CHAPTER 2

REVIEW OF LITERATURE

2.1 INTRODUCTION TO KNOWLEDGE

This is the era of Information and Knowledge. The information technology has rapidly moved upwards from being a mere tool for increasing productivity to a more comprehensive enabler of value creation in organizations. Initially, the focus was mainly on tangible assets but from early 1980s the focus shifted towards intangible and intellectual assets. The earlier Resource based view extolled the importance of capabilities and resources that were unique to organizations; firm-specific; distinctive and difficult to copy by competitors (Rumelt, 1984; Wernerfelt, 1984; Barney, 1986a, 1986b). Such resources were considered capable of creating competitive advantage for the organizations as they were valuable and non substitutable. Therefore, the intangible assets gained prominence in strategic management literature with studies claiming that organizations can increase learning; create value; and sustain competitive advantage by developing their intangible assets (Itami & Roehl, 1987). It was also noted that intangible assets such as knowledge cannot be measured directly, therefore, can only be latently identified and inferred through observable capabilities and actions (Stehr, 1992).

Similar argument was put forward by Drucker (1992), who described the shift from tangible to intangible as the movement from "make and move" based productivity to "knowledge and service" based efficiency. Leonard-Barton (1995) also argued that effective marshalling of intangible assets can improve the capabilities of the organization to meet customer expectations and external challenges in a more effective manner on an ongoing basis. These intangible assets were described in terms of Intellectual Capital by Saint Onge (1998). During all these years, the word knowledge was used and explored freely in terms of intangible and hidden assets of the company.

The Knowledge based view (KBV), started replacing the previous Resource based view (RBV) of the organization and by the end of 1990s, a knowledge-based perspective of an organization in the strategic management literature was firmly established (Kogut & Zander, 1992; Nonaka & Takechi, 1995; Spender, 1996a,
Knowledge was considered as the most important resource of the organization and its primary source of competitive advantage. Although, knowledge-based resources were usually difficult to identify and recreate, once created, these knowledge assets were liable to produce long-term sustainable competitive advantage. Nonaka and Takeuchi (1995), stressed upon the importance of developing and harnessing organizational knowledge for the long term effectiveness of any organization. There were some experts who argued that there is not much difference between resource based and knowledge based views and described knowledge perspective as simply an extension of the resource based view (Conner & Prahalad, 1996; Grant, 1996a). By then, two approaches to Knowledge Management were being discussed. The first one was to create competitive advantage through managing knowledge or Knowledge Management initiatives (Pemberton and Stonehouse, 2000). The other approach was to consider knowledge as a resource that can be gathered through experience, can be expressed clearly and can be codified to store and retrieve for further use to create a core competency in an organization (Zander & Kogut, 1995; Zollo & Winter, 2002; Macher & Mowery, 2006).

Denning (2000) presented his seven universal laws of Knowledge Management which are not only relevant but applicable to all sectors and domains. According to him, Knowledge sharing is the key to organizational survival but is generally resisted by employees because they feel loss of control and power. It was also observed that Knowledge Management is not a management paradigm but it is a way of doing the organization’s business.

This theory was agreed to by Davenport and Prusak, (2000) who believed that Knowledge Management plays a critical part in organizational survival and attainment of sustainable competitive advantage in the face of increasingly discontinuous environmental changes. Therefore, organisations in all industries, both large and small, are trying to integrate this new management tool into their systems. Researches in Knowledge Management have now converged on the theme that knowledge should be viewed as a valuable and manageable resource, at par with other tangible assets so as to utilize its full potential (Soo, et al., 2002; Rubenstein & Geisler, 2003).
2.2 GENERATIONS OF KNOWLEDGE MANAGEMENT

Information and Knowledge have been loosely applied and interchanged in various business organizations. The failure to distinguish between the two has led to the collapse of many initial Knowledge Management approaches. Edwards (1994) was one of the first few to distinguish between raw information and knowledge. According to him, raw information was generally available freely but this is converted into useful and relevant knowledge only with the help of Knowledge Management processes. In fact, researchers have come up with what is known as the Data, Information, Knowledge and Wisdom (DIKW) hierarchy (Rowley, 2007). This is also known as the knowledge hierarchy or the knowledge pyramid. There is still a lot of disagreement between researchers regarding the exact meaning of these terms. Although the general consensus is that the data, information and knowledge are not interchangeable (Kallinikos, 2006; Chen et al., 2009; Kamhawi, 2010), there are some who still use them synonymously (Baskarada & Koronios, 2013).

The initial Knowledge Management strategies were highly technology dependant and focused on IT based tools and processes to improve organizational efficiency. These came to be known as First generation KM strategies and aimed to make knowledge available quickly and to all people within organizations (McElroy, 2000). First generation strategies focussed mainly on Information – that is exploiting what was already present. Thus, it works on the principle that knowledge already exists, and can be managed in explicit form via codification and articulation. Therefore, organizations using first generation Knowledge Management strategies placed their emphasis on organization wide intranet portals; lessons learned databases; taxonomies; best practice databases, metadata and search engines; and document management systems. The main focus was on distribution of information and knowledge to people who make critical decisions for the organization.

Soon enough, it became apparent that this approach was reactive rather than proactive. Simple transfer and sharing of knowledge was not enough. Socio cultural barriers did not help in free transfer of knowledge as people were wary of losing control and power. Therefore, the focus shifted from utilisation of already known knowledge to the creation and accumulation of new knowledge; and from purely IT based to more user friendly and interactive processes and applications (Binney, 2001). These were the second generation KM strategies which were explored by the
organizations to improve their performance. Second generation KM strategies were focused on individual and Organizational Learning and connecting with people. Such organisations invest their time in promoting learning activities and learning based strategies.

McElroy (2002) came up with ten key concepts of second generation KM which included the Knowledge Life Cycle; Nested Knowledge Domains; Organizational Learning; and Sustainable Innovation amongst others. As per him, the major difference between the first-generation KM and second generation KM has been the prominence of technology in the first while second-generation strategies are geared towards identifying and closing the knowledge gaps and involve people, process, and technology as its key parameters.

The Third generation Knowledge Management strategies project their focus on top leadership, culture and knowledge processes. Sharing receives the support of top management and helps create a culture of trust and openness. It is expected to create innovative solutions for future market requirements. The third generation strategies are also trying to link financial performance of the organizations with the adoption and implementation of Knowledge Management initiatives (Meissner & Wolf, 2008).

It can be concluded that organizations need to improve their performance for sustaining their competitive advantage. For this the organizations shifted their focus from a first generation --knowledge sharing strategy to the second generation -- knowledge nurturing strategy. The experts are now pushing towards the third generation knowledge strategy which is to create innovative solutions for future market scenarios and sustained organizational culture and values.

2.3 FRAMEWORK OF KNOWLEDGE MANAGEMENT

The progress of Knowledge Management can be followed through the works of various authors over the years including the frameworks and models of knowledge creation and assimilation. Various models and frameworks were proposed, discussed and adopted. One of the very first model was proposed by Nonaka & Takeuchi (1995), which came to be known as the SECI model for managing the various aspects of the process of creation of organizational knowledge. This was a spiral model of knowledge creation which showed that the process of organizational knowledge creation should move through four stages of knowledge conversion involving
interactions between tacit and explicit knowledge. The four stages of SECI model are: Socialization which refers to tacit to tacit conversion; Externalization which refers to tacit to explicit conversion; Combination involving explicit to explicit knowledge conversion and Internalization which describes the explicit to tacit conversion of knowledge. There is a constant movement between tacit and explicit knowledge as it gets accumulated, shared, used and assimilated by the employees of the organization. This exchange of information between tacit and explicit knowledge is still used in many frameworks of Knowledge Management.

