Chapter 2: Literature Review

The literature review was conducted using an integrated database search comprising of EBSCO host, Emerald insight, Sage online, Wiley online library, references of primary research carried out by professional organizations, other databases, and published materials.

2.1 Overview of emerging global scenario

Organizations across the world face a common challenge of improving their business performance in order to gain competitive advantage, if we closely look at the present global scenario, North America is associated with restructuring and downsizing, and it is predominantly carried out to regain market share from global competition, in Eastern Europe organizations are struggling to introduce new behavior and procedures with an objective that it will enable them to compete in the free market, and the Third World countries are fervently trying to penetrate the growth market around the world for their economic development (Basadur & Gelade, 2006).

Some of the earlier organizational research studies, have pointed out that effective organizations have always displayed distinctive characteristics in terms of efficiency, adaptability and flexibility, as a result in the last few decades many organizations had predominately adopted routines, and the so-called efficient organizations were able to sustain by following a well-structured, stable routines/process with the sole objective of delivering its core products, often in high quantity, in the right quality, and at low cost (Mott, 1972). However, as a result in the past efficiency was able to strive in a relatively stable business
environment, but the same may not be the case, as the today’s world, is more volatile, and efficiency alone cannot be an effective business strategy.

The current organizations are fast becoming dependent on superior thinking, though labor, capital, processes, and technologies still continue to be important, however organization's capability to think is becoming more important, and terms such as knowledge management and intellectual capital of late have gained greater prominence in some of the organizations (Basadur & Gleade, 2006).

The changes in technology and business landscape are fast taking place today unlike in the past, therefore, now organizations are not confined just to introduce variation in existing products, but also design new technological and organizational architecture that can stimulate continuous innovation in companies (Brown, 2003). Brown further stresses that company no matter, what business it is into, should adapt its technology to the work and must learn to create an environment that encourages continuous innovation by its employees.

However in the current era of economic downturn, organizations across the globe are unable to respond to the challenges and are compelled to explore various options such as shutting down, downsize operations, or cut operating costs, as it becomes necessary in some of the organizations in the event of an unfeasible business operating conditions, but today if the organizations are just preoccupied with costs alone then they will lose track of other avenues, which otherwise may present to them more options and opportunities for survival and growth, such as exploring the longer-term importance of the strategic factor - like fostering and disseminating innovation across organization (Meyer & Vereecke, 2012), and thus try to regain some of the lost ground. Some companies may also be forced to
revisit their product portfolio and introduce new products based on the need of the customers and it will further enable them to remain competitive and profitable, and to do that firms must also have right conditions and environment to capitalize on maximizing success from innovation (Alwis & Hartmann, 2008).

Therefore the changes in the global landscape is forcing the contemporary society of today to shift its thinking about innovation in organizations – the innovation may be in technology, in product, in processes and it may also be strategic or organizational, as it is considered as key form of knowledge creation and is difficult to be just explained in the form of information processing or problem-solving (Alwis & Hartmann, 2008).
2.2 Knowledge management and innovation linkages

Nonaka and Takeuchi have pointed out that innovation process is the most knowledge-intense business process (Nonaka & Takeuchi, 1995), and earlier they had also advocated that the primary task of innovating firm lies in reusing & applying its existing knowledge assets, and exploring new knowledge in the organizations. It is also frequently mentioned in the literature that one of the main determinants of organization's innovation is knowledge (Nonaka & Takeuchi 1995; Slater & Narver 1995; Galunic & Rodan 1998; Darroch 2005; Carneiro 2000 and Plessis 2007) and knowledge management is often cited as an antecedent of innovation (Carneiro, 2000; Dove, 1999; Nonaka & Takeuchi, 1995).

Hamel defines, “innovation as a marked departure from traditional management principles, processes, and practices or a departure from customary organizational form that significantly alter the way the work of management is performed” (Hamel, 1999), therefore it may be fair to consider innovation as dynamic and evolutionary process in the organizations and requires supportive leadership. To understand innovation better, it should be viewed from a process perspective in the organizations and as when it encounters new problems that can be easily resolved, and solutions can be found with the development of new knowledge (Nonaka, 1994, p. 14), also industry practitioners and academicians have recognized knowledge as a key source of competitive advantage (Grant, 1997), understanding the linkages between knowledge management and innovation also enable us to understand how the firms can exploit and generate new knowledge, and also provides a new context to explore development of new products/services (Shani et al., 2003).
On analyzing the definition provided by Gartner Group on Knowledge Management – “it is an emerging set of organizational design and operational principles, processes, organizational structures, applications and technologies that help knowledge workers to leverage dramatically their creativity and ability to deliver business value” (Gurteen, 1998), we get a sense that the existing organizations already have process, structure, and technologies, but our new perspective lies in understanding the role of the knowledge workers and how organizations can take advantage from them. Knowledge is also considered as a newly found and important resource for any firm as it has certain inherent characteristics such as it is highly valued, rare, and can not be easily copied, and if effectively utilized, it can create a uniquely advantageous position, assuming that the knowledge is also in tacit form (Polanyi, 1966; Hall & Sapsed, 2005), and knowledge management strategy for an organization need not be arbitrary and much depends on the “way the company serves its clients, the economics of its business, and the people it hires” (Hansen et al., 1999).

