A Theory of Knowledge Management

*** U. Syed Aktharsha**

ABSTRACT

Knowledge is an important organizational resource. Unlike other inert organizational resources, the application of existing knowledge has the potential to generate new knowledge. Not only can knowledge be replenished in use, it can also be combined and recombined to generate new knowledge. Once created, knowledge can be articulated, shared, stored, and re-contextualized to yield options for the future. For all of these reasons, knowledge has the potential to be applied across time and space to yield increasing returns (Garud & Kumaraswamy, 2005). The strategic management of organizational knowledge is a key factor that can help organizations to sustain competitive advantage in volatile environments. Organizations are turning to knowledge management initiatives and technologies to leverage their knowledge resources. Knowledge management can be defined as a systemic and organizationally specified process for acquiring, organizing, and communicating knowledge of employees so that other employees may make use of it to be more effective and productive in their work (Kankanhalli, Tan, & Wei, 2005). Knowledge management is also important in inter organizational relationships. This article attempts to explain the theoretical framework of knowledge and knowledge management in terms of knowledge characteristics, Knowledge categories, Knowledge value level and Knowledge Needs identification.

* Associate Professor, Jamal Institute of Management, Jamal Mohamed College (Autonomous) (Affiliated to Bharathidasan University, Tiruchirappalli-24) Tiruchirappalli-20 Tamil Nadu.
Email: akthar_ jmc@yahoo.com Phone: 99656-33601

Introduction

Knowledge is a renewable, reusable, and accumulating resource of value to the organization when applied in the production of products and services. Knowledge cannot, as such, be stored in computers: it can only be stored in the human brain. Knowledge is what a knower knows; there is no knowledge without someone knowing it. The need for a knower in knowledge existence raises the question as to how knowledge can exist outside the heads of individuals. Although knowledge cannot originate outside the heads of individuals, it can be argued that knowledge can be represented in and often embedded in organizational processes, routines, and networks, and sometimes in document repositories. However, knowledge is seldom complete outside of an individual. Knowledge is defined as information combined with experience, context, interpretation, reflection, intuition, and creativity. Information becomes knowledge once it is processed in the mind of an individual. This knowledge then becomes information again once it is articulated or communicated to others in the form of text, computer output, spoken or written words, or other means.

Knowledge management is also important in inter organizational relationships. Inter organizational relationships have been recognized to provide two distinct potential benefits: short term operational efficiency and longer-term new knowledge creation. For example, the need for continual value innovation is driving supply chains to evolve from a pure transactional focus to leveraging inter organizational partnerships for sharing information and, ultimately, market knowledge creation. Supply chain partners are engaging in interlinked processes that enable rich (broad-ranging, high-quality, and privileged) information sharing, and building information technology infrastructures that allow them to process information obtained from their partners to create new knowledge (Malhotra, Gosain, & El Sawy, 2005).

Knowledge Characteristics

Six characteristics of knowledge can distinguish it from information: knowledge is a human act, knowledge is the residue of thinking, knowledge is created in the present moment, knowledge belongs to communities, knowledge circulates through communities in many ways, and new knowledge is created at the boundaries of old. This definition and these characteristics of knowledge are based on current research (e.g., Poston & Speier, 2005; Ryu, Kim, Chaudhury, & Rao, 2005; Sambamurthy & Subramani, 2005; Tanriverdi, 2005; Wasko & Faraj, 2005). Today, any discussion of knowledge quickly leads to the issue of how knowledge is defined. A pragmatic definition defines the topic as the most valuable form of content in a continuum starting at data,

encompassing information, and ending at knowledge. Typically, data is classified, summarized, transferred, or corrected in order to add value, and become information within a certain context. This conversion is relatively mechanical and has long been facilitated by storage, processing, and communication technologies. These technologies add place, time, and form utility to the data. In doing so, the information serves to inform or reduce uncertainty within the problem domain.

Therefore, information is united with the context, that is, it only has utility within the context (Grover & Davenport, 2001). Knowledge has the highest value, the most human contribution, the greatest relevance to decisions and actions, and the greatest dependence on a specific situation or context. It is also the most difficult of content types to manage, because it originates and is applied in the minds of human beings. People who are knowledgeable not only have information, but also have the ability to integrate and frame the information within the context of their experience, expertise, and judgment. In doing so, they can create new information that expands the state of possibilities, and in turn allows for further interaction with experience, expertise, and judgment. Therefore, in an organizational context, all new knowledge stems from people. Some knowledge is incorporated in organizational artifacts like processes, structures, and technology. However, institutionalized knowledge often inhibits competition in a dynamic context, unless adaptability of people and processes (higher order learning) is built into the institutional mechanisms themselves. Our concern with distinctions between information and knowledge is based on real differences as well as technology implications. Real differences between information and knowledge do exist, although for most practical purposes these differences are of no interest at all.

