CHAPTER-II
REVIEW OF LITERATURE

KNOWLEDGE & ITS DIMENSIONS

Polanyi proposed the knowledge dichotomy of explicit and tacit dimension in the 1950s. Polanyi (1967) said we should start from the fact that “we can know more than we can tell”. Polanyi termed this pre-logical phase of knowing as tacit knowledge. Tacit knowledge comprises a range of conceptual and sensory information and images that can be brought to bear in an attempt to make sense of something. Many bits of tacit knowledge can be brought together to help form a new model or theory.

In his seminal paper, Granovetter (1973) concluded that weak ties were more likely to act as a source for unique and useful information. Granovetter (1973) reasoned that an individual’s strong ties likely had the same or similar information and network access to those already in the network. On the other hand, weak ties provided the opportunity to access new network ties, as well as useful novel information. “Weaker ties reflect a path along which new information or novel insights are more likely to travel in comparison to stronger ones” (Levin & Cross, 2004 p. 1480). Subsequent research by Granovetter (1982), as well as
Rogers (1995), found that weak ties were also instrumental in the diffusion of ideas.

Knowledge that can be shared can be divided into two dimensions, tacit and explicit. “Tacit knowledge is highly personal. Hard to formalize and therefore, difficult to communicate to other”. (Nonaka 1991, p.98). It refers to internalized skills, mental models, beliefs and perspectives that are often based on expertise. It can be further divided into two dimensions: a technical aspect (i.e. how to do things) and a negative aspect (i.e., how to think about things) such as beliefs, values, schema and mental models that are deeply ingrained in us and that we take for granted (Nonaka and Konno, 1998). This type of knowledge is most easily shared via inter-personal interaction.

Research on weak ties has also demonstrated that they are beneficial in the dissemination of information (Uzzi & Lancaster, 2003; Cross & Cummings, 2004) and technical advice (Constant, Sproull, & Kiesler, 1996). Hansen (1999) found weak ties useful, because they were, for the individual, less costly to maintain than strong ties.
It can be said that several authors consider knowledge as the source of innovation and value creation (Yang, 2010), (King and Marks, 2006), (Wagner and Buckó, 2005), (Wang and Noe, 2010), (López-Nicolás and Meroño-Cerdán, 2011), (Choi, Poon and Davis, 2008), (Miao, Choe and Song, 2011) and agree that without communication, knowledge will lose meaning and impact (Zakaria, Amelinckx and Wilemon, 2004).

King and Marks, (2006) define “knowledge as a strategic resource that can create competitive advantage. A firm’s knowledge is the result of years of organizational activity in which the knowledge of individuals is combined into a collective whole”.

It is also important to define the difference between tacit and explicit knowledge to understand the kinds of knowledge it shared and communicated inside MNC. According to Adenfelt and Lagerström, (2006): “Tacit knowledge is inextricably interwoven with experiences and situation contexts and is inferred from the actions of individuals, which imply that as individuals interact. Some knowledge remains tacit and context bound as it is developed according to the specific requirements of the organization, and explicit knowledge can be articulated and put into print”. 
Choi, Poon and Davis, (2008) argue that “knowledge is an essential strategic resource for a firm to retain sustainable competitive advantage. As knowledge is created and disseminated throughout the firm, it has the potential to contribute to the firm’s value by enhancing its capability to respond to new and unusual situations”.

Wagner and Buckó define “tacit knowledge as idiosyncratic, subjective and highly individualized. It is embedded in, for example, viewpoints, beliefs, values and intuitions. In contrast, explicit knowledge can be described as specifications, systematic language, grammatical statements and mathematical expressions that can easily be shared”.

However Yang, (2010) emphasize “that the integration of knowledge derived from research and development (R&D) is based on tacit knowledge flow. A central focus of the integration process should be the successful exploitation of ideas to add value in the organization. The integration of knowledge derived from R&D is based on tacit knowledge flow. A central focus of the integration process should be the successful exploitation of ideas to add value to the organization. R&D is the primary source of internal knowledge creation. The faster the
knowledge can be created, the more value a company can deliver to further its growth. R&D integration of knowledge from past projects provides strong support to the knowledge management program, thus support is significant for the firm’s performance since it shortens the cycle time of developing new products”.

KNOWLEDGE CREATION

In the early 1990s Nonaka (1994) systematically made use of the concept in his theory of knowledge-creating company that triggered a continuous enthusiasm on tacit knowledge in developing business knowledge. If knowledge can be codified then it can be made explicit and thus readily transferable. Companies rely heavily on policies, procedures and guidelines which codified knowledge provides.

THE KNOWLEDGE CREATION PROCESS

Nonaka’s SECI model (Nonaka, 1994) shown in Fig 1-0 became an analytical framework on knowledge activities in business organisation.
Nonaka (1994) proclaimed four modes of knowledge conversion. He argued the assumption that knowledge is created through conversion between tacit and explicit knowledge which allows us to postulate four different modes of knowledge conversion.

(1) **Socialisation - from tacit knowledge to tacit knowledge.**

This is the mode of knowledge conversion that enables us to convert tacit knowledge through interaction between individuals. The key to acquiring tacit knowledge is experience. Socialisation typically occurs in a traditional apprenticeship. It may also occur in informal social meetings outside of the workplace (Nonaka, Toyama, Konno, 2000).

(2) **Combination - from explicit knowledge to explicit knowledge.**

This mode of knowledge conversion involves the use of social processes to combine different bodies of explicit knowledge through such exchange mechanisms such as meetings and telephone conversations. In the context of the firm explicit knowledge is collected from inside or outside the organisation and then combined, edited or processed to form new knowledge. The new explicit
knowledge is then disseminated among members of the organisation (Nonaka, Toyama, Konno, 2000).

(3) **Externalisation – from tacit knowledge to explicit knowledge.**

This conversion is critical because it is a prerequisite to the knowledge amplification process wherein knowledge becomes part of an organisation’s knowledge network (Herschel, Nemati and Steiger, 2001). When tacit knowledge is made explicit, knowledge is crystallised, thus allowing it to be shared by others, and it becomes the basis of new knowledge (Nonaka, Toyama, Konno, 2000).

(4) **Internalisation – from explicit knowledge to tacit knowledge.**

This mode is connected with theories of organisational culture. It is closely related to ‘learning by doing ‘(Nonaka, Toyama, Konno, 2000). Explicit knowledge in the form of procedures and guidelines has to be actualised through action and practice. By reflecting on this explicit knowledge the reader can internalise the explicit knowledge to enrich their tacit knowledge base.

**EXPLICIT & TACIT KNOWLEDGE**

Knowledge is a well-organized combination of information, assimilated within a set of rules, procedures and operations learned through experience and
practice (Keskin, 2005). The literature classified knowledge into two main types: tacit and explicit. Explicit knowledge is knowledge that can be seen, shared and easily communicated to others. Most explicit knowledge is in the form of raw data, such as documents that contain the work experiences of staff, descriptions of events, interpretations of data, beliefs, guesses, hunches, ideas, opinions, judgment and proposed actions (Choo, 2000). Tacit knowledge is more difficult to share because it is embedded in a person’s memory.

One of the main matters for organisations managing their knowledge resources is diffusion of knowledge within the organisation. Knowledge resources can be divided into at least two different parts (Haldin-Herrgard, 2000) depending on the possibility of structuring and coding of knowledge. Structured knowledge is often diffused by different systems for storing and sharing knowledge and today there has been much scientific interest in the technology of these systems (Bennett and Gabriel, 1999). Unstructured knowledge is also diffused by different forms of codifying, written or spoken and scientific interest has been aimed at the communication of knowledge in different forms. Different levels of knowledge, regarding the possibility to codify, can be recognised in organisations’ knowledge resources. Structured knowledge such as reports or discussions are considered the
easiest to code (Augier and Vendelo, 1999) with tacit knowledge considered the hardest.