In an APQC report of 2005, a longitudinal study of best-practice organizations confirmed the notion that innovation must have a corporate focus, driven by top down, and CEO’s support and commitment to be highly visible. In 2009, APQC once again visited the same organizations and noted that though top level support and commitment is still essential for innovation to flourish in the organizations, but is not a sufficient ingredient by itself. The organizations must have matching bottom-up efforts and involve the employees who are closer to the customers, and should be supported by systems, structures, and other drivers to make it successful (APQC, 2009a).

Schumpeter, first defined innovation as the successful introduction of the new things such as products, methods of production, market and so on (Schumpeter,
Since then the research has extended its scope from economics to management and engineering fields, and now innovation also has emerged as a multi-dimensional phenomenon (Xu et al., 2010). Its reach now extends to various other disciplines – as it is regarded as an object or a tool for entrepreneurship (Drucker, 1993; Rothwell, 1994), it can be considered as a process or a result of a process (OSLO, 2005; Trott, 2005).

Innovation is considered as a strategic option and has witnessed high growth regarding the increase in customer base, improvement of assets, capabilities and enhanced product/services offerings (Kim & Mauborgne, 2004). Innovation also opens up multiple avenues and scope for improvement within an organization, as a recent empirical study also substantiates it, that the firm’s ability to innovate and performance improvement in (production, marketing, and finance) are positively associated (Gunday et al., 2011).

In an earlier survey of 100 top companies of the UK administered by KPMG, it has emerged that 50% of the firms have undertaken some form of knowledge management initiatives with an aim to remain competitive, in the recent studies also many scholars have widely discussed the effect of innovation on firm’s performance (Cho & Pucik, 2005; Herna´ndez-Espallardo & Delgado-Ballester, 2009; Salomo et al., 2008), studies have also established a positive linkage between firm’s performance and innovation, such as improvement in ROI, in market share, competitive positioning and value addition to the customers (Neely et al., 2001). Further literature review in this direction also suggests a direct linkage between innovation process and firm’s performance and is also facilitated by innovation outcomes (Binti et al., 2011).
Drucker argues that like any other corporate function, innovation should also be managed, and greater success is likely to result from a systematic pursuit, rather than a one-time idea generation, he further puts across his insight by highlighting that “Innovation is work rather than genius. It requires knowledge. It often requires ingenuity. Moreover, it requires focus”, and when all the ingredients are cultivated in an organization then innovation also requires hard, focused and purposeful work, and finally it should also be supported by diligence, persistence, and commitment in order to utilize the talent, ingenuity, and knowledge (Drucker, 2002), hence innovation is a multi-prolonged task requiring conscious effort to make it a success and difficult to be embedded in the organization.

Peebles argues that, innovation should not be viewed from the perspective of a traditional business function and activities, where one uses templates, rules, processes and even measuring success from it in a conventional way, innovation is a unique feast, and is anything but business as usual. However, the uniqueness of certain organization lies in their ability to bring out new ideas all the time, though the ideas may lead to development of new products, enhanced ways of working, new strategies, or even entirely new line of business and open up many more such business avenues for it to play, and the secret lies in finding how some companies succeeded (Peebles, 2003). Hamel had suggested that if organizations across the globe would like to gain a competitive advantage then it would have to be necessarily built on a capacity of strategic innovation; though he also cautioned that the strategy alone will not lead to innovation (Hamel, 1997).

In different studies one conducted by a top American consulting organizations (Strategos, 2004), and other two studies of Arthur D. Little (1994, 2005), had provided some deeper insights, that the organizations have huge untapped potential to improve profit and growth, and this can be achieved through
exploitation of innovation management, therefore it is fair to say that managing innovative ability should be accorded utmost priority in the organizations if organizations want to be led into a path of increase in profitability and growth. Further in the 2005 Arthur D. Little’s study of over 800 organizations, the conclusions drawn were that by practicing innovation excellence, organizations could boost their EBIT by 4%, top innovators gained substantial higher sales from new products to the extent of 2.5 times, and also achieved more than 10 times higher returns from their investment in innovation initiatives, the numbers are very appealing, and that can make significant impact to any organization. Therefore the questions need to be answered, why innovation should not be a top corporate agenda? Moreover, why not many companies pursue innovation full heartedly? The study also revealed that unlike any other organization, top innovators have a well-balanced architecture, i.e. by explicitly linking business strategy to well-defined and clear innovation objectives, and they regularly address all elements of innovation capabilities, which includes idea management, product/service development process, process to gather market intelligence and many more such factors, hence it is fair to say that a deliberate choice of such a practice by organizations can make a huge difference and also enhance their competitiveness. However from the studies of Strategos and Arthur D. Little, it is also concluded that though most companies viewed innovation as extremely important but only about 15% of the surveyed organization considered themselves to be successful at creating an innovation environment.