Information technology implications are concerned with the argument that computers can only manipulate electronic information, not electronic knowledge. Business systems are loaded with information, but without knowledge. Davenport and Prusak (1998) define knowledge as a fluid mix of framed experience, values, contextual information, and expert insights that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories, but also in organizational routines, processes, practices, and norms. Distinctions are often made between data, information, knowledge, and wisdom:

Data are letters and numbers without meaning. Data are independent, isolated measurements, characters, numerical characters, and symbols.

Information is data that are included in a context that makes sense. For example, 40 degrees can have different meaning depending on the context. There can be a medical, geographical, or technical context. If a person has 40 degrees Celsius in fever, that is quite serious. If a city is located 40 degrees north, we know that it is far south of Norway. If an angle is 40 degrees, we know what it looks like. Information is data that make sense, because it can be understood correctly. People turn data into information by organizing it into some unit of analysis, for example, dollars, dates, or customers. Information is data endowed with relevance and purpose.

Knowledge is information combined with experience, context, interpretation, and reflection. Knowledge is a renewable resource that can be used over and over, and that accumulates in an organization through use and combination with employees' experience. Humans have knowledge; knowledge cannot exist outside the heads of individuals in the company. Information becomes knowledge when it enters the human brain. This knowledge transforms into information again when it is articulated and communicated to others. Information is an explicit representation of knowledge; it is in itself no knowledge. Knowledge can both be truths and lies, perspectives and concepts, judgments and expectations. Knowledge is used to receive information by analyzing, understanding, and evaluating; by combining, prioritizing, and decision making; and by planning, implementing, and controlling.

Wisdom is knowledge combined with learning, insights, and judgmental abilities. Wisdom is more difficult to explain than knowledge since the levels of context become even more personal and thus, the higher-level nature of wisdom renders it more obscure than knowledge. While knowledge is mainly sufficiently generalized solutions, wisdom is best thought of as sufficiently generalized approaches and values that can be applied in numerous and varied situations. Wisdom cannot be created like data and information, and it cannot be shared with others like knowledge. Because the context is so personal, it becomes almost exclusive to our own minds, and incompatible with the minds of others without extensive transaction. This transaction requires not only a base of knowledge and opportunities for experiences that help create wisdom, but also the processes of introspection, retrospection, interpretation, and contemplation. We can value wisdom in others, but we can only create it ourselves. Grover and Davenport (2001) calls these definitions pragmatic, as a continuum is used, starting from data, encompassing information, and ending at knowledge in this book. The most valuable form of content in the continuum is knowledge. Knowledge has the highest value, the most human contribution, the greatest relevance to decisions and actions, and

the greatest dependence on a specific situation or context. It is also the most difficult of content types to manage, because it originates and is applied in the minds of human beings. It has been argued that expert systems using artificial intelligence are able to do knowledge work. The chess-playing computer called Deep Blue by IBM is frequently cited as an example. Deep Blue can compete with the best human players because chess, though complex, is a closed system of unchanging and codifiable rules. The size of the board never varies, the rules are unambiguous, the moves of the pieces are clearly defined, and there is absolute agreement about what it means to win or lose (Davenport & Prusak, 1998). Deep Blue is no knowledge worker; the computer only performs a series of computations at extremely high speed. While knowledge workers develop knowledge, organizations learn. Therefore, the learning organization has become a term frequently used. The learning organization is similar to knowledge development. While knowledge development is taking place at the individual level, organizational learning is taking place at the firm level. Organizational learning occurs when the firm is able to exploit individual competence in new and innovative ways. Organizational learning also occurs when the collective memory—including local language, common history and routines—expands. Organizational learning causes growth in the intellectual capital. Learning is a continuous, never-ending process of knowledge creation. A learning organization is a place where people are constantly driven to discover what has caused the current situation, and how they can change the present. To maintain competitive advantage, an organization's investment decisions related to knowledge creation are likely to be strategic in nature (Chen & Edgington, 2005).