DeLong and Fahey (2000) described tacit knowledge as what we know but cannot explain. They explained that tacit knowledge is: (a) embodied in mental processes; (b) originated from practices and experiences; (c) expressed through ability applications; and (d) transferred in the form of learning by doing and watching. Knowing how to solve a problem using tacit knowledge was, therefore, a matter of personal interpretation, ability and skill (Abdullah et al., 2006). Ardichvili et al. (2006) argued that sharing and internalizing tacit knowledge required active interaction among individuals, using knowledge management techniques, such as storytelling. Tacit knowledge sharing is affected by distributive justice, procedural justice and cooperativeness, indirectly via organizational commitment. It was also affected by instrumental ties and expressive ties via trust in co-workers (Lin, 2006).

According to Wenger (cited in Chauvel and Despres 2000, p205) knowledge is recognised as a key source of competitive advantage but little is known about how to create and leverage it in practice. Traditional knowledge management approaches attempt to capture knowledge in formal systems but Wenger (cited in
Chauvel and Despres 2000, p205) argues we should “foster the communities that take responsibility for stewarding knowledge”. Zack (2003) comments on a common knowledge misunderstanding whereby the more a company’s products or services have knowledge at their core, the more the organisation is, by definition, knowledge-led. Zack (2003) believes this to be a dangerous assumption, both for industrial-age businesses that may believe they can’t change and for the information-age businesses that complacently believe they don’t need to change the way they operate.

According to Wang and Noe, (2010) “knowledge is the information processed by individuals including ideas, facts, expertise and judgments relevant for individual, team and organizational performance. Knowledge is a critical organizational resource that provides a sustainable competitive advantage in a competitive and dynamic economy.”

Knowledge requires communication (Miao, Choe and Song, 2011). and a successful knowledge sharing between the headquarters and the subsidiaries depend on their pre-existing relationships and an understanding of contextual factors. “Findings show that the knowledge development process could be difficult
because of the lack of interpersonal relationships and a shared structure and practices within the transnational teams” (Adenfelt and Lagerström, 2006).

**KNOWLEDGE MANAGEMENT**

Hansen *et al* (1999) went on to identify these two main KM strategies as corresponding to different competitive strategies. Personalisation fitted a competitive strategy based on creative, individual solutions to high-level problems (examples given were McKinsey & Company, and Bain & Company). Codification, by contrast, fitted a business strategy based on high-quality standardised solutions usually relying heavily on information systems (examples given were Andersen Consulting – now Accenture – and Ernst & Young).

**KM SYSTEM**

KM systems are commonly defined solely in IT terms, for example “information systems applied to managing organizational knowledge” (Alavi and Leidner, 2001; Carlsson, 2003). Whilst a tightly-defined term may make academic discourse easier, we believe that such a definition encourages too much of a focus on the technology itself, and would be happier if this had been called by a different name such as KM *technology* or KM *tools*. Throughout this paper we shall always regard a KM system as including people, processes, technology and (potentially)
structure, in a similar manner to Leavitt’s sociotechnical systems “diamond” (Leavitt, 1964). Interactions will take place among the three KM system elements of people, processes and technology.

There are four stages in the evolution of a knowledge management culture within the organization. Quinn, Anderson, and Finkelstein suggested in 1996 that the four stages in the evolution of knowledge management are: know what, know how, know why, and care why.

- **Know What**: At this first stage, formal knowledge management procedures are available to help capture, catalog, and make accessible the knowledge required to achieve certain corporate goals. However, the procedures are isolated, and they do not work within the framework of an integrated knowledge management approach.

- **Know How**: At the second stage, the employees have acquired the ability to retrieve and use the knowledge at the right time and at the right place. The procedures now are connected and function within the framework of an integrated knowledge management system.
• **Know Why:** At this stage, beyond the skills developed at the “Know How” stage to solve problems, a deeper sense of knowledge and understanding of the complex relationships between cause and effect in routine processes is achieved. By mastering the principles that explain the inner nature of the processes, this level of knowledge management enables employees to deal with unknown interactions and unseen situations. At this point of advancement, the culture, beliefs, and attitudes of the employees have changed to create leverage within the corporation through the use of knowledge.

• **Care Why:** At the final stage, self-motivated creativity is enhanced and channeled into results. Employees at this level of knowledge are highly motivated to share knowledge to face challenges. Communities of practice are well established and sustain themselves without the need of a formal structure. Natural chains of knowledge are formed. At this stage, individual knowledge is embedded within the framework of an integrated corporate knowledge culture.

The ability to manage communication inside Multinational Corporations (MNC) and contribute effectively to knowledge sharing in a cross-cultural environment relies in the promotion of “knowledge development in the MNC, by
using organizational mechanisms creating links between individuals and encouraging social interaction” (Adenfelt and Lagerström, 2006).

For Yang (2010), “knowledge management refers to the developing body of methods, tools, techniques and values through which organizations can acquire, develop, measure, distribute and provide a return on their intellectual assets. The key point of knowledge management is to harvest the tacit knowledge residing in individuals and make it a firm asset, rather than to only leave it in the heads of the particular individuals”. López – Nicolás and Meroño – Cerdán, (2011) define “knowledge management as the processes and infrastructures firms employ to acquire, create and share knowledge for formulating strategy and making strategic decisions. Firms must take a global and consistent vision when managing its knowledge and selecting knowledge management tools to be implemented. The whole organization must share a common knowledge management orientation because knowledge management is central to their ability to grow and compete”.

López-Nicolás and Meroño-Cerdán, (2011) also describe knowledge management as a “significant mechanism to enhance innovation and corporate performance. Companies know that with a clear knowledge management strategy can be more innovative, achieve better financial results, improve processes and
develop human resources’ capabilities”. And Yang (2010) suggests that the vast majority of studies in the literature about knowledge management state that it has been considered “a critical strategy for firms to obtain competitive advantage and positively impact firm performance.

Huberman and Hogg (1994), for example, focus on one of the most frequently cited goals: improved organisational learning. They present a “detailed model of collaborative performance enhancement and examine its consequences for the community as a whole” with direct reference to informal networks supported by incentive schemes as facilitators of learning and problem solving “enhanced by exchanging information”(pp. 2-3).

Grant (1996) describes knowledge sharing as an important focus in KM field, where knowledge is seen as the most important resource that an organization possesses. Argote and Ingram (2000) also define knowledge sharing as the process through which one group, department, or division is affected by the experience of another. They further point out the transfer of organizational knowledge can be observed through changes in the knowledge or performance of recipient units.
KNOWLEDGE SHARING

The topic of knowledge sharing is well established in the knowledge management literature. It is highlighted as an important area for knowledge management research (Holsthouse, 1998, p. 277), as well as a concern of knowledge management practitioners (Prusak, 1999, p. 6). In particular, results from case study reports emphasise that knowledge sharing is key to research in knowledge management. Cohen (1998), for example, refers to 100 knowledge projects, most of which had as one of their three main aims that of developing “a knowledge-intensive culture by encouraging and aggregating behaviors such as knowledge sharing (as opposed to hoarding), pro-actively seeking and offering knowledge” (Cohen, 1998, p. 27).