The conclusion drawn from the both studies also suggest that organizations have long way to go before they can embed a DNA of innovation and can drive rich benefits from it, according to Dobni the organizations that have deliberately followed a path of innovation strategy are the organizations that are more successful, however in reality many of the organizations still have long way to go, and perhaps by an exploitative and deliberate positioning they will be able to
realign with the changes taking place in the competitive landscape and, as a result, they may experience increased differentiation that would be difficult to overcome easily, and those prospective innovative organizations may have enhanced margins to play with, hence reduced price sensitivity, ease of pressure on excessive focus on reducing limited value-added activities, and thus may further encourage organization to make more investments in innovation (Dobni, 2010).
2.3 **Innovation culture as a differentiator**

Unlike Six Sigma or operational excellence which is widely practiced in the organizations over the decades, and now it is embedded in some of the organizations like GE and Motorola, but now remains insufficient as a practice to deal with differentiation because of growing competition, whereas innovation remains a more important challenge that also has a high potential and greater ability to bring about the desired differentiation, though now seems more solvable than ever, this is possible by the decades of research by scholars such as Robert Burgelman, Clayton Christensen, Eric von Hippel, Henry Mintzberg, James Utterback, and others that has enabled us to unearth the patterns common to successful innovations, and now some of the firms are also able to understand that a structured approach is required to be followed to increase their odds of creating innovations, and that can make significant impact to their growth (APQC, 2005).

However nowadays number of organizations without first grasping the intricacies associated with innovation and culture, remains obsessed with implementing radical & new models as their business strategy with an objective of staying competitive and also to survive (Leifer, 2002; Chesbrough, 2006a; Gratton, 2007), it needs to be noted that innovation activities do not happen in isolation, it occurs in specific social context and influenced by cultural and political traditions of the respective national (Khairuzzaman & Ismail, 2007), and also the existing cultural conditions of the organization determine whether, when, how, and in what form innovation can be adopted (Herbig & Dunphy, 1998).

McGehee in an APQC report stresses, that “The key to successful market innovation is in the authenticity of a company's innovation culture. It must be more than a program, process, or initiative. It must be woven into the very fabric
of the company" when effectively done it can provide great benefits (APQC, 2005). To understand innovation culture better it should be looked from a perspective of a subculture of an organization culture, Schein’s defined organizational culture, and then he argued that the organizational culture often develops subcultures, that can coexist in the organization, and requires to be managed effectively otherwise it may result in dissonance in an organization (Schein, 1988).

Innovation culture can be viewed as having the following attributes in an organization:

- organization-wide shared basic values that support innovation,
- organization-wide norms for innovation, and
- perceptible innovation-oriented practices (artifacts and behavior) (Herzog & Leker, 2010).

Dobni also defined innovation culture as a multi-dimensional context that includes the intention to be innovative, the infrastructure to support innovation, operational level behaviors necessary to influence a market and value orientation, and the environment to implement innovation (Dobni, 2008). Innovation culture is also defined as an organization-wide shared basic value that support innovation, organization-wide norms for innovation, and perceptible innovation-oriented practices (Herzog & Leker, 2007). According to Dunphy and May, “An innovation culture expresses the way an organization works to deliver innovations in its products, services, business models or working practices” (Dunphy & May, 2012).
Recent studies have also found that many of the elements of an innovation culture are also found in the related orientation constructs such as market, technology, learning, and entrepreneurship and are positively linked to innovation (Zhou et al., 2005), therefore in order to fully grasp and capitalize on innovation culture in its true form, it is essential that organizations view it as a broad-based and holistically (Boverman & Russell, 2004). In an APQC report, on the study of the best-practice partners, it was revealed that when organizations encourage and facilitate a distinct culture related to innovation, it enables them to achieve the objective of innovation in the organization, and senior management also use the introduction of innovation processes, infrastructure, and tools as a means of changing the organizational behaviors and focus, in other words, they use innovation to change the culture of the organization and orientation (APQC, 2005).

2.3.1 The role of innovation archetype

According to APQC, an archetype is a unique mix of cultural and operational traits that represent how an organization innovates, the effectiveness of driving company’s innovation performance depends on “innovation archetype”, an innovation archetype is a combination of innovation strategies and operational elements that are tied together (Donaldson, 2001; Meyer et al., 1993), the firms can only pursue a limited number of archetypes due to their inherent innovation DNA. However, they can exercise some leeway in deciding which archetype best fits their business objectives (Pohle & Wunker, 2007).

The firms that intend to innovate, they are compelled to formulate strategies – even though some organizations also try to avoid deliberately, and create structures, cultures, and capabilities, and set incentives and coordination systems
in place, and in many of the organizations these elements are not normally present at the time of inception. The companies who adopt different innovation strategies to organize their innovation portfolio accordingly also deploy a limited number of organizational elements - incentive systems, leadership principles, and capabilities, (Prange & Schlegelmilch, 2010) and together, they constitute what organization theorists call them “archetype” (Greenwood & Hinings, 1993).