Alavi and Leidner (2001) make the case that the hierarchy of data-information-knowledge can be of a different nature. Specifically, they claim that knowledge can be the basis for information, rather than information the basis for knowledge. Knowledge must exist before information can be formulated and before data can be measured to form information. As such, raw data do not exist: the thought or knowledge processes that led to its identification and collection have already influenced even the most elementary piece of data. It is argued that knowledge exists that when articulated, verbalized, and structured, becomes information that when assigned a fixed representation and standard interpretation, becomes data (Alavi & Leidner, 2001, p. 109): Critical to this argument is the fact that knowledge does not exist outside an agent (a knower): it is indelibly shaped by one's needs as well as one's initial stock of knowledge. Knowledge is thus the result of cognitive processing triggered by the inflow of new stimuli. Consistent with this view, we posit that information is converted to

knowledge once it is processed in the mind of individuals and the knowledge becomes information once it is articulated and presented in the form of text, graphics, words, or other symbolic forms.

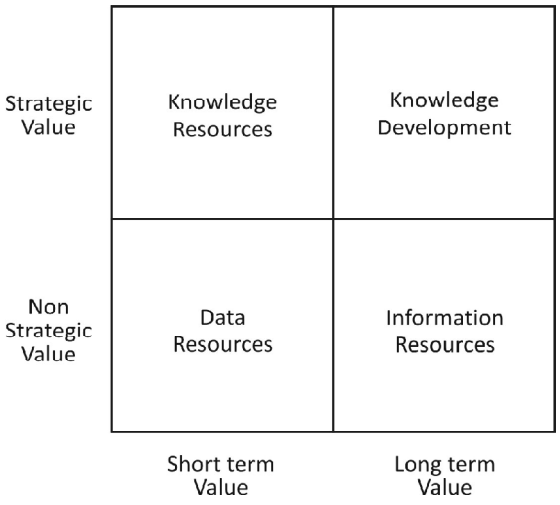
A significant implication of this view of knowledge is that for individuals to arrive at the same understanding of data or information, they must share a certain knowledge base. Another important implication of this definition of knowledge is that systems designed to support knowledge in organizations may not appear radically different from other forms of information systems, but will be geared toward enabling users to assign meaning to information and to capture some of their knowledge in information and/or data.

Knowledge Value Level

It is not difficult to agree with this reasoning. In fact, our hierarchy from data via information to Knowledge is not so much a road or direction as it is a way of suggesting resource value levels. Knowledge is a more valuable resource to the organization than information, and information is a more valuable resource than data. This is illustrated in Figure 1. The figure illustrates that it is less the knowledge existing at any given time, per se, than the organization's ability to effectively apply the existing knowledge to develop new knowledge, and to take action that forms the basis for achieving long-term competitive advantage from knowledge-based assets. According to Grover and Davenport (2001), knowledge processes lie somewhere between information and the organization's source of revenue: its products and services. This process can be generically represented in three sub processes: knowledge generation, knowledge codification, and knowledge transfer/realization. Knowledge generation includes all processes involved in the acquisition and development of knowledge. Knowledge codification involves the conversion of knowledge into accessible and applicable formats. Knowledge transfer includes the movement of knowledge from its point of generation or codified form to the point of use. One of the reasons that knowledge is such a difficult concept is because this process is recursive, expanding, and often discontinuous.

According to Grover and Davenport (2001), many cycles of generation, codification, and transfer are concurrently occurring in businesses. These cycles feed on each other. Knowledge interacts with information to increase the state space of possibilities, and provide new information that can then facilitate generation of new knowledge.

Figure 1.
Value Level of Resources in an organization



The knowledge process acts on information to create new information that allows for greater possibilities to fulfill old or possibly new organizational needs. This process is often discontinuous, where new needs and their fulfillment mechanism could be created. In our resource-based perspective of knowledge, data is raw numbers and facts, information is processed data, and knowledge is information combined with human thoughts. Knowledge is the result of cognitive processing triggered by the inflow of new stimuli. Information is converted to knowledge once it is processed in the mind of individuals, and the knowledge becomes information once it is articulated and presented to Figure 1. .

Value levels of resources in the organization Strategic value Non-strategic value Short-term value Long-term value others. A significant implication of this view of knowledge is that for individuals to arrive at the same understanding of information, they must share the same knowledge framework. In Figure 1, we can imagine that data are assigned meaning and become information, that information is understood and interpreted by individuals and becomes knowledge, and that knowledge is applied and develops into new knowledge. We can also imagine the opposite route. Knowledge develops in the minds of individuals. This knowledge development causes an increase in knowledge resources. When the new knowledge is articulated, verbalized, and structured, it becomes information and causes an increase in information resources. When information is assigned a fixed representation and standard interpretation, it becomes data and causes an increase in data resources. There are alternatives to our perspective of knowledge as a resource in the organization.