Similarly, a study of 431 US and European organisations cited “Changing people’s behavior” as one of the biggest difficulties of knowledge management (Ruggles, 1998, p. 87). Research shows that if knowledge sharing is not attended to as part of a knowledge management programme, then it will fail as soon as the person championing knowledge management moves on to another project, or resources are pulled (Huysman & De Wit, 2002, p. 163).
Knowledge sharing *in particular* is therefore regarded as key to knowledge management *in general*.

Knowledge sharing has also become an important focus in the strategic management field, where knowledge is seen as “the most strategically-important resource which [organizations] possess,” (Grant, 1996, p. 376) and a principal source of value creation, (Nonaka, 1991; Spender & Grant, 1996; Teece, Pisano & Shuen, 1997). Indeed, “in many industries, the importance of developing abilities to better utilize the knowledge contained in the firm’s network has become apparent...Benchmarking has demonstrated the potentially great benefits of best practices transfer. Instances of failure in downsizing, on the other hand, have revealed the costs of losing knowledge. Empowerment and globalization have created local knowledge with potential for utilization elsewhere, and information technology has given individuals increasingly differentiated knowledge, unknown to [the] head office,” (Bresman, Birkinshaw & Nobel, 1999, p. 441). Moreover, the very basis for some organizational activities is the sharing of knowledge both between units and with outside partners and clients.

Knowledge sharing has been viewed from two theoretical perspectives in this literature. Beginning with Roger’s (1983) investigations of early and late
adopters of technological innovations, and more recently with Szulanski’s (1996) study of best practices transfers within organizations, many researchers have used communications theory (Shannon & Weaver, 1949) to examine in particular the factors that make knowledge transfers difficult. According to this theory, “a transfer of knowledge is likened to the transmission of a message from a source to a recipient in a given context. Characteristics of the message or the situation that limit the amount of knowledge that can be transferred render the transfer stickier” (Szulanski, 1996, p. 438). More recently, organizational learning theories have become a central focus in this field, as successful knowledge transfers are increasingly seen as requiring an ongoing process of learning interactions, rather than just a series of communications (Szulanski, 2000).

Research work on knowledge sharing is often described with reference to particular goals of enhanced organisational capabilities. The power of knowledge sharing to turn a range of individual competencies into a collective resource to support subsequent action is acknowledged (Huysman & De Wit, 2002, p. 33).

The above approach is also illustrated in several papers presented at the annual European Conferences on Organisational Knowledge, Learning and
Capabilities (OKLC), for example the work presented in 2002 on knowledge sharing in inter-organisational communities of practice

According to Bart Van and Ridder (2004) “knowledge sharing is the process where individuals mutually exchange their (implicit and explicit) knowledge and jointly create new knowledge, this process is essential in translating individual knowledge to organizational knowledge” consists of both bringing (and “donating”) knowledge and getting (or “collecting” knowledge). Knowledge collecting and knowledge donating are active processes, either actively communicating to others what knows, or actively consulting others in order to learn what they know”.

And King and Marks, (2006) also agree that one of the strategies to support the idea of social exchange of knowledge from an individual to the organization and vice versa is to develop the concept of perceived organizational support (POS) through which individuals become committed to their organizations. “The perceived organizational support develop the global belief concerning the extent to which the organization values their contributions and cares about their well being. High levels of POS create the feeling of obligation in the employee, where by the employee will feel obligated to support organizational goals”.
According to Adenfelt and Lagerström (2006) knowledge sharing “is defined as the provision or receipt of knowledge, shaped by the subsidiary sharing and the subsidiary receiving knowledge. The actual process of knowledge sharing needs interaction and communication between those sharing and those receiving knowledge and the knowledge developed by one subsidiary can be shared and used by other subsidiaries”.

Knowledge sharing is increasingly viewed as critical to organizational effectiveness (Quigley et al., 2007). It is argued that knowledge sharing among employees significantly impacts the performance of both public and private sector organizations (Silvi and Cuganesan, 2006). As a result, knowledge sharing has gained importance in organizations seeking to gain a competitive edge (Felin and Hesterly, 2007).

However, knowledge sharing is challenging in organizations for two reasons. First, employees’ tacit knowledge, by its very nature, is difficult to transfer. Second, knowledge sharing is typically voluntary (Lin et al., 2008). Organizations can manage knowledge resources more effectively only if employees are willing to share their knowledge with colleagues. To facilitate
knowledge sharing among public employees and across agencies, it is essential to understand the factors influencing employees’ willingness to share knowledge. Accordingly, there is a significant amount of research on factors that may influence knowledge sharing in organizations. However, most research on knowledge sharing has been conducted in private sector organizations (e.g. Hara and Hew, 2007, 2006)

Wang and Noe (2010) argue that knowledge sharing “is the fundamental means through which employees can contribute to knowledge application, innovation, and ultimately the competitive advantage of the organization. Knowledge sharing between employees and within and across teams allows organizations to exploit and capitalize on knowledge-based resources. Research has shown that knowledge sharing is positively related to reductions in production costs, new product development projects, team performance, firm innovation capabilities, and firm performance including sales, growth and revenue from new products and services.

Wan and Noe (2010) also affirm that knowledge sharing “refers to the provision of task information and know – how to help others and to collaborate with others to solve problems, develop new ideas, or implement policies or
procedures. Knowledge sharing can occur via written correspondence or face-to-face communications through networking with other experts, or documenting, organizing and capturing knowledge for others”.

Yang (2010) states that “knowledge sharing is a value added activity in the value chain of the organization. This implies that the more experts in an organization share their knowledge, the more value is added to the chain. Firms that encourage the free circulation of information and knowledge within the organization appear to come up with the better products faster, and use fewer man-hours in doing so”.

Another conclusion of the information presented in this literature review is that “knowledge sharing may be facilitated by having a less centralized organizational structure, creating a work environment that encourages interaction among employees, encouraging communication across departments and informal meetings” (Wang and Noe, 2010).

WORTH OF KNOWLEDGE SHARING

Chapter 2 of the business text Working knowledge (Davenport & Prusak, 1998) provides an overview of knowledge sharing in a knowledge “market”.

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Individuals trade resources in an environment that is supported by an adequate infrastructure (Davenport & Prusak, 1998, pp. 25-52). Nahapiet & Ghoshal (1998) also discuss this concept. In the market place it is assumed that knowledge is a private good. It is at the discretion of the owner of the good(s) to decide whether or not to share it(them). Knowledge sellers calculate the worth of sharing their knowledge with knowledge buyers. Knowledge buyers work out whether they are able to offer something in exchange. Each party weighs up benefits of the potential exchange: “people’s time and energy are limited and they will choose to do what they believe will give them a worthwhile return on those scarce resources” (Cohen, 1998, p. 31).

It can be argued that in the context of an organisational knowledge market, the knowledge seller is usually an employee and the knowledge buyer is often perceived as the firm. For this reason some are of the opinion that organisations should explicitly offer to repay individuals who engage in knowledge-sharing activity (Samitt, 1999, p. 50; Van der Spek & Kingma, c2000, p. 27). According to the literature, risk taking is important to organisations hoping to create new knowledge since “distinctly new knowledge comes from experimenting” (Fahey & Prusak, 1998, p. 272). Often organisations are constrained by established standardised approaches to collecting and structuring data, and to transferring
information. This results in an emphasis on simply refining and sharpening what is already known (Fahey & Prusak, 1998, p. 272).