As it is evident that no one-size-fits-all approach will be suitable for the organizations while addressing innovation and knowledge management initiatives, that may vary greatly from organization to organization, and requires an understanding of the underlying differences in organizations’ operations and culture (APQC, 2009b), therefore it will be futile to attempt to replicate the outstanding innovators without having first the right architecture in place. In a study conducted by APQC between 2006 & 2007, of the 250 organizations across, the resulting “Innovation Archetype Model” - the innovation value chain comprising of sourcing, sharing, and implementation, at the innovative firms conform to only a few number of innovation archetype, which represent “a self-reinforcing combination of culture and operations” (Pohle & Wunker, 2007), and the major type of archetypes are as below:

1. **Marketplace of ideas**, presents in 16 % of the organization, the familiar organization that characterizes this particular type of archetype is Google.

2. **Visionary Leader**, present in 22 % of the organization, the familiar organization that characterizes this particular type of archetype is Apple.

3. **Innovation through rigor**, present in 37% of the organization, the familiar organization that characterizes this particular type of archetype is Samsung.

4. **Innovation through collaboration**, present in 25% of the organization, the familiar organization that characterizes this type of archetype is Vodafone.
Today there are only a few companies that are effectively and consistently pursuing innovation, such as 3M, P&G, IBM, and a handful others, however many organizations who try to emulate these companies, without understanding the philosophy and values that were indoctrinated into the business by the founders and leaders and in some organizations that took place a century ago, as they try to focus too much on the specific innovation practices, policies, and systems and often not able to take off (Leavy, 2005), and even fail miserably to create worthwhile differentiation.

To put things in the right perspective, we need to acknowledge that the innovative organizations have a different characteristic than the one that are not innovative (Subramaniam, 1996). Also, it is not sufficient for the organizations to be highly innovative; they also need to capitalize on their innovation ability on an ongoing basis to improve its business performance (Neely, et al., 2001). Therefore the immediate challenge is to understand how successful organizations have emerged, characteristics and practices that got evolved, and the challenges they faced during such a complex journey unless we do that organizations will only be attempting to build processes and investing in infrastructure and lose out on the big picture.
2.4 **Knowledge management and innovation culture**

The literature points out that though management research is extensively done on organizational culture, however, its relationship between knowledge management system has not been explored sufficiently (Ciganek, Mao, & Srite, 2008), some studies that investigated issues of KM concluded that corporate culture that plays a vital role in making knowledge sharing and exchange successful/unsuccessful in the organizations (Rhodes et al., 2008; Zhang et al., 2006; Leidner & Alavi, 2006; Kim & Lee, 2006; Chong & Choi, 2005; Akamavi & Kimble, 2005; Lucas, 2005; Park et al., 2004; Faraj & Wasko, 2001), also according to Delong and Fahey organizational culture can facilitate organizations to achieve their business objectives, and is also recognized for making an influence on knowledge management (Delong and Fahey, 2000), thus suggesting a pivotal role of culture in managing knowledge.

Organizational Culture refers to shared assumptions, values, and norms (Schein, 1985), though in reality culture means different thing to different people, Schein has also advocated that culture is like a sustainable strength within an organizational context (Schein, 2004). Barney and other researchers advocated firm’s culture as ‘a complex set of values, beliefs, assumptions, and symbols that define the way in which a firm conducts its business’ (Barney, 1986, p. 657), however in reality organizational cultures takes shape depending on the organizational dynamics, structures, and decisions taken by individuals and groups exposed to consensus, disagreement and culmination of various perspectives (Martin, 2002), thus culture should be viewed as "a variable" that can be developed as unique and strong (Smircich, 1983, p.439), also organizational culture is generally considered to be a major hindrance to the acceptance of knowledge management systems (De Long & Fahey, 2000; Grover & Davenport, 2001; Ruppel & Harrington, 2001), though the organization culture is considered
important in the realm of knowledge management, however still more is to be known on how to create an effective culture that is conducive to KM (Oliver & Kandadi, 2006), and according to Davenport two-thirds of a firm's efforts are also required towards organizational and cultural issues (Davenport, 1997), perhaps even to reap some benefits, and O'Dell estimates that fewer than 10% of organizations that tried to implement KM were only successful in making it part of their culture (O'Dell, 2002).

Recent researcher’s focus on organizational sciences is toward how organizational cultural studies have enhanced functional capabilities, and how they have emerged as a key driver for effectiveness (Schein, 1983, 1984, 1985; Yilmaz & Ergun, 2008), further organizations can also expect handsome gains by embedding innovation into the organization culture and in its management processes (Syrett & Lammiman, 1997; Tushman & O’Reilly, 1997). Herkema defines innovation as a knowledge process aligned to develop new knowledge to facilitate value creations and business solutions (Herkema, 2003). Tushman and O’Reilly also consider organization culture central to innovation, and along with others they have pointed out that the way organizations makes use of structures, practices and procedures, day-to-day artifacts and the ways it communicates value proposition, that may lead to creating an impact on creativity and innovation.

