowledge management processes start with a database. But, information becomes knowledge when it is understood, manipulated and can become tied to a purpose and or idea. For example, businesses have used consumer

purchase trends from previous years to try and order proper inventory. Data mining or looking for a correlation in information has been long included in most social science fields.

Creating databases of information tying the purchase of an item to a specific consumer and including factors such as frequency of purchase and average amount spent required is a huge undertaking that requires a huge payoff for businesses to continue the practice. The relationship between a consumer and their shopping habits has psychological implications that can be managed and utilized by the businesses frequented by the consumer (Lacey and Sneath, 2006).

Databases should help an employee learn from the information. But, commitment to information technology infrastructures does not always lead to better business performance or significant return on investment (Malhotra, 2005).

Developing value through knowledge: It is useful to understand the values that knowledge develops for an organization. Nonaka and Takeuchi (1995) consider knowledge and intellectual capital as a company's primary source of production and value. Intellectual capital, recognized by organizations as the strategic value of the human assets, is the collective value of the workforce it is not the worker in a company-it is what that person brings and contributes to the success of the organization. Intellectual capital is the collective value of the capabilities, knowledge, skills, life experiences and motivation of the workforce (Aldisent, 2002). It reflects the thinking, knowledge, creativity and decision making that people in organizations contribute (Kaplan and Norton, 2004).

In *Making Sense of Intellectual Capital* and Andriessen (2004), defines value as, "the degree of usefulness or desirability of something, especially in comparison with other things." Information must be transformed into knowledge and then turned back into information again, which must be shared within an organization in order to make value (Jenson, 2009). Knowledge found within an organization's human capital must be first captured and then transferred in order to be exploited for advantage.

However, the intricacies of knowledge management and optimization is something that many have searched to identify and define. Knowledge has been cited as the most valuable resource in creating a sustainable and lasting competitive advantage in the marketplace (Nonaka *et al.*, 2000). In order for a company to successfully function, they must be in the process of capturing and transmitting that knowledge. Once a company understands that knowledge is pivotal

in creating a competitive advantage they can begin to understand the importance of knowledge management in the firm.

Knowledge: According to Blanchard and Thacker (2009), knowledge is defined as "an organized body of facts, principles, procedures and information acquired over time" (p. 18). According to Noe (2008), "knowledge refers to what individuals or teams of employees know or know how to do (human and social knowledge) as well as a company's rules, processes, tools and routines (structured knowledge).

Jenson (2009) writes that all knowledge is attained and possessed by individuals in a collective process. Jenson (2009) refers to productive knowledge as a means to form value, which only develops through the collective process. According to Jenson (2009), information-and not knowledge-can be shared and spread among organization members.

Information is the raw product and knowledge is the finished result of the product. Baker (2007) explains that in order to turn information into knowledge, a person would need "comparison, consequences, connections and conversation." This description of knowledge is the condition of knowing something with the familiarity gained through experience or association.

Hierarchy of knowledge: The hierarchy of knowledge is defined in *Knowledge Management, challenges, solutions and technologies* (Becerra-Fernandez *et al.*, 2004). The first level of knowledge is defined as data, which is comprised of the learned truth and things our mind inputs from perceptions of the world around us. The second level is information which is the correlation between the raw data we receive and placing it in a framework for eventual implication. The third level is knowledge which combines data and information to allow decision makers to initiate actions based on that information. It is "justified beliefs about relationships among concepts relevant to that particular area" (Becerra-Fernandez *et al.*, 2004).

A practical example is a customer buying a book from an online bookseller. The book order is the data in the knowledge process. That data then transfers to knowledge when the bookseller's analytics track how many books were sold. The data from the individual and the information from the analytics, allows managers to properly stock the warehouse for the correct sales demands.

Explicit knowledge: Calo (2008) further categorizes knowledge into two types: (1) explicit knowledge and

(2) tacit knowledge. Explicit knowledge finds roots in tacit knowledge but actual explicit knowledge is the codification of tacit knowledge to the external world (Greiner *et al.*, 2007). The opposite is also true; explicit knowledge has the potential to become tacit knowledge through in-taking the information internally and synthesizing that information with other data (Lenard and Sensiper, 1998).