Employees retreat into purely analytical modes of operating with “such strong preferences for analysis over intuition that no one dares offer an idea without ‘hard facts’ to back it up” (Leonard & Sensiper, 1998, p. 126). Permission to experiment at the local level is therefore important to the quantity of knowledge-sharing activity in an organisation. In environments that sanction experimentation there is “greater openness to the potential for value creation through exchange

Successful knowledge sharing results in firms mastering and getting into practice product designs, manufacturing processes, and organizational designs that are new to them (Nelson, 1993). As evidenced by the title of Richard Nelson’s recent volume on technology transfer, Technology, Learning, & Innovation (Kim & Nelson, 2000), knowledge sharing is seen as occurring through a dynamic learning process where organizations continually interact with customers and suppliers to innovate or creatively imitate. Consider the case of technology transfer as articulated by Lall (2000, p.15):
PLATFORM FOR KNOWLEDGE SHARING

Face-to-face interaction is recognized as an effective conduit or medium for knowledge sharing (Pierce, 2000). This conventional mode is using normal human conversation that can facilitate the transfer and sharing of knowledge among the communities. On contrary, there is another mode of interaction that is become more popular since the emergence of the latest technology. People nowadays are utilizing virtual mode and web-based technology such as Internet, Intranet, social media and other online platform. This is where knowledge can be extracted, shared and distributed around the globe and people are starting to interact and socialized using the latest online media and technology. On that note, many scholars have identified the virtual environment as an effective platform for knowledge sharing and collaboration (Saenz, Aramburu and Rivera, 2010).

PROCESS OF KNOWLEDGE SHARING

A popular classification of knowledge processes of Davenport and Prusak’s (1998) is found within the literature which captures the complexity of knowledge and aligns with people’s understanding in business settings. There are essentially four knowledge processes in this classification: knowledge generation, knowledge codification, knowledge sharing, and knowledge application. Other researchers may use different terminologies, but their classification is pretty similar with these
four processes (Feng, Chen & Liou, 2005). Taking a closer look at the four processes, knowledge sharing can enhance knowledge creation which is a social process involving sharing tacit knowledge (Nonaka & Takeuchi, 1995). In another words, the purpose of knowledge sharing is knowledge generation that helps sustain organizations in a competitive market.

Therefore, it is obvious that all four processes in knowledge management are highly related and knowledge sharing is the core part. Knowledge sharing is the process where individuals mutually exchange their (implicit and explicit) knowledge and jointly create new knowledge. A number of scholars have defined knowledge sharing; for instance, Ardichvili and his colleagues (2003) note that knowledge sharing consists of both the supply of new knowledge and the demand for new knowledge. Grotenhuis and Weggeman (2002) distinguishes between a “knowledge source” and a “knowledge receiver” in knowledge sharing process. Without the capacity for sharing knowledge, no business network can utilize the specialized resources and capabilities of its members, nor can it co-produce new knowledge.

Thus, knowledge sharing is a critical factor in terms of its relative competitiveness (Bhagat et al., 2002). Besides, although these four processes exist
distinctively in theory, they are interwoven in real practice, for instance, knowledge generation happens during knowledge sharing (Nonaka & Takeuki, 1995). Therefore, it is reasonable to say that knowledge sharing captures the main organizational activities toward managing knowledge efficiently. On the other hand, according to Ford and Chan (2003), knowledge sharing is one of the most challenging processes for a knowledge based enterprise due to employees’ possible reluctance to share what they know. Given the importance and challenges of knowledge sharing, this paper attempts to identify the major cultural dimensions on an individual’s knowledge sharing process in organizations.

**IT & KNOWLEDGE SHARING**

The field of knowledge management has traditionally been dominated by information technology and technology-driven perspectives (Davenport, De Long, & Beers, 1998; Gourlay, 2001). However, this turned out to be an ineffective approach to knowledge management. It has been criticized that most of the failure was due to overemphasis on building technology infrastructures and lack of attention to human factors such as the social, cultural, and motivational issues (Garavelli, Gorgoglione, & Scozzi, 2002; Malhotra, 2002). Knowledge management systems are often driven by technology.
McDermott and O’Dell (2001) analyzed the relationship between Information Technology (IT) support and knowledge sharing within an organization. They found that there was a relationship between IT support and the perceived relative advantage (i.e., the degree to which knowledge sharing was perceived to benefit the conduct of business) of knowledge sharing and the perceived compatibility (i.e., fits into the business process). They also concluded that IT support negatively affected the perceived complexity of knowledge sharing. Like McDermott and O’Dell (2001), Bock and Kim (2002) identified a positive relationship between the level of information technology usage by the individual and his or her knowledge sharing behavior. Indeed, most of the research evidenced a positive relationship between the use of technology and knowledge sharing intentions.

Devedzic (2001) listed the technologies thought to be knowledge sharing and knowledge management enablers. These included ontologies, document retrieval software, groupware, intranets, knowledge-based systems, pointers to people, decision support systems, data mining, and intelligent agents. However, Alavi, Kayworth and Leidner (2005/6) found that the values of organizational members influenced the ways in which technologies were used, implying that
organizations cannot expect uniformity in the ways in which different groups will use knowledge management tools.

King, Marks and McCoy (2002) studied knowledge management practitioners and found that the success of knowledge management rested on an IT infrastructure. Such applications included: a) knowledge repositories, which are databases that allow the storage and retrieval of knowledge; b) best-practices and lessons-learned systems, which are knowledge repositories used specifically for the explication, storage and retrieval of business best practices and in making lessons learned available to others; c) expert networks, which are networks of individuals identified as experts and electronically accessible by others who have questions related to that expertise; d) communities of practice, which are electronically-enabled networks of self-organizing groups whose members share professional interests.

MODE OF VIRTUAL TECHNOLOGY IN KNOWLEDGE SHARING

a. Online Message Boards

This platform is an online forum where people can interact and discuss thought or ideas and share their knowledge on various topics. This forum also allows participants to choose which thread or board of discussion, users would like
to read or contribute and other respondents can follow the discussion by adding their own post to that thread (Browder and Elstrom, 1997).

**b. Online Collaboration/Chat Rooms**

The development of this collaboration platform started as the medium that allowed users to talk and interact to whoever was online at the same time they were. In this mode of interaction, messages and information were sent and online users could immediately received and respond back in real time. Instant messaging such as Yahoo Messenger and Microsoft Network (MSN) Messenger are two common platforms that provide collaboration facilities that include an input box, a message window and a participant list (Phelps, 2010).

**c. Social Network Platform/Services**

Andreas Kaplan and Michael Haenlein (2010) has define social network as a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, which allows the creation and exchange of user-generated content. This platform is the most prominent type of virtual platform nowadays. For instance, Facebook, Twitter, Friendster and other social network services are commonly used to connect people and maintain their virtual relationship. These
platforms will allow participants to gather in the cyberspace and enable them to keep up to date with their friends and acquaintances’ activities.

d. Blog

Oxford Advanced American Dictionary (2011) has defined Blog as a website where a person writes regularly about recent events or a particular topic, sometimes with new information added every few minutes as events happen, and with the opportunity for readers to send in their own comments and opinions. Blog is also defined as a chronological publication of personal thoughts and web links. Brady (2005) cited that blogs have gained a lot of popularity among Internet users as a useful communication tool. According to this scholar, blogs have been discussed lately as an innovative knowledge sharing technology for knowledge management. Functions such as permanent links, track-back and comments enable bloggers to be interactive and allow people to more actively participate in information and knowledge generation.

KNOWLEDGE MANAGEMENT & KNOWLEDGE SHARING

Knowledge can be defined as a fluid mix of framed experiences, values, contextual information and expert insight that provided a framework for evaluation and incorporating new experiences and information (Davenport, & Prusak, 2000).
In an organization, it is embedded in the minds of its employees, as well as in organizational routines, processes, practices and norms, sometimes referred to as socially constructed templates (Guzman, & Wilson, 2005).