Sharifirad & Ataei have put forward an analogy to gain better understanding of innovation culture, according to them innovation is like a seed that requires a fertile and cultivated land in the form of organization culture (Sharifirad & Ataei, 2012), according to Dobni, the researchers have recommended studying the innovation culture's effect on performance as this area lacks empirical studies in the literature (Dobni, 2008), and also earlier academic and practitioner's interest had increased on the effects of innovation culture on organization performance.
(Christensen & Raynor, 2003; Govindarajan & Trimble, 2005; Hamel, 2002; Hammer, 2004; Senge & Carstedt, 2001). Table 2.1 summarizes various strands extracted so far from the literature review on the knowledge management and innovation culture linkages.

Table 2.1: Knowledge management & innovation culture linkages

<table>
<thead>
<tr>
<th>Authors/Researchers</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Pillania, 2006)</td>
<td>Inadequate focus on cultural aspects has led to many failures of KM initiatives</td>
</tr>
<tr>
<td>(Gold et al., 2001; Yang, 2007)</td>
<td>Many studies that have investigated KM initiatives have failed to point out that culture is the main obstacle to success</td>
</tr>
<tr>
<td>(Ribiere and Sitar, 2003)</td>
<td>Lack of insight is evident in LR on how organizational culture supports to or inhibit KM</td>
</tr>
<tr>
<td>(Dobni, 2008)</td>
<td>Innovation is very much circumstantial and the degree to which organizations are regarded as innovative is limited by its culture</td>
</tr>
<tr>
<td>(Oliver and Kandadi, 2006)</td>
<td>Lack of empirical evidence has enabled us to understand the specific cultural variables that facilitate KM processes and develop knowledge culture</td>
</tr>
<tr>
<td>(Chapman &amp; Magnusson, 2006)</td>
<td>KM &amp; Innovation should be investigated from a systemic point of view for better understanding</td>
</tr>
<tr>
<td>(King and Marks, 2006)</td>
<td>Relationship between culture – KM is not so straight forward</td>
</tr>
<tr>
<td>(Brian, 2005)</td>
<td>On 3M, many companies tend to view specific innovation practices but fail to understand philosophy &amp; values underpinning them</td>
</tr>
<tr>
<td>(Rai, 2011)</td>
<td>Only a few studies have focused that too on limited aspects of organizational culture and KM</td>
</tr>
<tr>
<td>(Huber, 2001)</td>
<td>Specific norms &amp; values that have influence on KM practices are inconclusive</td>
</tr>
<tr>
<td>(Janz &amp; Prasarnphanich, 2003)</td>
<td>Conceptually/empirically little research is done to understand what constitutes or facilitates creation and dissemination of knowledge</td>
</tr>
<tr>
<td>(Herzog, 2011a)</td>
<td>Only one reference of linking open innovation with innovation culture on scanning LR is found</td>
</tr>
</tbody>
</table>
Though the earlier studies directly point toward a strong link between KM and innovation culture, Julia and Naranjo have also pointed out that much of the importance is attached to culture as a key stimulant for innovation, however this aspect also lacks empirical research as not many studies have focused on the effect of culture on innovation, and available few research studies have focused and analyzed on the limited aspects of cultural characteristics (Julia & Naranjo, 2011). On scanning the literature so far the researcher has come across only one reference to a study linking open innovation with innovation culture that to with specific reference to specialty chemical industry (Herzog, 2011a), thus leaving a huge gap in gaining an understanding of how successful companies have tread the journey of establishing linkages between knowledge management and innovation culture and that has also provided them economic prosperity.
2.5 The role of culture in innovation and knowledge management

A truly innovative company is a combination of many elements such as a winning business strategy, understanding of customers, talented people, and execution excellence, however, all the above-mentioned elements may not be sufficient by itself, the most important element not listed above moreover, that has the potential to make a difference lies in the form of corporate culture - it is the organization's self-sustaining patterns of behaving, feeling, thinking, and believing – and it also has the potential to link all the factors together (Jaruzelski, Loehr, & Holman, 2011).

However, in a recent study of The Global Innovation 1000 provides us a startling finding, that only about half of the surveyed companies were able to point clearly out that their corporate culture robustly supported their innovation strategy, though the studies also concluded that the unsupportive culture and poor strategic alignment has resulted in underperformance relative to their competitors (Jaruzelski, Loehr, & Holman, 2011). This study raises a very fundamental question about why such a disconnect exist between corporate culture and innovation strategy, even though it has been established that, the most important driver for increasing profitability and growth in organizations is through enhancing its innovative ability (Dobni, 2010), and we also need to acknowledge that the innovative organizations have different organizational characteristic, and they operate differently than most of the non-innovative companies (Subramaniam, 1996).