Sometime later, Meyer and Zack (1999) proposed a Knowledge Management life cycle that described the architecture of information products. The information products refer to the knowledge assets and the term “information” was used to include knowledge content. According to them, Information products are not as directly observable as physical products although they exhibit similar characteristics as products do. The five information (knowledge content) stages of the Meyer and Zack (1999) life cycle include: Acquisition; Refinement; Storage and Retrieval; Distribution; and lastly Presentation of knowledge. These stages are not always followed sequentially and there can be feedback loops among them. In the same year, Wiig (1999) studied and identified the intellectual capital as the major source of the market-value of an organization and stressed that to gain competitive advantage, firms must manage knowledge properly. Evidently, this is a difficult task as knowledge activities are implicit in employee’s daily work and tacit knowledge is deeply embedded in people and systems. Therefore, it is important to focus on people centric initiatives so that it fosters innovation; create new opportunities to leverage intellectual assets; and lead to profitability and quality in the long run.

A more comprehensive view on the Knowledge Management literature was taken by Alavi and Leidner (2001) who studied most of the available literature till then. The major conclusions were that Knowledge and Knowledge Management were complex concepts with various taxonomies and frameworks. There was no universal agreement on definition of Knowledge Management. It was described as a “dynamic and continuous organizational phenomena” which involved various processes such as creation, transfer, storage and application of knowledge. The role of IT as an enabler of Knowledge Management processes was also discussed in detail. In the very next year, Lindsey (2002) came up with another Knowledge Management theory based on
combining Organizational Capability Perspective theory and Contingency Perspective Theory. The effectiveness of Knowledge Management was described in terms of Knowledge Infrastructure Capability and Knowledge Process Capability – which were the two main dimensions of the model. The Knowledge infrastructure capability represented the relationship between the users of knowledge and the various sources of knowledge. It depends on the method in which the knowledge is created and used (referred as Culture); the network (termed as Technology); and the relationship between them (known as the Structure). On the other hand, Knowledge process capability represented the integration and synthesis of Knowledge Management processes into the organization. It is further explained through acquisition (the capturing of knowledge), conversion (converting captured knowledge into useable or readable format), application (using and applying useful knowledge to the work processes) and protection (security of the knowledge).

Later in the year, knowledge was examined and firmly established as the most important intangible asset of the firm (Soo et al., 2002). The research was based on case studies of six firms and survey analysis of 317 firms. Various uses and results of managing knowledge were discussed and elaborated. The study stressed on the importance of applying knowledge for innovation in process and products. It was concluded that greater innovation leads to improved performance – both market and financial. Eight key takeaways were identified for knowledge managers of the organizations. In the same year, Lee and Hong (2002) added to the “Knowledge as an intangible asset theory” by describing knowledge as being the most important source of competitive advantage. Using technology as the essential factor for implementing a Knowledge Management System, various strategies for IT based Knowledge Management System were described. The KM lifecycle approach was proposed which consists of various stages such as Gathering or accumulation of knowledge; Development of knowledge; Distribution or sharing of knowledge; and Application and utilization of knowledge.

By then, a lot of work had been done regarding the various stages of Knowledge Management -- from knowledge accumulation and creation to knowledge utilization. Now, the experts started to look at factors helping in implementing effective Knowledge Management strategies. The research was now focused on identifying various Knowledge Management enablers (Sher & Lee, 2004; Hussain et al., 2004).
Seven important enablers of Knowledge Management were identified in a study as Learning, Trust, T shaped skills, Collaboration, Formalization, Information technology support and Centralization (Lee & Choi, 2003). It was said that Organizational creativity mediates between knowledge creation and Organizational Performance. The results show that Trust has a direct impact on knowledge creation; information technology support is useful for combination of knowledge (merging new and existing knowledge), while organizational creativity was found to be important for improving performance. In a similar manner, Hussain et al. (2004) proposed a Knowledge Management Infrastructure Model which had three major components -- Culture, Strategy, and Technology. The importance of managing knowledge effectively was discussed and it was observed that all three components -- Culture, Strategy, and Technology were significant predictors of Knowledge Management effectiveness. Meanwhile, Sher and Lee (2004) gave three main functions of Knowledge Management process which can help organizations manage knowledge efficiently and leverage it as a source of competitive advantage. The first was Knowledge creation which involved innovating existing knowledge. The second function was Accumulation which included creation of new knowledge and combination of previously existing and new knowledge. The third major function was identified as Sharing. This involved transfer and distribution of knowledge, experience and skills in the organization.

As research progressed in this area, experts began to recognize the advantages of using Knowledge Management strategies and tools in the organizations. An empirical work investigating the effect of knowledge strategies on performance showed a positive relationship between the three Knowledge Management components and Performance (Darroch, 2005). The three main constructs were knowledge acquisition, knowledge dissemination and responsiveness to knowledge. It was also observed that Responsiveness to knowledge had the maximum positive effect on Performance. The Knowledge Management proponents therefore, claimed that an organization which is using Knowledge Management Systems will have optimal resource utilization and this will lead to innovation and better performance.

Other authors like Serrat (2008) propagated the four pillars of Knowledge Management architecture to improve Organizational Performance. They were identified as Leadership, Organization, Technology, and Learning. Leadership was
proclaimed as the driver of the Knowledge Management initiatives as it was impossible to have any success in any system without the support of top management. The second pillar of Organization referred to the changes occurring in the organization’s culture with sharing of knowledge and information. Technology was yet another important dimension of successful Knowledge Management System. Defining information technology capabilities and processes was considered necessary condition to integrate the knowledge processes. Similarly, Learning as the fourth pillar of knowledge architecture involved improving communications across the organization through collaboration, sharing knowledge and idea generation. The process of social interaction was given importance by KM practitioners. Yeh et al. (2006) analyzed the role of Knowledge Management enablers in effective implementation of Knowledge Management in two organizations ASE Inc. and VIA Technologies using Case study method. Results indicate that Leadership support; a culture of sharing; learning; and information technology support are some of the most important enablers of Knowledge Management.

McKeen et al. (2006) carried out an empirical study to explore the impact of Knowledge Management on Organizational Performance. The main focus was on the extent to which Knowledge Management practices are used in the firms and their impact on the performance of the firm. The study was carried out on 90 Australian, US, and Canadian firms from ten industry sectors. The Organizational Performance was studied in terms of product leadership, customer intimacy and operational excellence while the Knowledge Management practices were analyzed based on the ability to create new knowledge; ability to share existing knowledge; acknowledging the strategic value of knowledge and learning and a culture of sharing. Results indicate that Knowledge Management practices a have a positive correlation with performance measures. In a comparable study, Marqués and Simon (2006) investigated the causal relationship between Knowledge Management practices and firm performance. The empirical study was conducted on 222 Spanish firms in the industry sectors of biotechnology and telecommunications. They employed the competence-based view of the firm and focussed on the importance of Knowledge Management as a sustainable competitive advantage. It was concluded that there is a strong and positive relationship between Knowledge Management practices and firm performance.
Similarly, other authors such as Bognar and Bansal (2007) also confirmed the positive relationship between Knowledge Management and performance of an organization. They demonstrated that a firm’s growth rate is positively associated with its ability to generate rare and valuable knowledge, and to build on that knowledge. The study was based on the three components of Knowledge Management systems -- the firm's ability to produce new knowledge, its ability to build on that knowledge, and its effectiveness in utilizing the new knowledge effectively. It was concluded that Knowledge Management practices lead to higher Organizational Performance.

Another empirical study by Lin and Kyo (2007) investigated the relationships among human resource management (HRM), Organizational Learning (OL), Knowledge Management capability (KMC) and Organizational Performance (OP). It was found that Organizational Learning and Knowledge Management capabilities directly influence Organizational Performance. In 2008, Ho proposed a conceptual model to examine the associations between Knowledge Management capability (KMC), Organizational Learning (OL), self-directed learning (SDL), and Organizational Performance (OP). The study was carried out in 21 technological companies in Taiwan. Results indicate that self directed learning has a direct and significant relationship with Organizational Learning and Knowledge Management capabilities. SDL also has an indirect effect on Organization Performance. Findings also show that there is a positive and significant relationship between Knowledge Management, Organizational Learning and Organizational Performance.