Explicit knowledge is typically clear, traceable and unequivocal; it comes in the form of documents, databases and policy and procedure manuals which makes explicit knowledge “readily transferable within an organization or between individuals without the loss of meaning” (Calo, 2008).

Explicit knowledge is the tangible ideas that consists of numbers or words or shared in the form of data (Nonaka and Konno, 1998). Further, Noe (2008), states, explicit knowledge refers to manuals, formulas and specifications described in formal language. This type of knowledge is easily transmitted from one person to another through scientific formula, manuals, drawings, computer programs or other visual means (Becerra-Fernandez *et al.*, 2004). Explicit knowledge is typically is shown through objective and rational ways, such as, “then and there” rather than tacit knowledge which is created in the “here and now” (Lenard and Sensiper, 1998).

Explicit knowledge is easier to capture and distribute because of its ability to be passed on in the form of tangible material. However, while it is easier to transfer this type of knowledge, there are still obstacles with the transference of explicit knowledge. One major issue is that though explicit knowledge is available, it must be left up to the interpretation of the person who is using the material (Parise *et al.*, 2006).

Tacit knowledge: Tacit knowledge tends to be informal, less definable and uneasily transferable because it resides in the minds and experiences of workers (Calo, 2008). Echoed by Noe (2008), tacit knowledge is personal knowledge based on individual experience and influenced by perceptions and values; the transfer of tacit knowledge requires personal communications through discussion and demonstrations.

Tacit knowledge is also synonymously referred to as a person’s “know how”-“informal and hard-to-pin down skills” (Calo, 2008). Difficult to capture, a dominant characteristic of tacit knowledge is that it is personal knowledge. Tacit knowledge draws from personal experiences and gives an individual foresight and the awareness to make “Gut-level” decisions (Becerra-Fernandez *et al.*, 2004). Tacit knowledge is

specific to the person who possesses the knowledge. The knowledge is individual and bound to the person and context, thus making it difficult to transfer (Nonaka and Takeuchi, 1995).

Tacit knowledge is normally acquired on the job or in a specific situation and is often said to be a competitive advantage within companies often because it presents a challenge when trying to be imitated and copied, thus making it even more difficult to store and transfer (Ambrosini and Bowman, 2008). Tacit knowledge is not easily quantified or conveyed and causes information to be difficult to transmit between individuals (Becerra-Fernandez *et al.*, 2004).

Parise *et al.* (2006) present another perspective of tacit knowledge-it is not simply what a person knows, but who they know. Critical and strong relationships are developed within the work environment among workers. Because of the nature of collaborative efforts that are common to the workplace, when an employee leaves a company, it will inevitably take some time before the newcomer can be entrusted. This can present a problem because workers rely on each other to accomplish tasks crucial to the success of the company.

It is this combination of explicit and tacit knowledge that seasoned workers possess which has become the most “strategically significant resource of organizations” (Calo, 2008). As employees in organizations progress, they acquire a set of knowledge that is customized to the firms’ operations, structure and culture. More importantly, it is the unique insights and understood idiosyncrasies about the company that is developed over time which make the learning difficult to replicate or replace (Lesser, 2006). O’Dell and Grayson (1998) further add that this “conscious strategy for getting the right knowledge to the right people at the right time” is defined as, knowledge management” (Calo, 2008).

Knowledge management: On the surface, knowledge management is difficult to define. This difficulty stems from the confusion existing in a term which is commonly used in organizations to describe the practice (and system) of managing its **knowledge-the** process of collecting, codifying and accessing the totality of an organization’s knowledge. Indeed, many articles have been written about the misuse of the term knowledge management as well as the absence of a clear and crisp definition (Wiig, 1999). Stenmark (2002) contends, it has often been pointed out that data, information and knowledge are not the same, but despite efforts to define them, many researches use the terms very casually. In particular, the terms knowledge and information are often used interchangeably.

Knowledge management, an evolving term, has a glut of contributions surrounding a formal definition. Debates are ongoing as to concepts involved and how to properly convey it in a universal fashion (Slagter, 2007). Indeed, Sveiby (2001) states, that knowledge cannot be managed and therefore knowledge management is a poor term. Sveiby (2001) offers that knowledge focus or knowledge creation, are better terms because they describe a mindset in which knowledge is an activity not an object.