Schein has stressed that, "Always think first of culture as your source of strength", he had further defined organization culture as, "a pattern of shared basic assumptions that the group learned as it solved its problems of external
adaptation and internal integration, that worked well enough to be considered valid and, therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to those problems". Therefore culture is essentially a way towards patterning and integration, it also implies that providing opportunities to employees to explore and experiment, whereas the management needs to support, through actively encouraging and motivating the employees’ innovative behaviors (Schein, 1999). A simpler way to understand culture is that - it comprises of unwritten rules, shared beliefs, and mental models of people, that affects the effectiveness of innovation (Davila et al., 2006), culture is also dynamic and evolves all the time, organization by designing new systems, processes, new symbols, and organization values can facilitate in evolving a company culture (Christensen et al., 1999).

The leaders have the challenge of managing the culture in the organization, and if not managed effectively then culture will manage them, and managing innovation is about creating culture in which new ideas are generated, valued, and supported (Streatts and Boundary, 2004), there is no single model of innovation that works well for all firms, and when companies imitate another company they get into trouble, also if they try to replicate the characteristics of other firms they may also fail miserably, as the business culture and operating model are not similar to their DNA, Instead they should find out what characteristics are inhibiting them and try to develop them and capitalize on those capabilities that are currently supporting the existing strengths of the firm, then only companies may have better chance of success (Pohle & Wunker 2007), also innovation cannot be a standalone initiative in organizations and requires organizational support to inculcate innovation culture. To get a better perspective on the dynamic and evolutionary nature of the culture, we look at the following examples of some of the organizations:

- IBM is known as a computer industry giant, when we go back to the past, it was almost on the verge of disappearing in the early 1990s, the reason
behind it was that the company’s culture based on the age old foundation of “prized homogeneity and conformance”, was making it difficult to deal with the changes and challenges going around it, however, it was brought back on track by a new external CEO, by driving a forceful and risky cultural change, and today it is once again thriving (Christensen et al., 1999).

- In the case of Dell, in 1997 its CEO Kevin B. Rollins made a determined effort to understand and grow Dell’s culture into a competitive asset. Rollins’ objective was to adapt and enhance the positive elements of the existing culture and not to create a new culture, in other words, winning culture (Fisher, 2004), and he succeeded in his endeavor.

- The organizations are generally dynamic and have to deal effectively with some form of the organizational and cultural changes all the time, at Microsoft it is a well-recognized and understood phenomenon, therefore whenever knowledge management initiatives or activities are introduced, individuals and group may be required to recalibrate their ways, since the familiar patterns of the existing culture may not support such an initiative, a knowledge-based and dynamic organization such as Microsoft can effectively cope with the introduction of new business strategy or processes, and adapts cultural changes in an effective manner (Conway & Sligar, 2002), and on an ongoing manner.

In all the three organizations referred above at some stage of their existence, it had to redefine its culture or had to align to mitigate the inherent risks it
encountered, and with the initiative and vision of its leaders it was once again able to survive and achieve superior performance.

As it is evident from literature review that knowledge management and innovation are positively related (Chapman & Magnusson, 2006; Robinson et al., 2006; Nonaka, 2007), also from the literature it has been repeated emerged that one of the main driver of innovation is the role of knowledge and knowledge management, that is essentially associated with the process of acquiring, sharing and using knowledge in the organization and potential to improve capabilities and performance (Scarborough et al., 1999; Spender, 1996; Grant, 1996). Nonaka and Takeuchi have also pointed out that the innovation process is the most knowledge-intense business process (Nonaka & Takeuchi, 1995), further according to Slater and Narver and others, the organizations should regularly renew its knowledge for it to remain innovative (Slater & Narver, 1995; Galunic & Rodan, 1998), and use its knowledge assets to create new knowledge (Cantner et., 2011), hence by this process the innovative firms can remain successful in converting their existing knowledge assets and resources to develop new knowledge (Nonaka & Takeuchi, 1995), and this way innovation in organizations can be encouraged by effectively managing knowledge. Knowledge also acts as an effective catalyst and simulates a conducive environment which intern encourages creativity and innovation (Gloet & Terziowski, 2004), according to Devenport and others the role of culture is also important in managing knowledge effectively (Davenport et al., 1998; Delong & Fahey, 2000), also existing literature points to the role of culture as a prerequisite to innovation in organization (Dobni, 2008), and Barney points out that if over a long period if culture is sustained and nurtured, then it can shape into an important asset, thus facilitating the development of a unique competitive advantage to the organization, and that is also not easily imitable (Barney, 1986), literature review also suggests that strong innovation cultures of a group significantly and
positively affects the innovative capacity (Hurley & Hult, 1998). Table 2.2 summarizes various strands extracted so far from the literature review on the role of innovation culture on innovation and knowledge management.