Thus, it can be seen that Organizational Learning is an important consequence of Knowledge Management (Anantatmula, 2009). He gave four major dimensions for Knowledge Management – Knowledge Creation, Knowledge Organization, Knowledge Transfer and Knowledge Application. The first dimension of knowledge acquisition focussed on acquiring existing and new knowledge while the second dimension of knowledge organization involved coding and organizing the relevant knowledge for easy storing and retrieval. The third dimension of knowledge transfer referred to the process of dissemination of distribution of knowledge throughout the organization and the fourth dimension of knowledge application involved using and applying the knowledge in improving the performance. Another study in the same year explored the association between Knowledge Management (KM) enablers and Organizational Performance indices. The four KM enablers were studied as
independent variables. It was observed that Strategy and Leadership were the most significant predictors of Knowledge Management and had a direct impact on the financial performance index (Ho, 1999).

In a similar study, Bechina and Ndlela (2009) investigated the various factors which facilitate the effectiveness of Knowledge Management Systems. A framework was proposed which discussed the various factors at both user and organizational level. The factors facilitating adoption of technology were also described. It was observed that besides technology adoption, factors like Leadership, Business Strategy, Collaboration, Training, Business goals and Organizational culture are also responsible for the effectiveness of Knowledge Management Systems. The involvement of top Leadership (driving the participation of the employees) and higher management (that aligns its strategy with the knowledge initiatives) along with the Culture of the organization were confirmed to be the important enablers of successful Knowledge Management System by other studies also (Anantatmula & Kanungo, 2010; Allameh, 2011). Technology and Structure were also tested as enablers of Knowledge Management and it was seen that though there is a positive and significant relationship between Technology and KM, the variable Structure did not show any significant association with Knowledge Management (Allameh, 2011).

By this time, Knowledge Management systems had gained prominence as tools to improve learning and performance and experts and researchers were exploring the role of KM initiatives in different sectors and industries. A study in the telecommunications sector empirically proved that Strategy, Organizational Culture, Information Technology and Leadership have a strong and positive impact on the knowledge transfer process (Al- Gharibeh, 2011). Another study carried out in 109 medium and large sized enterprises in Greece identified various enablers or critical success factors that are necessary for effective Knowledge Management implementation in organizations. They were identified as Leadership, Strategy, Organizational Culture and People Management and observed to have a strong relationship with the performance of the organizations (Theriou et al., 2011).

As seen from the literature above, Leadership emerged as one of the strongest factor of Knowledge Management effectiveness. A lot of authors focused on Leadership aspect in improving performance through Knowledge Management. Nguyen and Mohamed (2011) conducted an empirical study on 157 executives of small-to-
medium sized enterprises (SMEs) operating in Australia, to analyze the relationship between leadership behaviours and Knowledge Management activities. The leadership behaviours were studied with respect to transformational leadership and transactional leadership. The organizational culture was taken as the mediator between Knowledge Management practices and leadership. The findings reported a positive relationship between leadership (both transformational and transactional) with Knowledge Management practices. The role of organizational culture as a mediator between leadership and Knowledge Management practices was also confirmed. Similarly, Andreeva and Kianto (2012) studied the impact of HRM (human resource management) activities and ICT (information and communication technologies) on the effectiveness of Knowledge Management practices. The study was carried out on 234 firms of three countries -- Finland, Russia and China. The effectiveness of KM practices was examined in terms of the perceived competitiveness and financial performance of companies. The results indicated a significant correlation between HRM practices and financial performance; HRM practices and competitiveness of the firm. The results also showed that ICT practices are correlated with financial performance if they are taken together with HRM practices.

Another study which considered Leadership as important contributor to Knowledge Management was carried out in 106 Iranian manufacturing companies having a minimum of 50 employees (Noruzy et al., 2013). They used structured equation modelling to investigate the relationship between Transformational leadership, Knowledge Management, Organizational Learning, Innovation and Performance of the organization. It was reported that Leadership has a direct influence on Knowledge Management, Organizational Learning, Innovation and Performance of the firms. The results also indicated that Knowledge Management and Organizational Learning had a direct impact on Organizational Innovation and an indirect impact on the Organizational Performance. Similarly, another study having Organizational Innovation as a variable of Knowledge Management in addition to Customer Satisfaction and Organizational Performance was undertaken in 30 firms to study the effect of Knowledge Management on competitive advantage in organizations. The findings show that KM has a positive impact on the competitive advantage of the firm (Meihami & Meihami, 2014). The study also revealed that KM was also significantly
related to organizational innovation, customer satisfaction and organizational performance of the firms.

Knowledge Management was by this time, recognized as a multi-disciplinary paradigm that could be used in any sector or industry. Experts looked forward to employing the KM techniques in government and public sector organizations. Experts claimed that due to the nature of public sector organizations, same other factors would need to be used to leverage the benefits of KM technologies. Amayah (2013) showed that Social interaction, Rewards and Organizational Support were the three critical factors effecting knowledge sharing in public sector units. On the other hand, courage and empathy as the measures of organizational climate also had a significant effect on sharing of knowledge. Personal benefits and community standings were identified as the main motivators. In another work on heavy engineering public sector organization, the impact of Organizational Learning (OL) on the performance of an organization and Knowledge Management (KM) practices was examined. In this study, Organizational Learning was explored with respect to Performance Management; Achievement orientation; Reward and recognition; Collaboration and team working; Autonomy and freedom. Findings indicate that all the factors of Organizational Learning had a positive impact on the Knowledge Management practices and the Performance of the firm (Jain & Moreno, 2015).

Besides the work on Leadership, considerable research has been done on Culture and Learning in KM literature. With the identification of Organizational Learning as a key enabler and important consequence of Knowledge Management, lot of authors focused their studies on this area (Berraies et al., 2014; Tong et al., 2015; Jain & Moreno, 2015). A recent study conducted in 202 Tunisian ICT companies explored the various enabling factors that help Knowledge Creation Process (KCP) in the organizations (Berraies et al., 2014). The factors were identified as Learning, Collaboration, Incentives and Rewards, Trust, Decentralized Structure, Information Technology (IT) support, T-shaped skills and Leadership. The results show a good correlation between the six factors of knowledge creation and innovation performance. On the other hand, Tong et al., 2015) analyzed the impact of knowledge sharing on the relationship between organizational culture and job satisfaction and showed that organizational culture has a significant impact on knowledge sharing and
job satisfaction. This study was conducted with 228 respondents by an internet-based questionnaire survey in ICT industry in Hong Kong.

Based on the work done so far and Heisig’s (2009) analysis of 160 frameworks of KM, Evans, Dalkir and Bidian (2015) came up with one of the most recent Knowledge Management Cycle (KMC) Model. It contains seven major phases of identification, storage, sharing, use, learning, improvement, and creation. The first step refers to the process of generating, and identifying new knowledge. The last step of Create is also part of this stage where new knowledge is created if the existing knowledge base does not contain the required information. Similarly, Storage focuses on storing the knowledge in the knowledge repository, while Sharing refers to the process of sharing the knowledge as and when required. In the next step Use, knowledge is used by the employees to improve the work processes, productivity or the performance of the individual as well as the organization. In the next step of Learning, knowledge is internalized if it has shown benefits. This leads to situations where individual as well as Organizational Learning takes place. Finally, in the Improvement stage, learning that takes place in the previous steps is subjected to relevant checks to ensure that it is useful and needed by the organization. This knowledge is constantly monitored and updated to keep it from becoming obsolete.

Recent studies in KM confirm the importance of Knowledge Management in organizations as a tool for improving Organization Performance (Omotayo, 2015). Using a comprehensive literature review analysis, they stressed upon the three main components of Knowledge Management -- people, process and technology to manage knowledge effectively. Different approaches to Knowledge Management are also being investigated by authors like Obeidat et al. (2016) to study their impact on organizational innovation. They studied social network, codification and personalization as the three KM approaches and found that codification and personalization were significantly related to innovation while social network had a negative impact on innovation. Results also show that Knowledge Management processes (knowledge acquisition, knowledge sharing and knowledge utilization) are significantly related to innovation. It was shown that creation of knowledge, sharing of knowledge and utilization of knowledge is critical to fully leverage the knowledge resources. A similar study, done recently by Valdez-Juárez et al. (2016), analyzed the influence of Knowledge Management on innovation and performance of small and
medium enterprises during a period of global economic recession. The study was carried out on small and medium-sized companies in the sectors of industry, construction, services, and trade in the region of Murcia, Spain. The study empirically proved that the Knowledge Management practices improve SME performance by innovation in products and processes. The results also indicate that business performance is significantly related to the size and age of the SMEs.

