EFFECTS OF ORGANIZATIONAL CULTURE ON INNOVATION: AN EMPIRICAL INVESTIGATION IN SOFTWARE INDUSTRIES (A REVIEW)

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Abstract

Organizational culture is very important factor for any kind of changes in the organization or for organizational change. It is not compulsory that whatever the changes taken place in the organization involves innovation, but all organizational innovation involves change. Lots of research shows the relationship between organizational culture and organization innovation but there are very few empirical studies which show the impact of organizational culture on innovation.As all we knows many environmental and organizational factors effect or affect organizational innovation but this research has mainly focused on the one important factor organizational culture as independent variable and innovation as dependent variable. The objective of this study is to explore, by means of a model, how determinants of organizational culture can effect or influence or leads to organizational innovation in software industries basically in Mumbai.

Drawing on a variety of approaches and theories used in the previous studies the model presented here is develop using Competing Value Framework (Cameron and Quinn, 1999; Kimberly and Quinn, 1984; Quinn and Rohrbaugh, 1981, 1983) and the integrated, interactive model (Martins, 2000). The following review of related literature includes a discussion of 1) organizational culture, 2) organizational innovation, 3) organizational culture and innovation.

1.0   Introduction:

Compared to 1980s and 1990s, we see that "today's organisations face a new challenge- the requirement to innovate. It demands the organization to look new ways for being creative and innovative. There is need that organization must paying attention to the important source that can create and support environment in which innovation can flourish that is organizational culture. The organization has seen a lot of changes from the 1990s because continuous acquisition of knowledge. If the organization wants to succeed today, there is need that organization infused such kind of culture that will not only ensure survival but eminence in the global market. To succeed today, organizations are challenged to instil the kind of culture that will not only ensure survival but excellence in the global market place. In order to create continuous and sustained value creation firms, must devise and implement an innovation culture which allows them to build the capabilities necessary to compete successfully both now and in the future (Voelpel et al. 2005). Innovation being an element of organizational culture does help steer the organization to maintain competitive advantage.

Our society experiences a grater change in faster rates. Every organization goes through periods of transformation that can cause stress and uncertainty. And it requires an organization must introduce changes (Vazifeh D.Gh, 2011). Today's organizations face a dynamic environment, characterized, by rapid technological change, shortening product life cycles and globalization. Thereby, organization needs to be more creative and innovative than before to survive, to compete, to grow, to lead and to success (Gunusluoglu 2009). Apart from this the organization also forced to re-evaluate & come up with new innovations. (Santos-Vijande, 2007) focused that Innovation has always been essential for the organizations' long-term survival and growth and play very important role in company future. It has been observed that a high technology firm/organization is facing

challenges, how to manage innovation as the organization evolves (Koberg. C. 1999). In reality it is not easy for most of the organization to achieve successful innovation because it cannot be easily explained. A combination of innovative ideas and good organizational innovation management (OIM) is the key to sustaining competitive organizational innovation in the long term (Ahmed, P.K 1998).

Through various studies it is clear that innovation is a path to maintain, grow and promising organizational performance (Cottam, A.J. Ensor 2001). It is also important element for sustaining competitiveness and ensuring an organization's future potential (Krause, D.LE. 2004).

Through various studies we also observed that top management and middle managers play an important role in innovation. Some describe it is an overriding responsibility (Christensen (1999) some emphasis it is informally encouraging employees to innovate and take risks. (Peters (1982) and Pinchot (1985).

It has been also observed that through various literature organizational cultures is an important factor affecting organizational innovation and it plays an important role to create an innovative environment within organizations [Khazanchi et al (2007)]. According to Jassawalla and Sashittal (2002) "an innovation-supportive culture is defined as a firm's social and cognitive environment, the shared view of reality, and the collective belief and value systems reflected in a consistent pattern of behaviours among participants" (p 43). In addition, culture may provide an overarching frame of reference, helping align employee behaviour with organizational objectives of innovation and meet paradoxical demands for control and flexibility. Organizational culture is defined broadly as a collection of values, beliefs and norms shared by its members and reflected in organizational practices and goals [Khazanchi et al (2007)].