The realization of organizational knowledge depends on people who interpret, organize, plan, develop and execute those socially constructed templates. Most importantly, organizational knowledge depends on specific situations and does not always depend on absolute truths or quantitative facts. Thus, one can conclude that organizational knowledge has some soft features, which are related to the subtle, implicit, embedded, sometimes invisible knowledge, presumptions, values and ways of thinking that permeate an employee’s behavior, decisions and his or her actions. Ultimately, organizational knowledge is complex and ambiguous.

Knowledge sharing can be compared to organizational citizenship behavior or pro-social organizational behavior. These are positive social acts carried out to produce and maintain the well-being and integrity of others (Connelly, & Kelloway, 2003). Pro-social behaviors include acts such as helping, sharing, donating, cooperating and volunteering. Knowledge sharing is not necessarily synonymous with pro-social behavior. Indeed, knowledge sharing may involve
significant effort or sacrifice. Yet, one of the critical success factors for knowledge creation, transfer and sharing was that employees willingly contribute their knowledge or expertise to the company (DeTienne, Dyer, Hoopes, & Harris, 2004).

CULTURE

According to Schein (1985), the construction of culture has resulted from the interaction of people and their environment. In essence, the content of culture consists of a set of underlying norms and values of behavior, shared by a group of people. Also, culture presents itself on different levels: at the highest level is the culture of a national or regional society, which can be called national culture; the way in which shared attitudes, values, goals, and practices are expressed within a specific organization is described as corporate or organizational culture; people within the same occupation will tend to share certain professional and ethical orientations, which form a professional culture. All of these layers of culture can jointly impact an individual’s behavior in the knowledge sharing context.

In discussions of knowledge management, knowledge economy, and the knowledge-based view of the firm (Grant, 1996) culture is prominently present. Culture is particularly seen as a potential source of barriers for processes such as
knowledge sharing and development (e.g., see De Long & Fahey, 2000; McDermott & O'Dell, 2001). Many authors argue that a culture can be more or less ideal for valuing knowledge and managing it, as shows in such terms as the knowledge culture (Banks, 1999; Bonaventura, 1997; Smith, 2003), the ‘sharing culture’ (Comeau-Kirchner, 2000; Damodaran & Olphert, 2000; Davenport, De Long, & Beers, 1998; Neef, 1999), the knowledge-centered culture’ (Janz & Prasarnphanich, 2003) or the knowledge-friendly culture (Davenport et al., 1998). Such concepts refer to a culture of openness and trust, a culture in which learning is appreciated and in which experience, expertise and knowledge are considered more important than hierarchy

(Möller & Svahn, 2004; Trompenaars, 1994). Although knowledge management literature thus far has mainly focused on organizational culture, this paper attempts to extend the focus to other dimensions of culture too, national culture and professional culture in an integrative manner. Next, each of these three layers of culture is discussed as well as how it may impact an individual’s knowledge sharing

Within the organisational learning literature, there is a strong emphasis on the cultural perspective of the learning organisation (Wang and Ahmed, 2003).
According to Berg and Wilderom (2004) organisational culture forms the glue which holds the organization together and stimulates employees to commit to the organisation and to perform. Morrison, Brown and Smit (2006) state organisational culture can be a dysfunctional factor. Nonaka (2007) describes metaphor as a distinctive method of perception. It is a way for individuals grounded in different contexts and with different experiences to understand something intuitively through the use of imaginations and symbols without the need for analysis or generalization.

According to Ordinez de Pablos (2006), the competitive environment provides a unique opportunity to examine how organisational globalisation is affecting knowledge transfer and organisational learning in a globalised world. Ordinez de Pablos (2006) states every foreign subsidiary provides some geographically unique knowledge which allows parent to exploit opportunities that exist in local resource and/or markets, the competitive advantage of trans-national organisation lies, to a great extent, in its ability to identify and efficiently transfer strategic knowledge between its geographically dispersed and diverse locations.

Interestingly, Ojha (2005) also found a relationship between organizational tenure and knowledge sharing. A long organizational tenure had a negative effect
on knowledge sharing. One employee commented in a study by MacKinlay (2002) that he felt he was being asked to give himself away when asked to share his knowledge. There are many reasons for this type of fear. For example, long term employees might feel threatened by those they consider to be possible replacements for their positions or they might feel a level of discomfort in dealing with newer, and often younger, arrivals

Organizational culture influences knowledge-related behaviors in four ways: a) culture, particularly sub-cultures, heavily influences what is perceived as useful, important or valid knowledge in an organization; b) culture mediates the relationship between levels of knowledge, i.e., it dictates what belongs to the organization and what knowledge remains in control of the individual employee, determining who is expected to control specific knowledge as well as who must share it and who can hoard it; c) culture creates a subtext for social interaction in that it represents the rules and practices that determine the environment within which people communicate, i.e., the cultural ground rules; and d) culture shapes the creation and adoption of new knowledge (DeLong, & Fahey, 2004).

Ardichvili et al. (2006) discussed cross-cultural differences in knowledge sharing patterns based on three criteria: individualism versus collectivism, in-group
versus out-group orientation, and fear of losing face. Individualism is the tendency of people to place their personal goals ahead of the goals of the organization, while individuals from collectivist cultures tend to give priority to the goals of the larger collective, group or company to which they belong. Essentially, members of individualist cultures, like the United States, view themselves as independent of others, whereas members of collectivist cultures (e.g., China, Brazil and Russia) see themselves as interdependent with other members of their group.

Zheng, et al. (2010) said that organizational culture is a source of sustained competitive advantage and it is a key factor to organizational effectiveness. Organizational culture does not directly lend its influence on organizational effectiveness; rather, it exerts its influence through shaping the behaviours of knowledge workers. Widen-Wulff (2007) write a book about knowledge sharing in organisation and said that the actual information use in work place is shaped by environment which is built from institutional, organizational and personal elements. Information as a resource in an organization should be supported by an open and active information culture. Overcoming the cultural barriers to sharing information and knowledge has more to do with how you design and implement your management effort into the culture than with changing the culture. Awareness of cultural dimensions and widely held core values helps to link knowledge sharing
efforts with the common interest. Visible connections between knowledge sharing and practical goals are then possible. Perlitz and Seger (2004) discussed four dimensions for analyzing the culture differences presented by (Hofstede, 1991)

TxDOT conducted a comprehensive software review in 2002 to select a collaborative tool for supporting knowledge sharing. As a result of this review, the Human Resources Division of TxDOT selected Meridian KSI Knowledge Centre™, a product of Meridian Knowledge Solutions, Inc., in January 2003. One of the primary strengths of Meridian KSI Knowledge Centre™ is its capability to combine the functionality of a robust knowledge management system, a learning content management system, and a competency management system (CMS).

ROLE OF IT IN KNOWLEDGE SHARING

The selected software system includes capabilities for knowledge capture, knowledge repository, and knowledge dissemination among members of a community of practice. TxDOT has initiated the implementation of Meridian KSI through development of i-Way, a customized TxDOT portal. At the current time, the Information Systems Division of TxDOT is in the final stages of interfacing this software with existing departmental e-mail services. As part of our software product review, a brief description of alternative knowledge management systems
available on the market is included. The intention of this software product review is to document alternative technologies with similar functionalities to Meridian KSI.

Sowe et al. (2008) analysed knowledge sharing in Free and Open Source software (F/OSS) projects. One of the authors findings in terms of sharing knowledge in F/OSS is that it is a synergistic process – “you get more out than you put in” (p. 432).