2.4 KNOWLEDGE MANAGEMENT IN HEALTHCARE

Healthcare industry is not far behind in the quest for organizational excellence in the knowledge era. Over the last few years there has been an increased interest in investigating the nature and utilization of healthcare knowledge through the lens of Knowledge Management theories, methodologies, and technical frameworks (Jadad et al., 2000; Montani & Bellazi, 2002). Laverde (2003) proposed implementation of KM processes as a strategic alternative for hospitals to improve efficiency and performance. It was observed by Provonost et al. (2004), that the performance of hospitals is not only based on the discovery of new treatments but on the management of existing knowledge.

It has been seen that generally, healthcare organizations put more emphasis on medical treatment than overall management of disease. But with changes in medical technology, there is a need to focus on more comprehensive management of patients rather than dealing with only medication and treatment. Healthcare organizations are facing plethora of problems such as rising costs, superior healthcare delivery issues, industry competition, the shortage of specialized personnel, the need to comply with government regulation etc. (Porter and Teisberg, 2004). This has resulted in introduction of many corporate strategies and management theories to manage both tangible and intangible assets. Knowledge Management is increasingly being touted as a way to enhance competitive advantage by recognizing knowledge as a critical organizational asset and managing it in a systematic manner (Ulrich and Smallwood, 2004). Therefore, experts have been advising for implementation of Knowledge Management in the context of healthcare management (Powers, 2004).

Bird et al. (2003) described the motivation and goal of Knowledge Management in healthcare. They focussed on using Knowledge Management as an aid to overcome information load in medical sector. It was observed that Knowledge Management was
most successful in areas requiring latest knowledge such as medical professionals ordering diagnostic tests, prescribing medicines based on diagnostic investigations and reminders based on best practices. The major motivations for using Knowledge Management systems were identified as improved patient safety and cost efficiency. Similarly, Morgan, Doyle and Albers (2005) emphasized on the importance of knowledge retention for effective working of hospitals and proposed Knowledge Continuity Management as an effective method for knowledge retention. Basically, Knowledge Continuity Management (KCM) refers to the process of transferring critical operational knowledge by the retiring employees or the employees leaving the organization to the other employees or successors in the organization so that knowledge is not lost. Their main focus was on developing a mechanism for transferring the knowledge to new employees and they advocated the use of individualized knowledge profile. These Knowledge profiles included information that is critical for job performance, critical to productivity and quality patient care. According to them the profile should include four types of information: key operating data (statistics, reference tools, and information sources), basic operational knowledge (job objectives, activities and functions, reports), key operational knowledge (projects, hot issues, key personnel), and background operational knowledge (skill sets, performance evaluations, knowledge network information).

It was seen that issues like information overload and loss of knowledge due to retirement, turnover and transfers were more keenly felt in healthcare organizations as they deal with life and death situations on a daily basis. Therefore, experts began to look for ways to overcome such issues through various approached and methods. One such method of data mining was discussed by experts as an enabler of knowledge creation in healthcare industry (Wikramsinghe, 2006). He proposed a framework that integrated data mining within the knowledge spiral and showed how data mining can impact the four modes of transformations of the knowledge spiral. It was seen that the two dominant mechanisms of knowledge creation (Nonaka’s knowledge spiral and data mining) were being used either separately or independently. A more combined, systematic, and powerful mechanism for knowledge creation was achieved through combining these two mechanisms and using them along with each other rather than separately. A similar observation was made by authors in a study involving eight hospitals in Rio Grande do Sul (Goncalo, Jacques & Souza, 2007). They examined
multi-disciplinary teams organized around cardiology services and established that Knowledge Management should be used as an alternative for the development of advanced solutions to complex healthcare problems that are of interest to the society and recommended using medical-assistential protocols with data mining outcomes to manage knowledge more effectively. Another technology based solution was to use network centric healthcare systems as against platform-centricity of healthcare ICT operations. It was argued that since platform centric operations are not able to share crucial data and information on time, it is necessary to adopt Knowledge Management based network centric healthcare system to avoid delays, duplication of efforts and save valuable time and money (Wikramsinghe & Bali, 2008).

Another challenge faced by healthcare professionals revolves around the issue of coordination and cooperation between many stakeholders involved in the patient care. This view was expressed by authors El Morr and Subercaze (2010), who claimed that evidence based medicine implementation in daily health care activities require coordination of several departments to provide quality care to patients. By giving an overview of Knowledge Management and its challenges, needs, tools, techniques and applications in this area, the authors emphasized on the need to implement Knowledge Management practices in healthcare. Another group of authors argued that the problem of coordination could be solved by using technological solutions like Knowledge Repository Systems (KRS) (Tsai et al., 2010). The KRS or the Knowledge Repository System is used to share knowledge among the employees of an organization. It encourages employees to share and distribute knowledge in terms of updated documents, best practices, market survey results etc. They carried out a study in two teaching hospitals of northern and eastern Taiwan. Results indicate that there are three major factors which impact the acceptance and usage of Knowledge Repository Systems. They were identified as: Motivation factors in terms of perceived usefulness and perceived enjoyment; Social factors represented by trust, organizational support, and subjective norm; and Technology factors which are represented by quality of output and ease of use. Continuing on the same path of technology based KM systems, Lee, Goh and Chua (2010) studied the various Knowledge Management mechanisms that were being used by 60 healthcare portals from North America and Asia. These healthcare portals represented hospitals, government institutions and non-government institutions. A three stage model was
proposed which consisted of Knowledge Access, Knowledge Creation, and Knowledge Transfer as its three main stages. These stages of Knowledge Management mechanisms were used for managing healthcare portals. It was also observed that it is important to share knowledge between users and healthcare portal providers in order to improve performance. Thus, Technology came to be established as a very important part of Knowledge Management systems.

Though, there were some authors who disagreed on using solely technology based solutions for healthcare challenges. They observed that health care environment was using ICTs as current KM strategies (but these were static and did not support knowledge sharing as a whole). One such group of experts reviewed and summarized previous studies from the business literature so as to identify various Knowledge Management tools that could be applied in the healthcare sector. They proposed the use of a holistic or multilevel KM strategy that may prove useful for health care organizations (Kothari et al., 2011). Previous practices such as Communities of practice and networks, required attention in terms of long term sustainability; evidence-based culture was based on research information only and not taking tacit knowledge into account; and single sided KM strategies which may limit effectiveness; were not considered being sustainable over long term. Therefore, some experts like Chang, Lee and Chou (2011) assessed the perceived benefits of the Knowledge Management implementation in a hospital setting in Taiwan. Using a questionnaire survey, about 235 users were asked about their opinion regarding Knowledge Management system. The research result indicates that Knowledge Management system is viewed in positive light and users perceive various benefits in using the system in the hospital. They identified “perceived usefulness”, “perceived ease of use”, “incentives for KMS users”, “concerns of data security and confidentiality” and “organizational support” as the critical factors in Knowledge Management implementation.

Ferlie et al. (2012) carried out an extensive healthcare management literature review to determine the extent of mobilization of knowledge in the healthcare sector. The study used 29 journals over the time period from 2000 to 2008. It was seen that the literature in healthcare management is focussing on generic concepts such as Communities of Practice in Knowledge Management but is still lacking in studies linking healthcare financial performance with Knowledge Management. Hence,
Stroetmann and Aisenbrey (2012) conducted a case study in Siemens Healthcare - which is a leading medical supplier in healthcare industry, to manage and distribute knowledge effectively so as to save costs on duplication of efforts and repetition of errors. They created a Clinical Knowledge Base which makes relevant knowledge available to various stakeholders – doctors, patients, technicians etc. in form of databases and documents thereby saving time and reducing costs.