Table 2.2: Linkages of innovation culture on KM & Innovation

<table>
<thead>
<tr>
<th>Authors/ Researchers</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Govindarajan &amp; Trimble, 2005; Hamel, 2002; Hammer, 2004; Senge &amp; Carstedt, 2001)</td>
<td>Recent academic &amp; industry practitioners are showing great interest on innovation, &amp; also on effect of innovation culture on organization's performance</td>
</tr>
<tr>
<td>(Hurley &amp; Hult, 1998)</td>
<td>LR suggest that strong innovation cultures of a group significantly and positively affects the innovative capacity</td>
</tr>
<tr>
<td>(Dobni, 2008)</td>
<td>Existing LR points to the role of culture as a prerequisite for innovation in organization</td>
</tr>
<tr>
<td>(Barry, John, &amp; Richard, 2011)</td>
<td>Companies with unsupportive cultures &amp; poor strategic alignment, significantly underperform</td>
</tr>
<tr>
<td>(Subramaniam and Youndt, 2005)</td>
<td>It is frequently pointed in LR that though a linkage between firm knowledge &amp; innovation is evident, still more needs to be understood about its complex nature</td>
</tr>
<tr>
<td>(Wang and Ahmed, 2004)</td>
<td>LR suggests that a primary focus is lacking to establish a scale empirically to measure organizational innovativeness</td>
</tr>
<tr>
<td>(Reiunset et al., 1997; Geiger, 2006; Hans, 2007)</td>
<td>Culture of innovation should be treated as a change project to establish how transformation has taken place</td>
</tr>
<tr>
<td>(Julia &amp; Naranjo-Valencia, 2011)</td>
<td>Though lot of importance is attached to culture as a stimulant for innovation but lacks empirical research in this aspects</td>
</tr>
</tbody>
</table>

Frequent reference in LR points to linkages between firm’s knowledge and innovation, however still more needs to be understood about its complex nature (Subramaniam & Youndt, 2005), and earlier studies on innovation processes are
more towards external perspectives thus leaving aside internal dynamics and characteristics, further as mentioned earlier that King and Marks pointed out that the relationship between culture – KM is not so straightforward (King & Marks, 2006), thus making it difficult for the organization to create such linkages due to complexities and uncertainties, though the earlier studies have suggested the presence of a strong link between KM, innovation, and culture.

Julia and Naranjo have also pointed out that much of the importance is attached to culture as a key stimulant for innovation, however this aspect also lacks empirical research as not many studies have focused on the effect of culture on innovation, and the available scarce research studies have focused and analyzed on limited aspects of cultural characteristics (Julia & Naranjo-Valencia, 2011). Reißet et al. and others have also pointed that development of a culture of innovation should be treated as a change project to establish how transformation from one state to another have taken place (Reißet et al., 1997; Geiger, 2006; Hans, 2007), however studies of specific norms and value that have influence on the KM practices are also found to be inconclusive (Huber, 2001), therefore a gap between theory and practice is clearly visible, suggesting a urgent need to carry out studies to understand what aspects and type of culture have acted as a stimulant for innovation in the organizations.
2.6 Knowledge management and impact on performance

Hamel argues that “your company will be challenged to change in a way for which it has no precedent” (Hamel, 2006). However most of the companies are still following the 20th-century model of designing and managing organizations, that is based on the importance attached to the hierarchy, labor, and capital, and this strategy sometimes fails them in effectively dealing with the ever growing challenges when they are forced to operate in a rough and competitive landscape, even more so since it does not encourage to tap the potential of its talented employees by giving due emphasis on the collaboration activities and forgoes its wealth creation opportunities, and ultimately leads to a not very conducive work environment and that too not supporting in attaining its critical objectives (Hamel & Bryan, 2008).

In an era of fierce competition, companies are forced to look beyond the traditional business model of operating and compelled to revisit their organization and innovate to survive and become successful (Xu et al., 2010). In one of the study it has emerged that in some of most successful firms as much as 75% of the revenue is generated by the introduction of new products/services, and five years ago those products/services had not even existed (Smith, 2006), unlike the past where product life cycle have been never ending, like our famous “Bajaj Vespa”?

Today many of the organizations even highly value and consider knowledge and innovation as an important part of their strategy and are aggressively pursuing such a strategy, knowledge and innovation are considered as the crucial sources for sustaining competitive advantage of a company (Nonaka & Takeuchi, 1995), earlier studies points out that when KM practices are deployed in the organizations they are positively associated with organizational performance both
qualitative (Davenport & Prusak, 1998; Nonaka, 1994; Massey et al., 2002) and quantitative (Choi & Lee, 2003; Darroch & McNaughton, 2002; Lee & Choi, 2003; Schulz & Jobe, 2001; Simonin, 1997; Tanriverdi, 2005). Davenport and others have also argued that knowledge management though has the potential to bring in direct economic benefits to the firm through saving or earning money. However, a more perceived view seems to be that it has an indirect impact on financial performance of the firm (Davenport et al., 1998).

According to Davenport and Prusak, the practice of knowledge management is focused on processes and mechanisms for locating and sharing useful knowledge, and if it is effectively utilized then, organizations can see an improvement in performance (Davenport & Prusak, 1998). In a similar context organization’s ability to share internal best practices is also equally important for overall organizational performance (Szulanski, 1996), and when organization also exploit external knowledge it enables them to drive crucial new product innovation (von Hippel, 1994) and ultimately in terms of organization performance in general (Sher & Lee, 2004), and also the main reason for knowledge management practices to gain prominence in the organizations is due to the fact that it makes a difference to the bottom line of the company (Andreeva & Kianto, 2011), further knowledge management also enhances economic value in the firm by various other means like accelerating innovation and structural agility; shortening of cycle time; creating a knowledge-friendly culture; low attrition (Demarest, 1997).