The hospitality industry relies heavily on IT as a means of connecting people and for distributing reusable codified information (Sheldon 1997, as cited in Hallin and Marnburg, 2008). Three common IT applications in KM are; coding and sharing of best practices, creation of corporate knowledge directories (mapping internal expertise) and the creation of knowledge networks (online interactive forums). Other technology used for knowledge sharing include groupware, intranet, e-mail, discussion forums, and e-bulletin boards (Alavi and Leidner, 2001; Bender and Fish, 2000). Moreover, e-learning can also work as a training tool for improving knowledge sharing behaviour (Wild et al., 2002; Center for
Workforce Development, 1998). However, these authors emphasise connecting people with what is codified rather than human face-to-face interaction. This may be cause problems in the industry as this approach ignores the complex dynamics of face-to-face interaction that can bring so much value to organizations and bring competitive advantages (e.g. Nonaka 1991; Cooper 2006; Hendrik, 2001; Polanyi 2009).

Knowledge Sharing Culture in an Organisation

Ruppel and Harrington (2001) tried to explore the factors affecting the implementation of intranets. A survey was constructed and used to obtain as broad a cross section of organizations as possible and compare across these organizations the effect of different culture types on intranet implementation. As, Intranets facilitate sharing of employee knowledge, and most people believe that organizational culture will influence intranet implementation. The results of this study found that intranet implementation is facilitated by a culture that emphasizes an atmosphere of trust and concern for other people (ethical culture), flexibility and innovation (developmental culture), and policies, procedures, and information management (hierarchical culture).
A further enabling condition for motivating knowledge sharing discussed by Huysman and De Wit (2002) is related to how managers present knowledge-sharing programmes to their staff. They should consider “whether the initiatives comply with both the organizational as well as the individual’s needs” (p. 135), bringing benefit to both (p. 132). If this is not the case, any initiatives fall victim to what Huysman & De Wit (2002) label the “management trap” (p. 9) and consequently suffer a short life-span (p.2). This is most commonly seen in organisations that focus on database repositories held on intranets as their main tools for knowledge sharing (p. 132).

Huysman & De Wit (2002) cite a case where the head office managers of a company required local office staff to provide their details online. This was simply for the convenience of head office visitors to the branches. Compliance with this request was low since the employees’ perspective was that this was an additional chore that was of little benefit to local needs (p. 132). It is easier for some organisations to align individual and organisational needs. This is most obvious where the enterprise has a strong mission. Greenpeace and the World Bank are cited as examples of organisations that are able to promote knowledge sharing as in the interests of both parties (p. 135).
As organizations grow in size, geographical scope, and complexity, knowledge sharing is crucial because it helps organizations promote best practices and reduce redundant learning cycles (Hanse, 2002; McDermott & O’Dell, 2001). Also, there is growing realization that knowledge sharing is critical to knowledge creation, organizational learning, and performance achievement (Bartol & Srivastava, 2002).

According to Drucker (2003) there is no such thing as the one right organisation. There are only organisations, each of which has distinct strengths, distinct limitations and specific organisations. Newell, Robertson, Scarbrough and Swan (2002) state shared values and attitudes shape organisational behaviour.

According to Heath (2003) knowledge management has been a ten year ‘buzzword’, yet few successful knowledge management projects have been written up in literature and few organisations seem to claim strategic advantage from knowledge management. Heath (2003) states knowledge management is not really about the management of knowledge.

It is more properly concerned with the establishment of appropriate policy, technical, managerial and cultural infrastructures in which knowledge can be more
effectively created, shared and used. Rebernik and Sirec (2007) proposed a
typology of attributes needed to create new knowledge and likened tacit knowledge
to the iceberg: much of it lies beneath the surface of the organisation

According to Bart Van and Ridder (2004) “people are more willing to share
their knowledge if they are convinced that doing so is useful, if they have the
feeling that they share their knowledge in an environment where doing so is
appreciated and where their knowledge will actually be used”. Wang and Noe
(2010) have found that “employees may decide to share knowledge because they
enjoy helping others or as a result of reciprocation; employees may perceive
knowledge sharing as a learning opportunity”.

H.J. Hendrics (2004), Assessing the role of Knowledge Sharing Culture,
explains Understanding knowledge sharing as culturally determined behavior of
individuals in groups leads to considering knowledge sharing as defined within two
dimensions: firstly, the presence of group cultures as culture types; secondly, the
behavior of individuals as their way to react to existing culture aspects and their
behavioral patterns to maintain or reform those cultures. The first two diagnosis
steps described above will outline these dimensions, sketch how an organization
scores on these dimensions and thereby provide a steppingstone for the third
diagnosis step. Although these steps produce useful information for assessing the role of organization culture in knowledge sharing, inevitably they outline an overall picture

According to the National Defence University (undated) there is no single definition for organisational culture. Berg and Wilderom (2004) defined organisational culture as shared perceptions of organisational work practices within organisational units that may differ from other organisational areas. Alavi, Kayworth and Leidner (2005) found individual communities’ perception of knowledge management technology is shaped by their embedded values which lead to different patterns of technology use.

Lopez, et al. (2004) conducted research and analysed the impact of organizational culture on knowledge management and also on the performance of the firm. In this empirical research author investigated on the 195 Spanish firms with the help of technique that is known as structural equation modelling (SEM). Authors used the postal survey to compile the information. This survey was submitted in the academic field, to evaluation of several researchers in which most were expert on knowledge management. The response rate of this survey was seven percent. The result of this research showed that collaboration culture has a
significant effect on the business performance. Collaboration is built upon the trust among workers. Collaborative culture must change with the help of learning and attitude for the improvement of performance.

According to Lee and Seok Lin, (2005), “Individuals, teams and organisations leading and sustaining change need to develop the following three core capabilities”, and cite required core capabilities based on work by Peter Senge. They include:

1. **Aspiration.** Focus on the creative as opposed to the reactive, developing a clear sense of purpose and vision at both the individual and organisation level

2. **Generative conversation.** Focus on expanding our capacity to be more reflective in our thinking and to become more generative when we think and talk, as to enhance the quality of collective thinking and understanding in the team.

3. **Dealing with complexity.** Focus on internalising perspectives and skills that allows us to better understand and manage systemic interconnections that produce complex organisational dynamics
Widen-Wulff and Suomi (2007) developed a framework for creating an organization-wide knowledge sharing information culture, which included sources, organizational learning and business process re-engineering. They asserted that the organization needed to provide basic resources like technology. Once the resources were made available, the organization must ensure that the basic resources were turned into a competence, i.e., employees knew how to exploit these resources. The authors also asserted that the concept of organizational learning must be embedded in the organization. Most importantly, it was imperative to recognize that an organization’s workforce was more than merely a collection of expert individuals. These experts had to hone their skills to adapt and distribute their expertise through official and unofficial networks. Thus, the authors suggested that effective knowledge sharing be rewarded.

According to He, et al. (2009) benevolence trust is more relevant than are ability and integrity as far as knowledge-seeking behaviours in KMS is concerned. The willingness to help and do well to other, unfamiliar KMS users really matter a lot to the knowledge seekers. Trust in systems may deal with technology itself and security, privacy, or sometimes the quality of data. Level of trust directly influences the extent of knowledge disclosure, and sharing between and among different parties. According to Ines (2011) if organizations don’t have culture of
trust within a company and across country cultures no one will share learning”s or other valuable stories for continuous improvement processes or simple successful project implementations.

An empirical study by García-Muiña et al. (2009) conducted in Spanish biotech companies investigated impact of knowledge codification on innovation. The authors investigate both incremental and radical innovations in this context. They also evaluate how corporations can protect themselves by building barriers to imitation and substitution. Their research empirically tested hypotheses on a population of knowledge-intensive firms in the biotechnology sector in Spain. All of the hypotheses proved to be true – i.e. there is a positive impact of knowledge codification on innovation as well as necessity to protect new ideas.