Healthcare is considered a knowledge intensive sector and technology helps to manage this knowledge effectively. Therefore, use of technology is critically important when quick information is needed to be disseminated or passed on to point of care professionals. Experts like von Michalik (2013) focused on roles of Knowledge engineering (KE), Clinical decision support systems (CDSS) and Expert systems (ES) as the tools to support Knowledge Management in healthcare. Knowledge base (KB) was taken as a main component of CDSS. The fuzzy rule system was combined with data mining to show that creation, validation and maintenance of knowledge base can be handled more efficiently using knowledge engineering tools. Even though Technology is considered useful, studies show that Organizational Structure is the most significant predictor of Knowledge Management effectiveness, followed by Organizational Culture and Information Technology (Khalghani et al., 2013). They conducted this study in five medical research centres in Iran to investigate the impact of three enablers of Knowledge Management -- Organizational Culture, Information Technology and Organizational Structure on Knowledge Management effectiveness. Although, there are other authors who claimed that medical professionals prefer technology based Knowledge Management and social communities of practice to share knowledge amongst each other (Ocak et al., 2014). They examined the various benefits of Knowledge Management that are used and adopted by the medical professionals of the hospitals in Aegean, Turkey and analyzed how healthcare professionals understand the concept of knowledge sharing and management. The results also show that healthcare professionals were willing to make knowledge related contributions to facilitate greater sharing of knowledge. Therefore, Fox et al. (2015) proposed a new model for sharing knowledge and promoting best practices in healthcare sector. The OpenClinical.net project was advocated and it works under the premise that the professional healthcare expertise can be codified and made compatible with computer language thereby ensuring rapid
dissemination of knowledge. This facilitates informed decision making process along with improved and easier communication and workflow management. The knowledge is made available in an open source repository as an open access knowledge source.

Besides Technology, other factors like Strategy, Process and Learning were also explored by healthcare KM practitioners. Tsai and Hung (2016) did an empirical investigation to determine the factors affecting Knowledge Management adoption in healthcare sector in Taiwan. It was observed that Knowledge Management enablers and characteristics (such as leadership, strategy, process, and culture) affect the adoption of Knowledge Management in the hospitals. The study supported the demand for efficient Knowledge Management in health care to effectively counter the challenges of quality of care and information overload. It was proposed that Knowledge Management adoption can improve the situation. Similarly, Rolls et al. (2016) conducted an integrated literature review to identify studies related to use of social media in developing virtual communities by the healthcare professionals. These communities supposedly act as a medium for knowledge sharing in clinical domains and help in professional networking and informed practice decisions. The literature between years 1990 to 2015 was analyzed. It was observed that medical professionals mostly used social media communities to exchange specific clinical information regarding their own specialty and viewed them as non threatening and non competitive. The above discussion confirms that healthcare professionals are in favour of using Knowledge Management technologies to improve knowledge sharing, learning and performance in their organizations.

2.5 ORGANIZATIONAL LEARNING

It is a well established fact that Healthcare is a knowledge based industry. Therefore, creation of new knowledge and continuous learning are two very important aspects of Knowledge Management in these organizations. As per Silver (2000), KM is a multi-disciplinary paradigm that integrates business strategy with Process, Organizational Culture, Organizational Learning and Technology. A learning organization is therefore the one which acknowledges knowledge as its main strategic resource and creates new knowledge through intellectual capital with the knowledge worker as the critical component in the organization.
A study in 2003 by Colauto & Beuren showed that Knowledge Management in health organizations helps to identify and monitor its intellectual assets and is able to generate organizational knowledge and enhance Organizational Learning. Other studies also observe that healthcare organizations are now taking steps to create learning organizations and thereby use their intellectual and intangible assets judiciously (Awad and Ghaziri, 2004; Becera-Fernandes, et al., 2004).

Organizational Learning was promoted initially by Argyris and Schon (1978). They developed a theory of Organizational Learning, which included both single loop and double loop learning. Experts regard learning as a prerequisite to identification and reduction of errors (Senge, 1990). He proposed the model of five disciplines of learning. These disciplines are – Shared Vision (building common goals and objectives for the organization), Mental Models (reorienting beliefs and mindsets towards shared goals), Personal Mastery (willingness to challenge own rules and values), Team Learning (willingness to share knowledge, skills, insights with other members of the team) and Systems Thinking (Looking at the bigger picture and finding the niche). Each Discipline contains a set of guiding ideas to work through, some technology based tools and techniques that make learning easier, and steps and practices that can be used to follow the leadership. Similarly, Huber (1991) identified four dimensions for Organizational Learning as Knowledge acquisition, Information sharing, Information interpretation and Organizational memory. Knowledge acquisition was further sub divided into five processes – learning based on the start of an organization, learning from other organizations, learning by self experience, acquiring knowledge not possessed by the organization, and looking for knowledge related to organization's performance. The second dimension of Information Sharing has three components – grafting, congenital learning and vicarious learning while Information interpretation involves analyzing the information that is acquired and disseminated for its relevance and usefulness. Organizational memory is concerned with storing new and relevant knowledge so that it can be used for better decision making.

After Senge and Huber’s classification of Organizational Learning, many authors worked on theories of learning and tried to link it with innovation and performance. Steiner (1998) used the Senge’s model of five disciplines to analyze learning attempts in a Swedish manufacturer of tools. The research was conducted as a case study and
five disciplines of learning from Senge’s model were used to compare the results. The study came up with the learning barriers because mental models and of the individual employees were not in synchronization with that of the top management. The study emphasized on the need for employees and leadership to have a shared understanding of goals and objectives for the improvement in organization. Similarly, Brown & Duguid (1991) emphasized on linking the work processes, Organizational Learning, and innovation so that a learning organization could be created. Organization learning was described as a bridge that connects work processes with new innovation. It is well established that learning helps to improve the inherent tacit knowledge within the people and assimilate new knowledge. By applying this new knowledge for a particular purpose, new innovations and better work processes can be created.

In another study in 1996, Watkins and Marsick proposed seven interrelated characteristics of a learning organization at all the three levels -- individual, team and organizational. They were identified as Continuous learning (creating and adding new knowledge), Inquiry and dialogue (questioning and providing feedback), Team learning (sharing and collaboration), Empowerment (willingness to take responsibility for actions), Embedded system (capturing and storing knowledge), System connection (using organization wide information systems) and Strategic leadership (realigning organization policies to reflect learning culture). Then, Popper and Lipshitz (2000) reviewed the previous literature to study the difference between organizational and individual learning and identified some of the factors that affect Organizational Learning. They proposed -- level of environmental uncertainty, cost of potential errors, level of professionalism, and leadership commitment to learning as the four leading factors of learning in organizations. Another set of authors discussed the importance of implementing Organizational Learning practices in healthcare organizations (Carroll & Edmondson, 2002). They also promoted the support and shared vision of top management as the strongest enabler of sharing culture. It was observed that Organizational Learning practices would help to improve knowledge which in turn will lead to better patient care. In a corresponding study, Ellinger et al. (2002) examined the relationship between the learning organization concept and firms’ financial performance. Dimensions of the Learning Organization Questionnaire (DLOQ) were used to measure Organizational Learning while perceptual and objective measures of performance were used for firms’ financial performance.
Results show that there is a positive relationship between the learning organization concept and firms’ financial performance.