Identification of Knowledge Needs

To classify knowledge as a resource, there has to be a need for that knowledge. Hence, identification of knowledge needs in an organization is important. Three supplementary methods exist to identify needs for knowledge, as illustrated in Figure 2:

Problem decision analysis. This method aims at identifying and specifying problems that knowledge

workers have, solutions they can find, decisions they have to make, and what knowledge they need to solve problems and make decisions. For a lawyer, the problem can be an insurance claim by a client, the decision can be how to approach the insurance company, and the knowledge need can be outcomes of similar cases handled by the law firm.

Critical success factors. This method aims at identifying and specifying what factors cause success. Success can be at firm level, individual level, or individual case level. For a lawyer, critical success factors at the individual case level can be quality of legal advice and service level of advice delivery. Critical knowledge in this case includes legal knowledge as well as procedural knowledge.

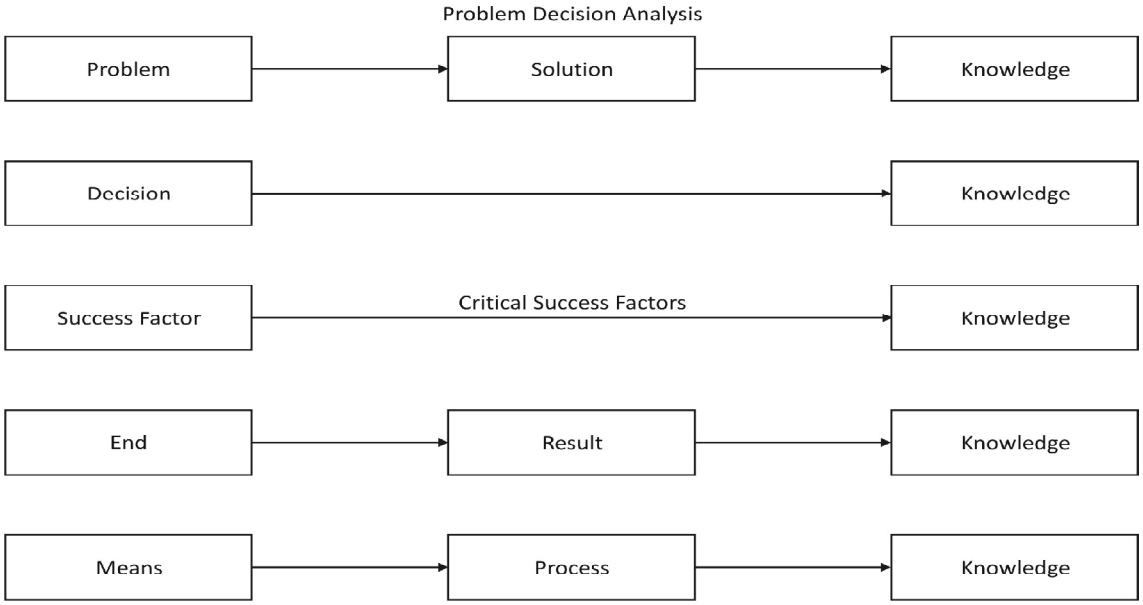
Ends mean analysis. This method aims at identifying and specifying external demands and expectations to goods and services from the firm. For a lawyer, the client expectation might be that she or he wins the case. The end is winning the case. Knowledge needs associated with winning a case includes legal, procedural, and analytical knowledge of successful cases in the past. The means for winning a case might be access to resources of various kinds, such as client documents and client funds. Knowledge needs associated with means include historical records and analysis of legal client practice.

Knowledge categories

Many researchers have tried to define categories and dimensions of knowledge. A common distinction is made between explicit and tacit knowledge. Explicit knowledge can be expressed in words and numbers and shared in the form of data, scientific formulae, specifications, manuals, and the like. This kind of knowledge can be readily transmitted between individuals, both formally and systematically. Tacit knowledge is, on the other hand, highly personal and hard to formalize, making it difficult to communicate or share with others. Subjective insights, intuitions, and hunches fall into this category of knowledge. Tacit knowledge is deeply rooted in an individual's actions and experience as well as in the ideals, values, or emotions he or she embraces. Tacit knowledge is embedded in the human brain and cannot be expressed easily, while explicit knowledge can be easily codified. Both types of knowledge are important, but Western firms have focused largely on managing explicit knowledge (Grover & Davenport, 2001).

Tacitness may be considered as a variable, with the degree of tacitness being a function of the extent to which the knowledge is or can be codified and abstracted. Knowledge may dynamically shift between tacit and explicit over time, although some knowledge always will remain tacit. Nonaka et al. (Nonaka, Toyama, & Konno, 2000) have suggested that knowledge creation is a spiraling process of interactions between explicit and tacit knowledge..