McInerney (2002) broadly described knowledge management as a common business practice and as a theoretical field of study. Others have simply concluded that knowledge management is the creation, transfer and retention of knowledge by organizations (Martin and Phillips, 2004). In practice, knowledge management is a conscious effort to gain from the knowledge that lies within in an organization by using it to achieve the organization's mission (McInerney, 2002). Thus, having knowledge about something, some process or method, can allow executives to make judgments and proceed in a manner that is just and coherent.

A more substantial definition was supplied by Gephart *et al.* (1996), "knowledge management refers to the process of enhancing company performance by designing and implementing tools, process, systems, structures and cultures to improve the creation, sharing and use of knowledge." Similarly, Rastogi (2000) defines knowledge management as 'a systematic and integrative process of coordinating organization-wide activities of acquiring, creating, storing, sharing, diffusing, developing and deploying knowledge by individuals and groups in pursuit of major organizational goals. It is the process through which organizations create and use their institutional and collective knowledge.' While many definitions stress system processes with an IT focus, Rastogi (2000) clearly points out the necessary human involvement beyond those processes.

Rastogi (2000) rich definition also includes the process of knowledge from the creation or acquisition of knowledge to its use. Internal knowledge is knowledge that is created within the company through innovative attempts while external knowledge is gained from outside sources (Seidler and Hartmann, 2008). Whichever way that it is acquired, it needs to have a way by which it can be stored, shared and ultimately deployed.

Knowledge transfer: Certainly, there are many methods to transfer knowledge. Moreover, as previously noted, the two types of knowledge most familiar in the workplace are tacit and explicit. Tacit

knowledge is subjective knowledge that is not easy to communicate. It is challenging to capture and disseminate because of its inability to be put into processes or written down in manuals or in policies. It cannot be codified, but can be transferred through personal experience and training. Conversely, explicit knowledge is articulated and can be codified and stored in a tangible way, making it easily distributable to any population when needed (Seidler and Hartmann, 2008).

According to Nonaka and Takeuchi (1995), there are four modes of knowledge sharing: socialization, externalization, combination and internalization. Nonaka and Takeuchi (1995) puts forth the SECI Model which serves as an abstract outline for knowledge transfer. The four parts are: Socialization, Externalization, Combination and Internalization (Table 1).

Explicit and Tacit knowledge are closely linked. They feed in and through each other, interacting and eventually reaching knowledge creation (Nonaka and Konno, 1998).

Socialization involves sharing tacit knowledge by sharing experiences. Knowledge is shared and learning occurs through observation, imitations and practice. Socialization is the interactions between individuals where tacit knowledge is shared. It comes from the Nishida concept of pure experience. Often formed in peer groups from having shared experiences, the fundamental principle is being able to empathize with others thus creating a level social environment that enables the transfer of tacit knowledge.

Externalization, the next quadrant, is taking tacit knowledge and turning it into a comprehensive form to be interpreted by others. Externalization, translating tacit knowledge into explicit knowledge, can take the form of metaphors, models, concepts and equations. Philosophers have defined humans to have inner and outer boundaries which they transcend between on a constant basis; it is the stage when the individual identifies more with the group than their personal identity and all start working for a common goal.

Internalization is the transformation of explicit knowledge into tacit knowledge. This stage relies on two dimensions. (1) Explicit knowledge must be put into action and practiced. (2) The process of taking the explicit knowledge and putting it into action. Internalization, converting explicit knowledge to tacit knowledge, can be accomplished through training methods such as simulations, action learning and on-the-job experiences are used to create tacit knowledge from explicit knowledge (Nonaka and Takeuchi, 1995).

Table 1: Nonaka's SECI Model (Nonaka and Takeuchi, 1995)

TO from	Tacit	Explicit
Tacit	Socialization	Externalization
Explicit	Internalization	Combination

Combination involves systematizing explicit concepts into a knowledge system by analyzing, categorizing and using information in a new way. Formal courses and seminars convert knowledge in this way. This stage diffuses and communicated explicit knowledge. It connects the knowledge and creates a larger and more complex set of explicit knowledge. There are three stages in this process: (1) Seeking and possessing new explicit knowledge from both inside or outside the company. The companies will then combine, utilize and synthesize the gathered information. (2) In the second phase knowledge is spread laterally between organizational members. By definition, explicit knowledge must be transferred and in business settings it is most likely done by presentation or meetings. (3) The final phase is the filtering and editing of the explicit knowledge to make it more productive for the company. Once the synthesizing and combining information occurs the organization can then begin to take relevant and beneficial decisions (Nonaka and Konno, 1998).