By this time, the role of Organizational Learning on performance of the organizations was being explored through empirical investigations in different sectors. As Tippins and Sohi (2003) showed, the Organizational Learning was seen to have a significant impact on improving performance through technology. The study that was carried out in 271 manufacturing firms clearly indicated that Organizational Learning is an important mediator between IT competency and firm performance. In another research study carried out on the employees of standalone information technology (IT) departments in US, the inter-relationship between job satisfaction, Organizational Learning culture, turnover intentions and motivation to transfer learning to the workplace setting was investigated. Results indicate that the Organizational Learning culture has a positive and direct relationship with job satisfaction and motivation to transfer learning. It was also seen that the learning culture is negatively associated with turnover intention (Egan et al., 2004). Khandekar and Sharma (2005) also explored the association between Strategic Human Resource Management (SHRM), Sustainable Competitive Advantage (SCA) and Organizational Learning. The study was conducted on 300 HR managers of nine Indian organizations with respect to strategic human resource management. The results show that Organizational Learning, SHRM and SCA (sustainable competitive advantage) are positively related to each other. In the same year, Lopez, Peon & Ordas (2005) analyzed the concept of Organizational Learning and investigated the relationship between Organizational Learning and Business Performance. The study was carried out in 195 Spanish firms with more than 200 employees. Findings show that Organizational Learning is positively associated with innovation and competitiveness and thereby promotes Organizational Performance.

Later, Kontoghiorghes et al. (2005) also explored the association between Organizational Learning factors, change adaptation, innovation and performance of an organization. The results show that Information sharing and open communications; Availability of information on time, Availability of resources to perform a job properly and Risk taking and Idea promotion were the main factors which had a direct and significant contribution to Innovation, Organizational Learning and Performance. Another study by Khandekar and Sharma (2006) provided the same
results when they examined the relationship between Organizational Learning and Organization Performance in three Indian global organizations. A total of 100 senior managers were taken as the sample and the findings showed that there is a positive and direct association between Performance of an organization and Organizational Learning. In an identical work done by Power and Waddell (2004), they examined the association between learning organizations and measures of performance. The study conducted in 200 Australian organizations, investigated the three measures of performance -- customer satisfaction, knowledge performance and financial performance. Results show there is strong association between learning organizations and the three measures of performance.

Based on the work done so far by the experts, Bocaneanu (2007) proposed a framework of learning from the point of view of members of a team to improve learning processes. For this, a comparison was done between two previous approaches of measurement of Organizational Learning. These were the quantitative evaluation method given by Moilanen (2005) and the qualitative assessment tool provided by Smith & Tosey (1999). Similarly, Tucker et al. (2007) conducted an investigation in healthcare sector to study the impact of specific learning activities on performance in hospital intensive care units. An integrative model was proposed to explain the effect of Organizational Learning implementation success. The study was conducted on 23 neonatal intensive care units which were chosen to adopt new learning practices. Two major learning activities were found – Learn-how were the activities that helped in doing things right and Learn-what which were the activities based on the best practices. It was observed that Learn-how activities has a positive and significant impact on implementation and performance improvement.

Many studies were undertaken to explore the factors, enablers and impact of Organizational Learning on Performance (Alegre & Chiva, 2008; Jimmanez-Jimmanez et al., 2008). They investigated the relation between Product Innovation, Performance, Market Orientation and Organizational Learning capability in a firm. As per Alegre and Chiva (2008), Organizational Learning capability was measured in terms of Dialogue; Experimentation; Interaction with the external environment; Risk taking and Participative decision making. Results indicate that Organizational Learning has a direct association with Performance of the organization. Jimenez-Jimenez et al. (2008) carried out the study in 744 firms and showed that
Organizational Learning has a significant impact on product innovation and innovation acts a mediator between Organizational Learning and Performance.

Meanwhile, Knowledge Management literature was converging towards Organizational Learning concepts to explain its impact on Performance of the organizations. The same trend was also observed in Organizational Learning literature. Therefore, there was a need to create new measurement and survey scales to accommodate knowledge characteristics and theories. Experts like Jyothibabu and Pradhan (2010) developed an integrated measurement scale for an Organizational Learning system based on the survey at the 14 thermal power plants in India. The parameters included the learning enablers and performance in an organization. In the same year, Rangachari (2010) analysed and studied the evolution of knowledge sharing networks in healthcare sector and proposed an integrated approach to link Organizational Learning and knowledge network theories for development of a new framework. It was suggested that knowledge sharing supported by the top leadership is more adaptable to learning and improvement. The study was carried in the backdrop of infection prevention context.

A conceptual model of factors for successful implementation of Knowledge Management initiatives was proposed by Ajmal et al. (2010). Besides identifying the influencing factors of Knowledge Management implementation, the study also provided inputs on the barriers of Knowledge Management initiatives in an organization. Six major factors were proposed -- Familiarity with Knowledge Management; Coordination among employees and departments; Authority to perform knowledge activities; Cultural support; Incentive for knowledge efforts and System for handling knowledge. The study was carried out in Finnish project based organizations. Results indicate that the most important barriers to Knowledge Management implementation are Absence of the right information system and Lack of incentives.

A study in automotive manufacturing organization showed that there is a positive and significant relationship between the components of Transformational Leadership and Organizational Learning. Moreover, one of the dimensions of transformational leadership -- idealized influence was found to be the most significant predictor of Organizational Learning (Mirkamali et al., 2011). Another study in Norwegian wood industry, investigated the relationships among learning orientation, firm
innovativeness and financial performance (Nybakk, 2012). The results showed a positive relationship between learning orientation and firm innovativeness and indicated the positive effect of learning orientation financial performance where innovativeness was the mediator. Another important study in this field was by Dekoulou and Trivellas (2015) who investigated the impact of learning organization on two major work outcomes -- job satisfaction and job performance. The study was carried out on 251 staff members of 49 advertising agencies in Greece. Results indicate that learning oriented organization have a strong correlation with both employee performance and employee job satisfaction. It was also shown that job satisfaction is a good mediator between learning organization and job performance.

A similar study in the food manufacturing industry of Taiwan, Malaysia and China, by Radzi et al. (2013), examined the relationship between Organizational Learning (OL), transformational leadership (TL) and organizational innovation (OI). It was seen that a positive relationship exists between all the three parameters and Organizational Learning was established as a mediator between transformational leadership and organizational innovation. Moreover, the study showed a direct and positive relationship between Organizational Learning and organization innovation. An nearly identical study in Kenya’s 42 Humanitarian Agencies (HAs) investigated the impact of Organizational Learning systems on Sustainable Competitive Advantage (SCA) using organizational culture as an effective mediator between them (Onyisi et al., 2015). It was seen that there is direct and significant influence of Organizational Learning on sustainable competitive advantage. It was also confirmed that organization culture is a significant predictor of Organizational Learning.

Corresponding studies were carried out in healthcare sector to examine the influence of Organizational Learning on innovations, performance and competitive advantage. Tanyaovalaksna (2011) examined the relationship between individual learning, team learning, and Organizational Learning in the clinical laboratories of teaching hospitals and community hospitals in Ontario. Results indicate that individual learning and team learning are moderately correlated to each other while the relationship between individual learning and Organizational Learning is positive but weak. Similarly, team learning and Organizational Learning have a positive but weak correlation. Other authors such as Goh et al. (2013) explored the concept of Organizational Learning in healthcare and stressed on the importance of fostering collaborative learning among
inter departmental teams in order to improve patient safety. They focused on the organizational culture of trust and learning which rewards error identification and correction. Oborn (2013) gave a conceptual study on the three different approaches to knowledge translation gap in the same sector. The gap is between the clinical research knowledge and the clinical practice and health service delivery. The study focuses on providing conceptual techniques to manage the gap between knowledge and the healthcare delivery.

2.6 KNOWLEDGE MANAGEMENT AND ORGANIZATIONAL LEARNING

The importance of Organizational Learning for achieving successful management has been shown by researchers both conceptually as well as empirically. According to Pemberton (2000), successful organizations create an environment where Organizational Learning is combined with Knowledge Management. In the new economy, knowledge is the main strategic resource, while the main strategic tool is Organizational Learning. Experts examined the association between Knowledge Management and Organizational Learning with reference to different industry sectors. They argued that the Infrastructure of an organization and culture of the organization play a very important role in facilitating Organizational Learning. These help to build competencies which in turn lead to competitive success (Pemberton & Stonehouse, 2000).