Figure 2. Methods to identify knowledge needs



The concept of tacit knowledge corresponds closely to the concept of knowledge with a low level of codification. Codification is the degree to which knowledge is fully documented or expressed in writing at the time of transfer between two persons. The complexity of knowledge increases with lower levels of codification. A similar distinction, which scholars frequently make, is between practical, experience-based knowledge and the theoretical knowledge derived from reflection and abstraction from that experience. A distinction is sometimes made between codification and personalization. This distinction is related to the tacit vs. explicit concept. It involves an organization's approach to knowledge transfer. Companies using codification approaches rely primarily on repositories of explicit knowledge. Personalization approaches imply that the primary mode of knowledge transfer is direct interaction among people. Both are necessary in most organizations, but an increased focus on one approach or the other at any given time within a specific organization may be appropriate (Grover & Davenport, 2001). Explicit knowledge is sometimes called articulable knowledge (Hitt, Bierman, Shumizu, & Kochhar, 2001). Articulable knowledge can be codified, and thus can be written and easily transferred. Tacit knowledge is not articulable, and therefore cannot be easily transferred. Tacit knowledge is often embedded

in uncodified routines and in a firm's social context. More specifically, it is partially embedded in individual skills and partially embedded in collaborative working relationships within the firm.

Tacit knowledge is integral to professional skills. As a result, tacit knowledge is often unique, difficult to imitate, and uncertain. It has a higher probability of creating strategic value than articulable knowledge. Distinctions can be made between core, advanced, and innovative knowledge. These knowledge categories indicate different levels of knowledge sophistication. Core knowledge is that minimum scope and level of knowledge required for daily operations, while advanced knowledge enables a firm to be competitively viable, and innovative knowledge is the knowledge that enables the firm to lead its industry and competitors:

Core knowledge is the basic knowledge required to stay in business. This is the type of knowledge that can create efficiency barriers for entry of new companies, as new competitors are not up to speed in basic business processes. Since core knowledge is present at all existing competitors the firm must have this knowledge, even though it will provide the firm with no advantage that distinguishes it from its competitors. Core knowledge is that minimum scope and level of knowledge required just to play the game. Having that level of knowledge and capability will not assure the long-term competitive viability of the firm, but does present a basic industry knowledge barrier to entry. Core knowledge tends to be commonly held by members of an industry and therefore, provides little advantage other than over nonmembers (Zack, 1999). In a law firm, examples of core knowledge include knowledge of the law, knowledge of the courts, knowledge of clients, and knowledge of procedures.

For a student in the business school, core knowledge includes knowledge of what subjects to study this term and where the lectures take place. According to Tiwana (2002), core knowledge is the basic level of knowledge required just to play the game. This is the type of knowledge that creates a barrier for entry of new companies. Since this level of knowledge is expected of all competitors, you must have it, even though it will provide your company with no advantage that distinguishes it from its competitors.

Let us take two examples: One from the consumer electronics (hard product) business and one from Internet programming (soft product). To enter the modem manufacturing market, a new company must have extensive knowledge of these aspects: a suitable circuit design, all electronic parts that go into a modem, fabricating surface mount (SMD) chip boards, how to write operating system drivers for modems, and familiarity with computer telephony standards. Similarly, a company

developing Web sites for, say, florists, needs server hosting capabilities, Internet programming skills, graphic design skills, clearly identified target markets, and necessary software. In either case, just about any competitor in those businesses is assumed to have this knowledge in order to compete in their respective markets; such essential knowledge, therefore, provides no advantage over other market players.

Advanced knowledge is what makes the firm competitively visible and active. Such knowledge allows the firm to differentiate its products and services from that of a competitor through the application of superior knowledge in certain areas. Such knowledge allows the firm to compete head on with its competitors in the same market and for the same set of customers. Advanced knowledge enables a firm to be competitively viable. The firm may have generally the same level, scope, or quality of knowledge as its competitors, although the specific knowledge content will often vary among competitors, enabling knowledge differentiation. Firms may choose to compete on knowledge head-on in the same strategic position, hoping to know more than a competitor. They instead may choose to compete for that position by differentiating their knowledge (Zack, 1999). In a law firm, examples of advanced knowledge include knowledge of law applications, knowledge of important court rulings, and knowledge of successful procedural case handling.