McGourty and his colleagues (1996) found that an organizational culture may be modified by specific management practices through strategic direction, employee selection, rewards and recognition, employee deployment, support of idea generation, and multifunctional teaming to encourage innovative behaviour.For firms operating within the ICT industry, possessing an innovation culture is not simply an aid, it is a necessity. Companies that conduct business in high-technology industries must "innovate or die" (Angel, 2006; p.1) and the presence of an innovation culture serves as a critical success factor.

The objective of this review paper is to highlight the definition, conceptualization, of organizational culture and innovation. It also highlights the literature and previous studies on the link between organizational culture and innovation.

2. Literature Review:

2.1 Organizational Culture:

The term Organizational culture has gained interest in the late seventies and early eighties. During the above said period, researcher trying to introduce the new organizational concept of culture. Since the 1990's, a lot of qualitative and quantitative research conducted for the development of theory building. Comparative studies contribute to the OC study (Fraser et al., 2002; Al Khalifa and Aspinwall, 2001; Kit-Fai, 2001; Herselman, 2001; Metle, 2002; Saffu, 2003). Researcher used statistical techniques to analyze cultural factors that measure the likely influence of OC on organizational variables such as performance and change (Van Vianen and Fischer, 2002; Swiercwzek and Onishi, 2003).

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2.1.1 Historical Emergence of Organizational Culture:

Organizational culture is the "collective experiences, formulated by multidimensional factors and influenced by the organization's life, transmitted by individuals and groups from one generation to another as valid ways of dealing with life (Yaghi et al., 2004)." Originally, organizational theorists have borrowed the term "culture" from anthropology and employed it in their research to give meaning to organizational symbols such as language, myths, rituals, norms, artefacts, and legends (Smircich, 1983; Cooke and Szumal, 2000). Therefore, the term highlights "organizing" phenomena as a reflection of the human development rather than "organizations" as institutional bodies (Jelink and Smircich, 1983; Glaser and Zamanou, 1987). This social context or social anthropology developed the cultural concept in terms of human-to-human relations within communicative groups (Trice and Beyer, 1993; Schultz, 1994). The Danish social theorist, Sorensen, refers the culture concept to that stage of ancient human history when people discovered their potential as "land users" (Schultz, 1994). Instead of depending on hunting and animal trapping, humans joined groups that cultivated the land and moved into a more civilized lifestyle and created the stability needed in order to maintain their social organizations; family, tribe, and village (Schultz, 1994). As the "use of land" era become dominant, the cultivation process had evolved as a group-cultural event that created the kinds of social interaction necessary to develop new social structures (Morgan, 1997; Schultz, 1994). Organizational theorists did not adopt the concept of culture in their literature until the late twentieth century (Reichers and Schneider, 1990; Maslow, 1943; Roethlisberger, 1941, 2001; Follett, 1926; McGregor, 1957). The cultural roots in organization theory, however, may be traced to the works of Hawthorne and Elton Mayo's research that have been directed to understanding the behaviour of human beings in organizations under different conditions (Mayo, 1945). Elton Mayo and W. Lloyd Warner's research led to a discovery of a new discipline where social context prepared for culture to become a major topic in the works of modern organization theory (Smith, 2001; Louis, 1985; Schein, 1985; Trice and Beyer, 1993). These efforts emerged in the late 1970s and early 1980s to shape an enhanced version of organizational culture theory (Trice and Beyer, 1993).

In the late 1970s, organizational theorists dealt with the "culture" as an administrative concept (Pettigrew, 1979; Smircich, 1983; Kolb and Shepherd, 1997). When researchers showed the interaction between employee's values (as a culture feature) and organization's activities (as a very well developed artefact of human being), organizational culture (corporate culture) had been developed from anthropological roots and appeared in organization literature as independent concepts (Simon, 1997; Adams and Ingersoll, 1985). Since then, organizational culture has been highlighted intensively as an administrative phenomenon that has impact on the whole organization, public or private (Pettigrew, 1979, 1990; Schein, 1999, 2001).