The bridge between explicit and tactic: Tacit knowledge has two main focus areas; the first area is the technical realm which focuses on the aspects of personal skills commonly known as “know-how”. The second is a cognitive realm which consists of a deeply foundational values, beliefs and ideals which few rarely stop to evaluate (Nonaka and Konno, 1998).

A practical example of tacit knowledge is of a farmer who grows only corn in a specific location. This farmer has been growing the corn for forty years on the same farm and has amassed a body of knowledge on how best to maximize production. The farmer understands the effects of weather patterns and how best to react to them. When he sees signs of a drought, he will prepare his crop by digging trenches to hold water. He can understand what specific nutrients the crops are lacking depending on the coloration, stature and vitality of the corn. While other farmers learn from books and other informational sources, they can never cultivate the corps to the same level as the farmer with the forty years of tacit knowledge.

Creating knowledge is a process of organizing data into information that can be analyzed and used to make educated decisions. Knowledge creation allows individuals to form tacit knowledge and explicit knowledge. Knowledge creation can stem from an individuals personal experiences and environment or can be learned from different forms of explicit knowledge such a manuals, written instructions or diagrams.

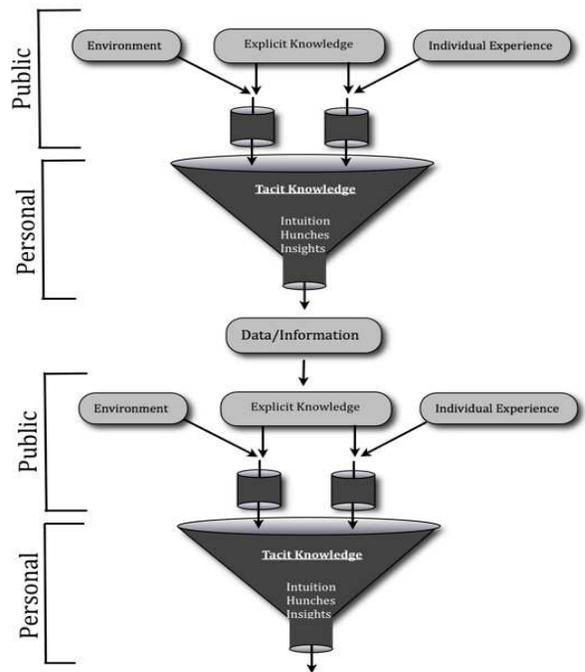


Fig. 1: Knowledge transfer flow model

Through synthesizing prior knowledge and combing it with data or information, new tacit and explicit knowledge is created. This process is defined as knowledge discover. Explicit knowledge is formed through combination which is when two bodies of explicit knowledge are unified to create a higher understanding of that knowledge (Nonaka and Takeuchi, 1995).

Explicit and tacit knowledge ebb and flow from one form to another. While the knowledge transfer flow model, Fig. 1, does not have a central starting place for the sake of clarity we will start with explicit knowledge. There are four main stages in the knowledge transfer flow model. (1) The explicit knowledge, (which is simply knowledge, data and information) is synthesized with outside environmental factors and individual experience. The culmination of combining explicit knowledge, environment and individual experiences create tacit knowledge. Tacit knowledge is a personal knowledge, unique to the individual whose experiences and ideas have gone into the formation of the tacit knowledge. (2) The next stage is the transfer of tacit knowledge. The entire body of an individual’s tacit knowledge cannot be fully transferred. Hunch, intuition and insights cannot be transferred to another individual and will stay with the original possessor of the tacit knowledge. What the individual can transfer is data and information. (3) That data and information

which is public quantitative data and information can be internalized by another individual and, at that point, becomes explicit knowledge. (4) The final phase is simply the continuation of the flow of knowledge. The new explicit knowledge created will repeat the cycle just noted.