For a student in the business school, advanced knowledge includes knowledge of important articles and books that are compulsory literature in subjects this term. According to Tiwana (2002), advanced knowledge is what makes your company competitively viable. Such knowledge allows your company to differentiate its product from that of a competitor, arguably, through the application of superior knowledge in certain areas. Such knowledge allows your company to compete head on with its competitors in the same market and for the same set of customers. In the case of a company trying to compete in modem manufacturing markets, superior or user-friendly software or an additional capability in modems (such as warning online users of incoming telephone calls) represents such knowledge. In case of a Web site development firm, such knowledge might be about international flower markets and collaborative relationships in Dutch flower auctions that the company can use to improve Web sites delivered to its customers.

Innovative knowledge allows a firm to lead its entire industry to an extent that clearly differentiates it from competition. Such knowledge allows a firm to change the rules of the game by introducing new business practices. Such knowledge enables a firm to expand its market share by winning new customers, and by increasing service levels to existing customers. Innovative knowledge is that knowledge that enables a firm

to lead its industry and competitors, and to significantly differentiate itself from its competitors. Innovative knowledge often enables a firm to change the rules of the game itself (Zack, 1999). In a law firm, examples of innovative knowledge include knowledge of standardizing repetitive legal cases, knowledge of successful settlements, and knowledge of modern information technology to track and store vast amounts of information from various sources.

For a student in the business school, innovative knowledge includes knowledge of important topics within subjects, links between subjects, typical exam questions, and knowledge of business cases where theory can be applied. According to Tiwana (2002), innovative knowledge allows a company to lead its entire industry to an extent that clearly differentiates it from competition. Innovative knowledge allows a company to change the rules of the game. Patented technology is an applicable example of changing the rules. Innovative knowledge cannot always be protected by patents, as the lawsuit between Microsoft and Apple in the 1980s should serve to remind us. Apple sued Microsoft for copying the look and feel of its graphical user interface (GUI). The Supreme Court ruled that things like look and feel cannot be patented; they can only be copyrighted. Microsoft won the case since it copied the look and feel, but used entirely different code to create it in the first place.

Many more categories and dimensions of knowledge have been suggested by researchers. The problem with most of these classifications is that they do not seem to satisfy three important criteria for classification. The first requirement is that a classification should always be complete, there should be no category missing. The second requirement is that each category should be different from all other categories, that is, there should be no overlap between categories. The final requirement is that each category should be at the same level, there should be no category including another category. Consider the following categories suggested by researchers: formal knowledge, instrumental knowledge, informal knowledge, tacit knowledge, Meta knowledge, and context-independent knowledge. These categories seem to violate some of the classification rules. For example, there seems to be an overlap between informal knowledge and tacit knowledge. Maybe Long and Fahey's (2000) classification into human knowledge, social knowledge, and structured knowledge satisfy our requirements:

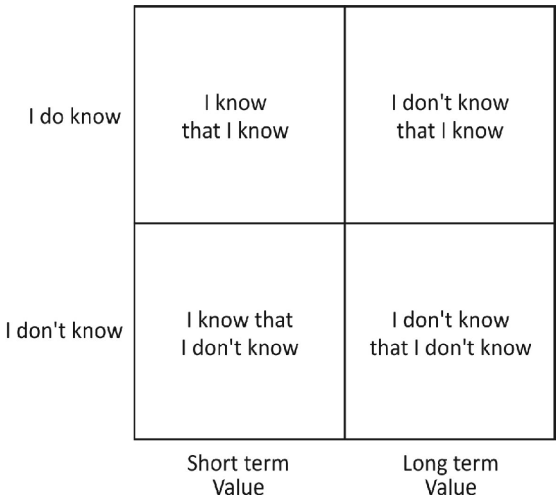
Human knowledge. This constitutes know-what, know-how, and know-why of individuals. Human knowledge is manifested in individual skills (e.g., how to interview law firm clients) or expertise (e.g., why this case is similar to a previous case). Individual knowledge usually combines explicit and tacit knowledge. This type of knowledge may be

located in the body, such as knowing how to type touch on a PC or how to ride a bicycle. This type of knowledge may be cognitive, that is, largely conceptual and abstract.

Social knowledge. This kind of knowledge exists only in relationships between individuals or within groups. For example, high-performing teams of tax lawyers share certain collective knowledge that is more than the sum of the individual knowledge of the team's members. Social or collective knowledge is mainly tacit knowledge, shared by team members, and develops only as a result of team members working together. Its presence is reflected by an ability to collaborate effectively.