An empirical comparison of the impact of cultural differences on knowledge sharing was done by Jiachenga et al. (2010). The results of the survey they conducted in China and the US suggest that rewards have little direct effects on final intentions, but may influence attitude indirectly via identification (p. 220). Punishment for not sharing is heavily culture dependent with Chinese tending to comply to avoid opposing their group and Americans rather following a more individualistic path. Chinese were seen to have more tendencies to conform to
teams’ opinions and seeking a way to favour KS as a means of achieving harmonious relationships. On the other hand, Americans engage in KS because self-worth is viewed as the manifestation of their individual determinations.

**Communities of Practice**

The concept of communities of practice (CoPs) was first identified by Lave and Wenger (1991) and Brown and Duguid (1991). A useful definition of CoPs is “groups of people informally bound together by shared expertise and passion for a joint enterprise” (Wenger and Snyder, 2000). They might form within an organization, or across organizational boundaries. Naturally, CoPs are likely to form a key element of any personalisation strategy towards KM. There is still debate in the literature as to whether CoPs can be “constructed”, or encouraged, or merely have to be left to emerge (or not) by themselves. In our own research (Edwards et al., 2005a), we found an example where a CoP had arisen naturally to connect new staff with experienced staff in a research and development organisation, but even relatively limited attempts to provide more formal support for it only succeeding in killing it off.

Communities of Practice are a common knowledge sharing or transfer technique. In a Community of Practice, groups of individuals share knowledge
about a common work practice over a period of time, although they are not part of a formally constituted work team. Communities of Practice often cut across traditional organizational boundaries. The purpose of this organizational structure is to enable individuals to acquire new knowledge more quickly. Jakobson (2008) documented the use of Communities of Practice at the Des Moines-based Weitz Company. Weitz implemented Communities of Practice as a way of enabling its workforce, which exhibited a wide diversity in ages, to collaborate more effectively. Weitz invested in its employees through a variety of methods including job rotation, shadowing programs, executive internships and mentoring. However, older Weitz employees were suspicious that the mentoring program was designed to drain their experience before terminating them. To counter this negative feeling about mentoring, Weitz created Communities of Practice in which junior and senior employees came together to share best practices; thus, the senior employees were not just offloading knowledge.

In A Handbook on Knowledge Sharing: Strategies and Recommendations for Researchers, Policymakers, and Service Providers, Lily Tsui described that Collaborations and partnerships may grow out of a community of practice (CoP), or a CoP may emerge from sustainable partnerships. A community of practice is a group of people who regularly interact with one another to share and learn based
on their common interests. Some knowledge-sharing professionals believe that these communities are necessary for both the creation and transfer of knowledge, where people learn by doing and interacting with others. The establishment of CoPs may help partners and collaborators overcome four barriers to knowledge sharing:

- **Awareness.** CoPs increase community members’ awareness of one another’s knowledge.
- **Access.** CoPs provide time and space for community members to connect with one another.
- **Application.** CoPs ensure that community members share the common language and understanding necessary to share their insights.
- **Perception.** CoPs create an atmosphere where knowledge sharing among community members are respected and valued.

Also, participants of traditional CoPs meet face to face to discuss and share knowledge. However, modern ICT technologies enable participants to enjoy the benefits of being part of community irrespective of residing at different geographical locations and time zones. They use ICT tools ranging from email to virtual conference technologies to “extend the boundaries of traditional face-to-face communities by creating virtual communities that enable global asynchronous
and realtime collaboration” (Usoro et al., 2007, p. 200). It is their reliance on computer mediation that adds “virtual” dimension to the name of CoPs; hence “virtual communities of practice” (VCoPs).

Technology is an enabler of the VCoPs’ main activity, i.e. “an active participation of a substantial part (ideally, all) of its members” (Ardichvili et al., 2003, pp. 65-66). Participants can play two distinguishable roles: either a provider or receiver of knowledge. Most studies emphasise the knowledge provider’s rather than the receiver’s perspective (e.g.: Chow & Chan, 2008; Lin et al., 2009; Yang & Farn, 2009; Willem & Buelens, 2009; Van den Hooff & Huysman, 2009).

PREIDCTORS OF KNOWLEDGE SHARING

1. Transformational leadership

It was identified by Kelloway and Burling (1999) as a potential predictor of knowledge sharing. Leadership –commitment to knowledge sharing has also been identified by Martiny (1998) as a key consideration. According to her survey, uncertainty about leadership commitment to knowledge sharing was the key challenge. Also they explain that knowledge sharing must be voluntary, In fact, “When lower level workers are ordered to “share” information with those higher up
to the corporate ladder, a cutthroat information culture of meddling micromanagement can result” (Davenport, 1994)

2. Social Interaction:

In an organisation with a positive social interaction climate, both management and employee socialize and interact frequently with little regard for their organisational status. Kelloway and Barling (1999) suggest the importance of social interaction with respect to knowledge sharing. Benefits a positive social interaction climate, with respect to knowledge sharing, include employees who are more knowledgeable about their colleagues, and who trust the most completely, and as willing to share knowledge with them as a result.

3. Affinity Group

Affinity group are developed along these principles, and according to Kelloway and Barling (1999), can play an important role in knowledge sharing in an organisation. An integral component of affinity groups is that each group’s members have the same position or job title in the organisation. This encourage all members to share their ideas, and the groups’ participants must demonstrate either personal or expert power for their ideas and concerns to be heard (Orr, 1996; Van Aken, Monetta and Sink, 1994). Employees will not share knowledge among all
group members if the groups are constrained by hierarchial or perceived power imbalances—people are inhibited by their superiors. In fact, hierarchial organisation are not likely to fully engage the skills and knowledge of all employees (Vallas, 1998).

4. Trust

Trust is important for knowledge sharing because both are predicted on reciprocity and exchange. Individuals will be less likely to volunteer knowledge. If they do not expect the gift to be missed or not reciprocated. In fact, access to certain resources, such as political aid, sensitive information, organisational ‘gossip’ and political intelligence is contingent on trust (Prodolony and Baron, 1997).

Trust has an effect on greater creativity, commitment, professional satisfaction, and better performance both of individuals and of the organisation (Ines, 2011). Mignon and Janicot (2009) conducted study on consultancy firms and talked about the principal dimensions of sharing culture. According to their views there are two main dimensions, participation and trust.
5. Rewards

Kelloway and Barling (1998) have explained that in order for employees to share their knowledge, they must be rewarded for doing so. A collective organisation will generally provide rewards equally to all members, while an individual organisation will prefer to allocate the rewards equally (Lemng and Bond, 1984).

Pleffer (1999) considers too much destructive internal competition to be a serious impediment to the effective functioning of organisation. He observes that “even though companies talk about knowledge sharing, many indeed most-compensation, evaluation and incentive schemes pit employees against each other. And then people wonder why there isn’t enough learning from each other, (P 31)

Albert and Picq (2004) asserted that most companies do not provide individual rewards based solely on the ability to learn or to share knowledge. Bock and Kim (2002) found no relationship between the use of rewards and knowledge sharing. Instead, they concluded that promoting a positive attitude towards knowledge sharing caused a positive intention to share knowledge. However, Hutchings and Michailova (2004) recommended that the group, rather than the
individual, be rewarded. Kwok and Gao (2005/2006) theorized that extrinsic motivation was not an influential variable; thus, it should not be necessary to establish reward systems. They suggested that more effort should be given to reinforce employee absorptive capacity (i.e., the ability to acquire, assimilate and use knowledge) and knowledge transmission mechanisms. They suggested that employees with closely-aligned knowledge bases should work together more frequently for knowledge sharing. They asserted that greater learning performance resulting from their large absorptive capacity would lead to favorable attitudes toward knowledge sharing and outstanding sharing environment.