It is to be noted, the Knowledge transfer flow model is not a cycle. Knowledge is constantly changing and evolving. Through each transfer from explicit to tacit or tacit to explicit the knowledge shared is not the same. Because humans are involved in knowledge transfer, there will always be a personal element in the understanding of knowledge and thus the exact knowledge cannot be transferred through generations.

This model shows us that Tacit Knowledge (TK) is a function of Environment (E) plus Individual Experience (IE) plus Explicit Knowledge (EK):

$$TK = f(\alpha E + EK) + (\beta IE + EK)$$

CONCLUSION

If knowledge is determined to be the most valuable asset of the firm then the transfer of knowledge needs to be a top priority (Randeree, 2006). However, this is not an easy process; organizations must first identify who holds key knowledge and then understand how to successfully transfer that knowledge. Knowledge can consist of a person's mental thoughts, beliefs, perspectives and mental associations (Alavi and Leidner, 2001). Those internal processes and connections must be brought out into a form of explicit knowledge in order to create useful knowledge the firm can transfer.

Externalization is the process of changing tacit knowledge by means of language, sharing of concepts or other means of communication. Internalization takes the explicit knowledge and converts the knowledge into tacit knowledge, this process represent learning in its traditional form (Lenard and Sensiper, 1998).

A company might have ample amounts of information but it is not until that information is identified and organized that the organization can begin to utilize that information (Alavi and Leidner, 2001). Further, the transfer of key knowledge is a critical process which gives organizations competitive advantage by fully optimizing the knowledge they possess. Unless key knowledge is transferred the firm cannot operate at optimal effectiveness.

REFERENCES

Aronson, J. and R. McCarthy, 2004. Knowledge management at GE: A technology transfer case study. The University of Georgia, Athens. Working Paper.

- Alavi, M., and D. Leidner, 2001. Knowledge Management and knowledge management systems: Conceptual foundations and research issues. *MIS Q.*, 25: 107-136. <http://www.jstor.org/stable/3250961>
- Aldisent, L., 2002. *Valuing People! How Human Capital Can Be Your Strongest Asset*. 1st Edn., Dearborn Trade Publishing, Chicago IL., ISBN: 10: 0793150159, pp: 240.
- Ambrosini, V. and C. Bowman, 2008. Surfacing tacit sources of success. *Int. Small Bus. J.*, 26: 403-431. DOI: 10.1177/0266242608091172
- Andriessen, D., 2004. *Making Sense of Intellectual Capital: Designing a Method for the Valuation of Intangibles*. 1st Edn., Butterworth-Heinemann, Burlington, ISBN: 10: 0750677740, pp: 456.
- Baker, R.J., 2007. *Mind Over Matter: Why Intellectual Capital is the Chief Source of Wealth*. Wiley and Sons, New Jersey, ISBN: 10: 0470053615, pp: 368.
- Becerra-Fernandez, I., A. Gonzalez and R. Sabherwal, 2004. *Knowledge Management: Challenges, Solutions and Technologies*. Pearson Education, New Jersey, ISBN: 13: 978-0131099319, pp: 381.
- Blanchard, P. and J. Thacker, 2009. *Effective Training: Systems Strategies and Practices*. 3rd Edn., Pearson-Prentice Hall, New Jersey, ISBN: 10: 0-13-186011-9, pp: 504.
- Calo, T., 2008. Talent management in the era of the aging workforce: The critical role of knowledge transfer. *Public Person. Manage.*, 37: 403-416. http://www.entrepreneur.com/tradejournals/article/192352085_5.html
- Drucker, P., 1994. The age of social transformation. *Atlantic Monthly*, 274: 53-70. [http://www.al-qiyamah.org/pdf_files/age_of_social_transformation_\(theatlantic.com\).pdf](http://www.al-qiyamah.org/pdf_files/age_of_social_transformation_(theatlantic.com).pdf)
- Gephart, M., V. Marsick, M. Van Buren and M. Spiro, 1996. Learning organizations come alive. *Train. Dev.*, 50: 34-45.
- Greiner, M., T. Bohmann, and H. Krcmar, 2007. A strategy for knowledge management. *J. Knowl. Manage.*, 11: 3-15. DOI: 10.1108/13673270710832127
- Helm, R., 2010. Knowledge management in a multi-generational workforce: challenges and opportunities presented by older workers. *Indian J. Econ. Bus.*, 9: 219-232.
- Jenson, P.E., 2009. Discoures, contextes and collaboration. *Knowl. Process Manage.*, 16: 41-48. DOI: 10.1002/kpm.323