Structured knowledge. This is embedded in an organization's systems, processes, tools, routines, and practices. Knowledge in this form is explicit and often rule based. A key distinction between structured knowledge and the first two types of knowledge is that structured knowledge is assumed to exist independently of individual knowers. It is, instead, an organizational resource. However, to be complete, this knowledge has to be in the heads of individuals. Two dimensions have been introduced to classify knowledge. The first dimension is concerned with whether an individual knows. The second dimension is concerned with whether an individual knows whether he or she knows. This is illustrated in Figure 3. I can either have the knowledge (I do know) or not have the knowledge (I do not know). I can either be aware of it (I know it) or not be aware of it (I do not know it). Some researchers have argued that the real tacit knowledge is found in the right upper quadrant. In this dimension, I do know, but I do not know that I know. Tacit knowledge in this sense is also called hidden knowledge or non accessible knowledge. In his book, we do not use this extremely limited definition of tacit knowledge.

Figure 3.
Dimensions of individual knowledge



We define tacit knowledge as personal and difficult, but not impossible to communicate. Classification of knowledge into categories and dimensions may depend on industry. For example, there are likely to be different knowledge categories in a bank compared to a law firm. At the same time, there will be certain generic knowledge categories such

as market intelligence and technology understanding in most companies, independently of industry. When classifying knowledge in a firm, it is important to do the analysis without the organization chart. If you classify knowledge into technology knowledge, production knowledge, marketing knowledge, and financial knowledge, it may be because the firm, according to the organization chart, consists of a development department, production department, marketing department, and financial department. It might be more useful to introduce new knowledge categories, such as product knowledge, that include knowledge of development, production, marketing, and finance. By identifying cross-sectional knowledge categories and dimensions, solutions for improved knowledge flows in the organization will emerge.

A law firm is a good example. A law firm is organized according to legal disciplines. Some lawyers work in the tax department, while others work in the department for mergers and acquisitions. The types of knowledge involved in the practice of law can be categorized as administrative, declarative, procedural, and analytical knowledge (Edwards & Mahling, 1997):

Administrative knowledge, which includes all the nuts and bolts information about firm operations, such as hourly billing rates for lawyers, client names and matters, staff payroll data, and client invoice data.

Declarative knowledge, which is knowledge of the law, the legal principles contained in statutes, court opinions, and other sources of primary legal authority; law students spend most of their law school time acquiring this kind of knowledge.

Procedural knowledge, which involves knowledge of the mechanisms of complying with the law's requirements in a particular situation: how documents are used to transfer an asset from Company A to Company B, or how forms must be filed where to create a new corporation. Declarative knowledge is sometimes labeled know-that and know-what, while procedural knowledge is labeled know-how.

Analytical knowledge, which pertains to the conclusions reached about the course of action a particular client, should follow in a particular situation. Analytical knowledge results, in essence, from analyzing declarative knowledge (i.e., substantive law principles) as it applies to a particular fact setting. Classification of knowledge into categories and dimensions has important limitations. For example, the classification into explicit and tacit knowledge may create static views of knowledge. However, knowledge development and sharing are dynamic processes, and these dynamic processes cause tacit knowledge to become explicit, and explicit knowledge to become tacit over time. Tacit and explicit knowledge depend on each other, and they

influence each other. In this perspective, Alavi and Leidner (2001) argue that whether tacit or explicit knowledge is the more valuable may indeed miss the point. The two knowledge categories are not dichotomous states of knowledge, but mutually dependent and reinforcing qualities of knowledge: tacit knowledge forms the background necessary for assigning the structure to develop and interpret explicit knowledge.

According to Alavi and Leidner (2001), the linkage of tacit and explicit knowledge suggests that only individuals with a requisite level of shared knowledge are able to exchange knowledge. They suggest the existence of a share knowledge space that is required in order for individual A to understand individual B's knowledge. The knowledge space is the underlying overlap in knowledge base of A and B. This overlap is typically tacit knowledge. It may be argued that the greater the shared knowledge space, the less the context needed for individuals to share knowledge within the group and, hence, the higher the value of explicit knowledge. For example in a law firm, lawyers in the maritime law department may have a large knowledge space so that even a very limited piece of explicit knowledge can be of great value to the lawyers. Alavi and Leidner (2001, p. 112) discuss knowledge space in the following way: Whether tacit or explicit knowledge is the more valuable may indeed miss the point. The two are not dichotomous states of knowledge, but mutually dependent and reinforcing qualities of knowledge: tacit knowledge forms the background necessary for assigning the structure to develop and interpret explicit knowledge. The inextricable linkage of tacit and explicit knowledge suggests that only individuals with a requisite level of shared knowledge can truly exchange knowledge: if tacit knowledge is necessary to the understanding of explicit knowledge, then in order for Individual B to understand Individual A's knowledge, there must be some overlap in their underlying knowledge bases (a shared knowledge space). However, it is precisely in applying technology to increase 'weak ties' in organizations, and thereby increase the breadth of knowledge sharing, that IT holds promise. Yet, absent a shared knowledge space, the real impact of IT on knowledge exchange is questionable. This is a paradox that IT researchers have somewhat eschewed, and that organizational researchers have used to question the application of IT to knowledge management. To add to the paradox, the very essence of the knowledge management challenge is to amalgamate knowledge across groups for which IT can play a major role. What is most at issue is the amount of contextual information necessary for one person or group's knowledge to be readily understood by another It may be argued that the greater the shared knowledge space, the less the context needed for individuals to share knowledge within the group and, hence, the higher the value