Hafeez-Baig and Gururajan (2012a) carried out an extensive research on the influence of Knowledge Management enablers on KM implementation in Indian context. This question assumes importance because organization culture has a great impact on the Knowledge Management implementation and authors feel that cultural issues might create barriers. A theoretical model was proposed based on literature review multiple case studies with 80 organizations in four Indian cities. Various enablers that were tested are: Collaboration, Learning, Incentive Rewards, Mutual Trust, Leadership, Formalization, Centralization, T-Shape Skills and Technology. Results show that T shaped skills and Incentive Rewards were found to be most important determinants of knowledge sharing. It was also seen that that Information Technology plays a critical role in facilitating Knowledge Management initiatives and acts as a mediator between other knowledge success factors and Knowledge Management implementation.
In the same context, Nejatian et al. (2013) studied the concepts of Knowledge Creation Process (KCP) and Knowledge Management enablers (KMEs) in organizations and found that the impact of KME variables on Knowledge Creation Process (KCP) is statistically significant. In this study, Organizational Culture variable was represented in terms of Learning, Collaboration and Trust, while Employees enabler was represented in terms of T-shaped skills. Information Technology support was the lone variable representing Technology enabler. It was found that Organizational culture, Employees and Technology support have a direct and positive impact on KCP. Both Centralization and Formalization which represented the Organization Structure enabler had a negative effect on the knowledge creation process. In yet another comparable study, Nafei (2014) investigated the relationship between Knowledge Management (KM) and Organizational Learning (OL) from the employee perspective. Various parameters of Knowledge Management were knowledge creation, knowledge acquisition, knowledge organization, knowledge distribution, while Organizational Learning was studied in terms of adaptive learning and generative learning. Results showed that there is a statistically significant relationship between Knowledge Management and Organizational Learning.

Corresponding work regarding Knowledge Management and Organizational Learning can be found in healthcare literature also. Experts like Addicott et al. (2006) explored the network-based modes of organization in the public services in UK. The study was conducted based on using data from a study of managed NHS cancer networks in London. It was seen that the major advantage of the network based organization is its greater capacity for the transfer of evidence-based or ‘best’ practices quickly across the network. This in turns leads to accelerated Organizational Learning. Such networks play the role of traditional Knowledge Management systems by sharing and creating new knowledge among employees thereby stimulating the formation of Communities of Practice. In the same year, Neilson, (2006) discussed the merits of actively facilitating and organizing learning and knowledge creation in organizations. A control and measuring system (Balanced Score Card and Business Process Reengineering) was proposed in a hospital ward and results show that learning space is created, and learning and sharing of knowledge takes place. It was observed that the knowledge processes are the consequences of a change intervention and are quite useful in effective knowledge sharing processes.
In 2007, Samara, Patel and Patel proposed a Knowledge based Pedagogical framework (KBP) to highlight the involvement of Knowledge Management (KM) in healthcare organizations. This framework helped to identify tacit and explicit knowledge accurately and quickly such that knowledge based pedagogical approach could be formed. The necessity to develop Organizational Learning infrastructure was stressed upon, through which knowledge can be created and distributed. The role of experiential learning as a part of the KM environment was also highlighted. Another group of authors -- Orzano et al. (2008a, 2008b) conducted a qualitative analysis of transcriptions from observational and interview data collected in four U.S. Midwestern family care practices and showed that by helping sharing available knowledge among medical practitioners or by developing new knowledge for use by them, KM can increase the capacity of a practitioner to deliver better health care. It was confirmed that KM affects performance measures by enhancing learning, decision making, and task execution. Some of the major constructs for Knowledge Management enablers for Hospital performance were identified as: Infrastructure, Helpful Relationships, Reflective Practice, Active Networks, Accessible Technology, Trusting climate, Effective Leadership, Effective Communication and Quality of care, Productivity, Workplace satisfaction etc.

In the next few years, experts like Wikramsinghe and Bali (2008) and Chang et al. (2009) -- identified factors such as technology, organizational, human and economic as facilitators of implementation of an appropriate KM solution in healthcare. They were also able to establish an empirical correlation between knowledge characteristics and KM implementation measures. The performance impact of people centric implementation measures of Knowledge Management was confirmed. In yet another study in healthcare, Ferreira et al. (2011) established a link between Knowledge Management, Organizational Learning and leadership. They observed that the quality of patient care is in proportion to the use of knowledge as a resource. Therefore, it can be said that that healthcare institutions which use knowledge as an important resource can reap greater benefits such as cost reduction and continuous learning leading to higher patient satisfaction and better returns on investment. Thus, a well-defined Knowledge Management process, which focuses on learning is necessary for acquiring existing knowledge and creating new knowledge and promote learning at individual and organizational levels.
2.7 KNOWLEDGE MANAGEMENT- ORGANIZATIONAL LEARNING - PERFORMANCE

Previous literature has shown that both Knowledge Management and Organizational Learning have a positive impact on the performance of an organization. The studies reviewed so far were done either on Knowledge Management or Organizational Learning. By early 2000’s the literature for the two streams had converged on the identification of performance improvement as the most desired, most likely and most wanted outcome of knowledge and learning initiatives in the organization.

Besides healthcare sector, studies in other industries also confirmed the positive impact of Knowledge Management and Organizational Learning on performance. King (2009) provided conceptual support to relationship between Knowledge Management and Learning. Knowledge Management was studied in terms of knowledge processes (knowledge creation, acquisition etc.), organizational processes (innovation, individual learning, collective learning and collaborative decision making) and Performance. Organizational Learning was promoted as the goal of Knowledge Management. It was concluded that Knowledge Management leads to Organizational Learning and this leads to better decisions, behaviours, products, services and relationships. These, in turn, lead to improved Organizational Performance.

Another study focused on three major categories – Process, People and Technology for measuring Knowledge Management Performance (Shannak, 2009). He provided a theoretical framework for measuring the performance of a Knowledge Management system. A knowledge strategy based method of evaluating Knowledge Management Performance was proposed along with a performance indicator matrix. This categorization matrix classifies the various indicators of performance in three categories of People, Process and Technology. Another conceptual framework was developed and tested using three parameters of culture and four parameters of knowledge conversion activities to investigate the correlation between organizational culture and knowledge conversion on Organizational Performance (Tseng, 2010). It was seen that culture of adhocracy is more effective in enabling knowledge conversion and improving Organizational Performance than the traditional culture of hierarchy.
Kuo (2011) investigated the relationship between Organizational Learning, Knowledge Management capability, human resource management, organizational innovation and Organizational Performance and proposed that organizations should make optimal use of organizational knowledge to improve performance of an organization. In a comparable study, Moballeghi and Moghaddam (2011) provided a comprehensive review of the different approaches of evaluation of Knowledge Management implementation impact on Organizational Performance. Various approaches such as Success Case Method, Balanced Scorecard approach and Return on Investment (RoI) have been discussed. Similarly, Kasemsap (2015) introduced the framework for inter relationships between Human resource management (HRM), Knowledge Management capability (KMC), Organizational Learning and Organizational Performance. It was shown that a good HRM creates opportunities for Organizational Learning and Knowledge Management processes thereby helping to improve Organizational Performance.

Obeidat (2015) explored the relationship between Knowledge Management and technology based business strategic alignment. The importance of managing both tacit and explicit knowledge was discussed and linked with different ways organizations could manage their knowledge and barriers to the implementation of knowledge systems. The study included an empirical research on the relationship between Knowledge Management strategies, technology based business strategies and the performance of an organization. In a more recent study, Chourides et al. (2016) examined the correlations between knowledge and performance management; and knowledge strategies and innovation in organizations to increase shareholder value. Results show that there is a strong correlation between knowledge and performance; and knowledge and innovation. The association between effective implementation of knowledge strategy and performance was found to be moderate in strength. Similar finding was for the association between effective implementation of performance strategy and innovation.