Ramlee (2011) describe based on his study in one of the government agency in Malaysia that indicated about people’s high expectation to be rewarded in terms of recognition and promotion as one of the vital predictors for implementation of knowledge sharing culture. This author also suggested that the implementation of this sharing culture is dependent on changing of the staff’s attitude and behaviours to share the knowledge willingly.

6. Demographics

Certain demographic variables may also influence whether an employer will choose to share their knowledge. Employees with shorter tenure are more likely to
share information according to Shemerhorn (1997), even though tenure was not associated with organisational citizenship behaviour (Organ and Ryan, 1995). Gender was also not found to be a significant predictor of organisational behaviour. Organisational size may be related to knowledge sharing, if employees is smaller, organisations are more likely to interact with each other socially.

7. Technology

Computers have drastically reshaped the way we collect and distribute information. They have become so popular that we see and use them in many different parts of our lives. Communication can become a reality that we can carry around in a pocket or briefcase. New devices and services will speed our entry into the Information Highway by giving us round-the-clock access to people and data (Perugini, 1996).

According to Craig and Steven (1997) employees in the business world are increasingly asked to utilize a growing list of communication technologies. Unfortunately, recent research suggests that employees do not feel prepared to use competently most new communication technologies. While talking to the apprehension associated with the technology they said some new communication technologies remove the oral interaction normally associated with communication
and replace it with a written mode that may induce less apprehension (e.g., computer conferencing); however, several new communication technologies make oral communication more possible (e.g., most phone-based technologies). Many of the new technologies are primarily for communication purposes (e.g., email, online discussions, advanced phone features such as voice mail).

Factors impeding knowledge sharing

As with the technology transfer and innovation research, strategic management scholars have also identified a number of variables that can affect knowledge sharing, notably the nature of the knowledge being shared in terms of its tacitness and embeddedness (Zander, 1991; Szulanski, 1996, Dinur, Inkpen & Hamilton, 1998; Dixon, 2000), the strength of relationship ties between the parties (Hansen, 1999), the learning mind-set and capability of the recipient (Yeung, Ulrich, Nason & von Glinow, 1999), and the transfer activities undertaken (Dinur, et al., 1998; Davenport & Prusak, 1998). In combination, the research and findings of this and the technology transfer and innovation field, as explored in some detail below, provide a rich set of literature from which to identify the critical factors affecting knowledge-sharing success. Before turning to these variables, however, a discussion of knowledge-sharing success is first in order to establish an appropriate focus for an organization’s knowledge-sharing efforts.
Negative influences to knowledge sharing also exist and these can be fears, risks or costs of on-line knowledge sharing. Ardichvili et al. (2003) identified fear of losing face as an impediment to online knowledge sharing. The fear of being laughed at by more experienced members may hinder knowledge provision or even asking questions (knowledge seeking). Jeffrey Cummings, (2003) in his review about Knowledge sharing behaviour with reference to The World Bank Washington, D.C. states that A successful knowledge-sharing effort requires a focus on more than simply the transfer of the specific knowledge. Instead, many of the activities to be undertaken need to focus on structuring and implementing the arrangement in a way that bridges both existing and potential relationship issues, and examining the form and location of the knowledge to ensure its complete transfer. In other words, while the activities used to share knowledge, such as document exchanges, presentations, job rotations, etc., are important, overcoming the factors that can impede, complicate and even harm knowledge internalization are equally important in determining the ultimate results of a knowledge-sharing effort. Accordingly, any evaluations of the Bank’s knowledge-sharing efforts need to incorporate assessments of its use of activities related to understanding the form and embeddedness of the knowledge, establishing and managing appropriate administrative structures, and facilitating the transfer of the knowledge.
For a knowledge provider, it may also be the fear of taking additional responsibility and, even more hindering, losing competitive advantage over others. These fears could be regarded as costs; the fear of losing face can be termed as the cost of losing face, for instance. Kankanhalli et al. (2005b) make the point that “incentives may be needed to encourage knowledge reuse to counteract the inertia to seek knowledge and the propensity of employees to “reinvent the wheel,” i.e., come up with their own solutions to tasks” (p. 1159) which already have existing solutions.

Riege (2005) considered 36 knowledge sharing barriers based on an extensive literature review. He categorized these barriers into three dimensions: a) individual, b) organizational and c) technological.

Reige’s (2005) findings were reinforced by the extensive survey by Sveiby and Simons (2002) of 1,180 staff members in the Australian Transport Union (ATU). They determined that the ATU culture was not conducive to knowledge sharing for a variety of reasons, including: a) no support systems, b) lack of training, c) job security, d) employee competition, e) organizational culture and f) lack of recognition. Many of the barriers Reige described were exhibited in the results of the ATU survey with organizational culture scoring lowest.
There is also a relationship between group compatibility and knowledge sharing. The more compatible a person was with the group in terms of age, gender and other factors, the more likely he or she was to practice knowledge sharing (Ojha, 2005). Conversely, individuals who perceive themselves in a minority (e.g., gender, marital status, education, etc.) are less likely to participate in knowledge sharing. Of particular note is the finding that women participants required a more positive social interaction culture before they could perceive a knowledge sharing culture as positive (Connelly, & Kelloway, 2003). Sun and Scott (2005) confirmed Ojha’s findings. The list of compatibility variables included more than just the obvious traits of age, gender, ethnicity and educational level. Personality differences, communication skills and individual values also factored into the equation (Ojha, 2005).

Effective knowledge sharing is challenging because employees cannot be compelled to do it. Therefore it is important to understand the factors that affect employees’ willingness to share. Several models presenting factors that affect knowledge sharing have been tested in a variety of organizational settings. Some of the variables investigated were analyzed at the individual level, while others examined variables at the team or community level. For instance, Kim and Lee
(2006) examined the impact of organizational structure, organizational culture, and information technology on employee knowledge sharing capabilities. Riege (2005) suggested three-dozen barriers to knowledge sharing, including individual barriers such as formal power and age and gender differences, potential organizational barriers, and potential technology barriers. Ardichvili (2008) proposed that the following factors affect individuals’ willingness to share knowledge:

a. Motivation factors (personal benefits, community-related considerations, and normative considerations);
b. Barriers (interpersonal, procedural, technological, cultural); and
c. Enablers (supportive corporate culture, trust, tools).

Few of those factors have been tested empirically. Furthermore, the empirical research suggests a lack of consensus on the key determinants of knowledge sharing.

In spite of their motivation to share knowledge and enabling factors facilitating such exchange, employees might also be faced with organizational barriers preventing the diffusion of knowledge. Barriers that may prevent employees from sharing knowledge with colleagues include organizational climate and organizational structure. When barriers can be removed and knowledge
sharing promoted, employees can more effectively disseminate and manage their knowledge.

The climate in which individuals work has an impact on knowledge sharing (Zárraga and Bonache, 2003). For instance, in organizations where individual competition is emphasized, employees will not be likely to share knowledge with others at work (e.g. Schepers and van den Berg, 2007; Willem and Scarbrough, 2006). The construct of organizational climate has numerous dimensions. To investigate organizational climate as barriers to knowledge sharing, Zárraga and Bonache (2003) used two dimensions:

1. degree of active empathy and lenience in judgment; and
2. degree of courage.