Knowledge Management is a systematic effort to enable information and knowledge to grow, flow, and create value (O’Dell & Hubert, 2011), some of recent studies that positively supports knowledge management in the organizations points to KM as an originator of organizational performance (Zaim, Tatoglu, & Zaim, 2007), and as pointed out earlier also towards rise of
knowledge and intellectual capital as key sources of value creation, unlike in the past when the importance was attached to tangible assets such as land, machinery and equipment (Nonaka & Takeuchi, 1995; Davenport & Prusak, 1998), even though KM has gained so much prominence in the recent times but still lacks empirical studies that provide clarity on the extent of impact that can be created by KM infrastructure and processes on KM performance (Zaim et al., 2007).

According to Alavi and Leinder an organizational knowledge can be viewed as a valuable strategic asset that has a potential to influence future actions (Alavi & Leinder, 2001). Cavaleri and others have pointed out that organizational KM predominately focuses on knowledge related activities with an aim to leverage organization's intellectual capital to achieve its objectives (Cavaleri, 2004; Sveiby, 1997), studies have also pointed out to KM’s direct link with various aspects of firm's performances, like KM and financial performance measures are positively linked (Tanriverdi, 2005), to some of the-the non-financial performance measures that could be to quality (Mukherjee et al., 1998), to innovation (Francisco & Guadamillas, 2002), and to productivity improvement (Lapre & Wassenhove, 2001), and according to Kalling KM focuses on building a successful link between knowledge and performance (Kalling, 2003). Earlier Davenport and Prusak have also pointed out that when adopting the practices of KM i.e. by locating and sharing useful knowledge, the organizational performance improves (Davenport & Prusak, 1998). Table 2.3 provides a summary of various strands extracted so far from the literature review on knowledge management and its impact on business performance.
Table 2.3: Knowledge management and its impact on business performance

<table>
<thead>
<tr>
<th>Authors/ Researchers</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Alavi and Leinder, 2001)</td>
<td>Organizational knowledge when viewed as valuable strategic assets it has a potential to influence future actions</td>
</tr>
<tr>
<td>(Cavaleri, 2004; Sveiby, 1997)</td>
<td>KM predominantly focuses on knowledge-related activities with an aim to leverage organizational objectives</td>
</tr>
<tr>
<td>(Tanriverdi, 2005; (Mukherjee et al., 1998; Francisco &amp; Guadamillas, 2002; Lapre and Wassenhove, 2001)</td>
<td>Points to direct link to firm’s financial performance measures, &amp; non-financial such as quality, innovation and to productivity</td>
</tr>
<tr>
<td>(Davenport and Prusak, 1998)</td>
<td>When adopting the practice of KM, the organizational performance improves</td>
</tr>
<tr>
<td>(Kalling, 2003)</td>
<td>KM focuses on building the successful link between knowledge and performance</td>
</tr>
<tr>
<td>(Donate &amp; Guadamillas, 2010)</td>
<td>Culture-oriented towards KM &amp; Innovation is also a factor for better technological performance</td>
</tr>
<tr>
<td>(Dobni, 2008)</td>
<td>Researchers have recommended studying the innovation culture's effect on performance as this area lacks empirical studies in the literature</td>
</tr>
<tr>
<td>(Lemon and Sahota, 2004)</td>
<td>Though it is argued that KM practices concerning innovation are positively related to innovation culture, and this linkage also impacts firm's performance in a positive way, no empirical studies are found in literature to substantiate</td>
</tr>
</tbody>
</table>

However it is also evident from the literature review that culture is perhaps the most influential factor in promoting or inhibiting the practice of KM (Davenport et al., 1998; Lee & Choi, 2003), culture oriented towards KM and innovation has emerged as a factor for better technological performance (Donate & Guadamillas, 2010). Koulopoulos and Frappaolo have pointed out that organizations may continue to build tools and functions related to KM, however if a supportive cultural environment is missing then it cannot achieve any success (Koulopoulos & Frappaolo, 1999), researchers have pointed out that sufficient studies are still lacking in the area of innovation culture’s effect on performance (Dobni, 2008), it
is also argued that KM practices concerning innovation are positively related to innovation culture, and this linkage also impact firm's performance in a positive way, but no empirical studies are found in literature to substantiate the same (Lemon & Sahota, 2004), hence a need arises to study and gain an understanding on how successful organizations have successfully linked KM and innovation culture and achieved improvement in business performance.
2.7 Research gaps that have emerged from the literature review

1. KM & Innovation culture linkages are not adequately addressed in literature

2. Culture acting as a stimulant for innovation in organizations needs to be studied empirically

3. KM & Innovation culture linkages impacting organization performance needs to be studied for better understanding & practice