- Kaplan, R., and D. Norton, 2004. Measuring the Strategic Readiness of Intangible Assets. Harvard Business Review, Harvard Business School Press, MA., Boston, pp: 52-60.
- Lacey, R. and J. Sneath, 2006. Customer loyalty programs: are they fair to consumers? J. Consumer Market., 23: 458-464. DOI: 10.1108/07363760610713000
- Lenard, D. and S. Sensiper, 1998. The role of tacit knowledge in group innovation. Calif. Manage. Rev., 40: 112-132. <http://www.impgroup.org/uploads/papers/4585.pdf>
- Lesser, E., 2006. The maturing workforce-managing the crisis before it hits. ASTD. <http://www.astd.org/LC/2006/>
- Malhotra, Y., 2005. Integrating knowledge management technologies in organizational business processes: getting real time enterprises to deliver real business performance. J. Knowl. Manage., 9: 7-28. DOI: 10.1108/13673270510582938
- MacMillan, D., 2008. Business week. http://www.businessweek.com/managing/content/aug2008/ca20080826_554250.htm
- Martin, D.H. P. and N. Phillips, 2004. remembrance of things past? The dynamics of organizational forgetting. Manage. Sci., 50: 1603-1613. DOI: 10.1287/mnsc.1040.0273
- McInerney, C., 2002. Knowledge management and the dynamic nature of knowledge. J. Am. Soc. Inform. Sci. Technol., 53: 1009-1018. DOI 10.1287/mnsc.1040.0273
- Moffett, S., R. McAdam and S. Parkinson, 2003. An empirical analysis of knowledge management applications. J. Knowl. Manage., 7: 6-26. DOI: 10.1108/13673270310485596
- Noe, R., 2008. Employee Training and Development. 4th Edn., McGraw-Hill/Irwin, ISBN: 0-07-340490-X, pp: 552.
- Nonaka, I. and N. Konno, 1998. The concept of "ba": Building a foundation for knowledge creation. Calif. Manage. Rev., 40: 40-55.
- Nonaka, I. and H. Takeuchi, 1995. The Knowledge-Creating Company. How Japanese Companies Create the Dynamics of Innovation. Oxford University Press, New York, ISBN: 0-19-509269-4.
- Nonaka, I., R. Toyama and A. Nagata, 2000. A firm as a knowledge-creating entity: A new perspective on the theory of the firm. Ind. Corp. Change, 9: 1-12. <http://icc.oxfordjournals.org/cgi/content/abstract/9/1/1>
- O'Dell, C. and C. Grayson, 1998. If Only We Knew What We Know. 1st Edn., Free Press, ISBN: 0-68-484474-5, pp: 256.
- Parise, S., R. Cross and T. Davenport, 2006. Strategies for preventing knowledge-loss crisis. MIT Sloan Manage. Rev., 47: 31-38.
- Randeree, E., 2006. Knowledge Management: Securing the future. J. Knowl. Manage., 10: 145-153. DOI: 10.1108/13673270610679435
- Rastogi, P., 2000. Knowledge management and intellectual capital: The new virtuous reality of competitiveness. Hum. Syst. Manage., 19: 39-49.
- Seidler, D.A.R. and E. Hartmann, 2008. The use of tacit knowledge within innovative companies: Knowledge management in innovative enterprises. J. Knowl. Manage., 12: 133-147.
- Slagter, F., 2007. Knowledge management among the older workforce. J. Know. Manage., 11: 82-96. DOI: 10.1108/13673270710762738
- Stenmark, D., 2002. Information Vs knowledge: The role of intranets in knowledge management. Proceeding of the 35th Hawaii International Conference on System Sciences, IEEE Computer Society Press, pp: 318.
- Sveiby, K., 2001. Frequently asked questions. Sveiby Knowledge Associates, Brisbane. <http://www.sveiby.com.au/faq.html>
- Wiig, K.M., 1999. An Emerging Discipline Rooted in a Long History. In: Knowledge Management, Chauvel, D. and C. Despres (Eds.). Knowledge Research Institute, Arlington, Texas, pp: 1-22.