In the healthcare sector, the effects of knowledge initiatives on performance have been recognized as well. Davenport and Glaser (2002) published their case study involving a KM implementation at Partners HealthCare in Boston. As per the findings, that KM implementation reduced medication errors found by 55% and showed that when physicians encountered medication allergies or conflict warnings in
the new KM system, 33 to 50% of the orders were cancelled. This resulted in better patient outcomes and improved hospital performance. It was seen the error reduction is also an outcome of increased learning. Thus, tacit knowledge acquires importance in terms of improving the learning of the employees. Edmondson et al. (2003) examined the impact of both tacit and explicit codified knowledge on Organizational Performance using technology as a mediator. They compared the improvement in performance when using explicit knowledge based on technology with the improvement in performance while using tacit knowledge along with explicit knowledge. The study was carried out in 15 hospitals where employees were learning to use new surgical technology. The results indicate that both tacit and codified knowledge were required to produce necessary improvements in Organizational Performance.

While some studies focused on error reduction, other attempted to improve yet another bottleneck of healthcare performance – the decision making process. Bose (2003) focused on the technical infrastructure, Knowledge Management capabilities, and the architecture for improving the decision support in a health care management system. He proposed a design of Enterprise Knowledge Warehouse (EKW) which would be able to provide easy and timely access to knowledge for decision-making. This would help the healthcare organizations to improve quality of patient care, reduce costs and deliver superior healthcare delivery services. Similarly, Chang et al, (2009) used two categories of variables to measure the hospital performance in a study of Taiwanese hospitals. The two variables were Internal Process improvement and overall Organizational Performance enhancement. Internal process improvements consisted of communications and efficiency improvement measures such as problem-solving time, employee participation, decision-making cycle time, and employee interaction. Overall Organizational Performance measures covered such items as service quality, customer focus, absenteeism, and customer (patient) satisfaction. Thus, reducing decision making time and accuracy of decision making was considered important in healthcare organizations which operate in a sense of urgency and uncertainty.

Performance of an organization has been measured in both financial and non financial parameters in literature. Although most of the industry sectors rely on traditional financial indicators to measure the performance of organizations, healthcare is one
sector which cannot be fully measured in monetary terms. Still, experts have time and again attempted to link Knowledge Management initiatives with financial parameters in healthcare sectors as well. One such work by Minnis and Elmuti (2008) examined the relationship between organizational effectiveness and actual financial performance in the healthcare industry. This study was done to find an association between the organizational effectiveness and financial performance, since there has been an increasing demand by the shareholder for higher returns in financial performance as well. The results showed no significant relationship between these two variables.

Though, it is also observed that even World Health Organization identifies Production efficiency involving both financial and non financial systems as one of the six key dimensions for hospital performance. The other indicators include Patient safety; Patient centeredness (which involves patient satisfaction and experience); Clinical effectiveness (involving evidence based practice, health gain and outcomes of clinical care); Staff (involving employee welfare, employee satisfaction, and employee development); Technology; and Governance (involving community needs, equitable healthcare, continuity management) (WHO, 2005). Experts believe that healthcare performance cannot be measured on profitability indices alone and they should be a balanced mix of measures like patient satisfaction and clinical care quality (Nerenz & Neil, 2001). Alternatively, there are authors who suggest that patient satisfaction is the critical indicator of hospital performance (Riiskjær et al., 2010; Press & Fullam, 2011).

In 2009, another author Milton attempted to link Knowledge Management to continued performance improvement with respect to financial performance, resource use, and environmental impact. Performance management was studied in terms of three elements -- measurement (benchmarking), target setting, and Knowledge Management. Knowledge Management was identified as one of the engines that drives continuous performance improvement, and the Knowledge Management cycle was embedded within the performance management cycle, whether this cycle is applied to a project, or to an operation.

Other authors such as Gowen, Fenagan and McFedden (2009) examined the simultaneous implementation of Transformational Leadership, Quality Measures, and Knowledge Management and their impact on Hospital Performance (non financial performance). The constructs used were Transformational leadership, Quality
measures, Knowledge acquisition, Knowledge dissemination, Knowledge responsiveness, and Organizational Performance. They concluded that Knowledge Management and Quality measures have direct impact on Organizational Performance where performance was measured in terms of non financial parameters. Similar work was done by Badimo and Buckley (2014), who specifically chose public healthcare service organisations to examine the effect of Knowledge Management implementation on the performance of the healthcare institutions. Only the non financial performance indicators were taken into consideration. The impact of Knowledge Management practices on Organisational Performance and healthcare service delivery was explored in the Gauteng Department of Health in South Africa. Results indicate that knowledge creation, knowledge sharing and knowledge application which are measures of Knowledge Management are significantly related with all the parameters on which organisational performance and healthcare service delivery were measured.

While analyzing the impact of transformational leadership on Organizational Performance through the mediating effect of Organizational Learning and innovation, Garcia-Morales et al. (2012) found that Organizational Learning and innovation play a very important role in helping leadership to improve the performance of the organization. The study also revealed that Organizational Learning has a direct and positive influence on Organizational Performance and there is a positive relationship between innovation and performance of the organization. The study was conducted on 168 Spanish firms. In the same year, Lee et al (2012) analyzed the relationship between Knowledge Management infrastructures, knowledge process capabilities, creative Organizational Learning, and Organizational Performance. Knowledge Management infrastructure was studied in terms of structural, management, cultural, and technology related factors. Findings indicate that collaboration, learning culture, top management support, and IT support affect the knowledge process capabilities. Knowledge process capabilities and Organizational Learning in turn have a positive relationship with Organizational Performance.

Tseng and Lee (2014) discussed the effective methods of applying the Knowledge Management (KM) capability to create ability for providing quick response to a changing and dynamic environment. The results showed that the ability to provide a quick response acts as an important mediator in improving performance of the
organizations using Knowledge Management capability. It was concluded that Knowledge Management capability increased the ability for quick response to changes in environment and this ability helps to improve Organizational Performance. This was found to be quite relevant for healthcare sector as health organizations rely on being able to make quick decisions in emergency situations. In addition to the requirement of quick response rate, healthcare professionals are challenged by the differences in vocabulary used by different professionals that has caused barriers in inter-user reusability. This causes a knowledge gap between health seekers and health providers. Therefore, Knowledge Management techniques such as data mining and learning approaches are proposed to bridge this gap (Nie et al., 2015). Another solution to this problem could be to use Electronic Healthcare Record (EHR) technology to create a single vocabulary for all stakeholders. This was also promoted by Wu et al. (2015) to explain the importance of managing knowledge using Organizational Learning via EHR technology. They explained that learning by doing was not enough. Hence, they explored the role of absorptive capacity in adopting KM practices. This study contributed by adding pre-adoptions of Knowledge Management tools like EHR.

Harris (2016) explored the concepts of Knowledge Management and Organizational Learning in context with Nursing Intellectual Capital (NIC) which has emerged in the recent years and involves nursing knowledge resources to improve performance in healthcare organizations. This study discussed how nursing knowledge resources could be used to improve healthcare performance. Another group of experts Sibbald et al. (2016) investigated Knowledge Management in Healthcare Organizations to create a model for effective Knowledge Management implementation in these organizations. A qualitative methods approach was used from data from ten healthcare organizations. It was reported that not many healthcare organizations had a formal implementation of Knowledge Management. Leadership, Culture and financial resources were found to be significant predictors of Knowledge Management practices.

Based on the discussion above, it can be said that use of Knowledge Management concepts is becoming more and more popular in healthcare sector. As above mentioned studies have shown, Knowledge Management could be one of the important tools in improving hospital performance and quality of care. Moreover,
with fast improving technology and research going on in pharmaceutical and biochemistry, the currently chaotic scenario is going to become more complex with time. Most of the past research is focussed on bringing up theoretical models on the implementation of tools and techniques for knowledge sharing and dissemination. There are even studies to link performance to learning and Knowledge Management but there is a definite gap when the performance of the hospital (measured through patient satisfaction) is linked through Organizational Learning to Knowledge Management specifically in healthcare sector. Moreover, there are not many research studies linking Knowledge Management to hospital performance in public sector hospitals in India. This study therefore, aims to fulfil this very crucial gap in Indian healthcare sector.
References


Sher, P. J., & Lee, V. C. (2004). Information technology as a facilitator for enhancing dynamic capabilities through Knowledge Management. Information & management, 41(8), 933-945