of explicit knowledge and the greater the value of IT applied to knowledge management. On the other hand, the smaller the existing shared knowledge space in a group, the greater the need for contextual information, the less relevant will be explicit knowledge, and hence the less applicable will be IT to knowledge management. Some researchers are interested in the total knowledge within a company, while others are interested in individual knowledge. Dixon (2000) was interested in the knowledge that knowledge workers develop together in the organization. Employees gain this knowledge from doing the organization's tasks. This knowledge is called common knowledge, to differentiate it from book knowledge or lists of regulations or databases of customer information. Some examples of common knowledge are what medical doctors in a hospital have learned about how to carry out certain kinds of surgery, what an organization has learned about how to introduce a new drug into the diabetes market, how to reduce cost on consulting projects, and how to control the amount of analysis in maritime law cases. These examples all include the how-to rather than the know-what of school learning. Moreover, it is know-how that is unique to a specific company. In the law firm example, procedural knowledge was classified as know-how.

Conclusion

To conclude, Organizations face number of complex challenges. Growth and competitive advantage has become strategic perquisites for any organization. Need for developing Information and Knowledge structure is becoming increasingly important in order to achieve sustained growth in today's competitive environment. In order to organize the performance skills of employees working in the organization, it is important to coordinate their skills and energies in meaningful way. So there is an urgent need for organizations to study the prevailing KM Practices and Process and evolve suitable parameters relating to it.

References

- Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly, 25*(1), 107-136.
- Chen, A. N. K., & Edgington, T. M. (2005).Assessing value in organizational knowledge creation: Considerations for knowledge workers. *MIS Quarterly, 29*(2), 279-309.
- Davenport, T. H., & Prusak, L. (1998). *Working knowledge.* Boston: Harvard Business School Press.
- Dixon, N. M. (2000). *Common knowledge.* Boston: Harvard Business School Press.
- Garud, R., & Kumaraswamy. A. (2005). Vicious and virtuous circles in the management of knowledge: The case of Infosys technologies. *MIS Quarterly, 29*(1), 9-33.

- Grover, V., & Davenport, T. H. (2001). General perspectives on knowledge management: Fostering a research agenda. *Journal of Management Information Systems, 18*(1), 5-21.
- Hitt, M. A., Bierman, L., Shumizu, K., & Kochhar, R. (2001). Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. *Academy of Management Journal 44*(1), 13-28.
- Kankanhalli, A., Tan, B. C. Y., & Wei, K. K.(2005). Contributing knowledge to electronic knowledge repositories: An empirical investigation.*MIS quarterly, 29*(1), 113-143.
- Long, D. W., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *Academy of Management Executive, 14*(4), 113-127.
- Malhotra, A., Gosain, S., & El Sawy, O. A. (2005). Absorptive capacity configurations in supply chains: Gearing for partner-enabled market knowledge creation. *MIS Quarterly, 29*(1), 145-187.
- Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, Ba and leadership: A unified model of dynamic knowledge creation. *Long Range Planning, 33*(1), 5-34.
- Poston, R. S., & Speier, C. (2005). Effective use of knowledge management systems: A process model of content ratings and credibility indicators. *MIS Quarterly, 29*(2), 221-244.
- Ryu, C., Kim, Y. J., Chaudhury, A., & Rao, H. R. (2005). Knowledge acquisition via three learning processes in enterprise information portals: Learning-by-investment, learning-by-doing, and learning-from-others. *MIS Quarterly, 29*(2), 245-278.
- Sambamurthy, V., & Subramani, M. (2005). Special issue on information technologies and knowledge management. *MIS Quarterly, 29*(1), 1-7; and 29(2), 193-195.
- Tanriverdi, H. (2005). Information technology relatedness, knowledge management capability, and performance of multibusiness firms. *MIS Quarterly, 29*(2), 311-334.
- Tiwana, A. (2002). *The knowledge management toolkit—practical techniques for building a knowledge management system* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly, 29*(1), 35-57.
- Zack, M. H. (1999). Developing a knowledge strategy. *California Management Review, 41*(3), 125-145.