2.1.2 Organizational Culture:

Although over 150 definitions of culture have been identified (Kroeber & Kluckhohn, 1952), the two main disciplinary foundations of organizational culture are sociological (e.g., organizations have cultures) and anthropological (e.g., organizations are cultures). Within each of these disciplines, two different approaches to culture were developed: a functional approach (e.g., culture emerges from collective behaviour) and a semiotic approach (e.g., culture resides in individual interpretations and cognitions). The primary distinctions are differences between cultures as an attribute possessed by organizations versus culture as a metaphor for describing what organizations are. The former approach assumes that researchers and managers can identify differences among organizational cultures, can change cultures, and can empirically measure cultures. The latter perspective assumes that nothing exists in organizations except culture, and one encounters culture anytime one rubs up against any organizational phenomena. Culture is a potential predictor of other organizational

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outcomes (e.g., effectiveness) in the former perspective, whereas in the latter perspective it is a concept to be explained independent of any other phenomenon. Most discussions of organizational culture (Cameron & Ettington, 1988; O'Reilly & Chatman, 1996; Schein, 1996) agree with the idea that culture is a socially constructed attribute of organizations which serves as the "social glue" binding an organization together. A majority of writers have come to an agreement that it refers to the taken-for-granted values, underlying assumptions, expectations, and definitions present which characterize organizations and their members (that is, they have adopted the functional, sociological perspective).

Organisational culture is an important construct that affects both individual and organisational related process and outcomes. Hofstede (1980) demonstrated that there are national and regional culture groupings that affect the behavior of organizations. Hofstede looked for national differences between over 100,000 of IBM's employees in different parts of the world, in an attempt to find aspects of culture that might influence business behaviour. Hofstede identified five dimensions of culture in his study of national influences, which are power distance, uncertainty avoidance, individualism vs. collectivism, and masculinity vs. femininity.

There seems to be no agreed upon definition of culture in the literature (Abu-Jarad *et al.*, 2010). It is defined from different perspectives. Organizational culture is defined as "the shared, basic assumptions that an organization learns while coping with the environment and solving problems of external adaptation and internal integration that are taught to new members as the correct way to solve those problems" (Park *et al.*, 2004). Schein (1990:111) defined organizational culture as "a pattern of basic assumptions that a group has invented, discovered or developed in learning to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid, and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems". Ball and Quinn (2001) defined organizational culture as "an organization's values, beliefs, practices, rites, rituals, and stories—all of which combine to make an organization unique". Abu-Jarad *et al.*, (2010:34) provide a definition that most authors would agree. According to these researchers, organisational culture refers to "something that is holistic, historically determined (by founders or leaders), related to things anthropologists study (like rituals and symbols), socially constructed (created and preserved by the group of people who together form the organization), soft, and difficult to change".

Deshpande and Wesbter (1989) define organizational culture as "the pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with norms for behaviour in the organization". Another opinion is that of Von Thaden *et al.*, (2002) who regarded organization culture as a system of shared values (what is important) and beliefs (how things work) that interact with the organization's workforce, organization structures, and control systems to produce behavioural norms (the way things done around here). Numerous other studies have reported that organizational culture represents the assumptions and core values developed by a particular group in order to adapt and deal with internal and external influences, which had been agreed upon, and the need to teach new workers in the organization to understand things and think about how to serve the official targets (Robbins, 2003; Scott *et al*, 2003).Martins (1997) define the dimensions of culture, partly includes mission and vision means to achieve objectives, management processes, interpersonal relationships, and leadership.

According to Cameron and Quinn (1999), there is no single correct framework to determine the dimensions of organizational culture. Rather, they favour an approach for an organization who have interested in diagnosing and changing culture, and scholars who have the desire to investigate organizational culture using quantitative and qualitative methods. Their framework provides a means for an organization to understand and analyze key aspects that generate strategies to change

culture and improve performance (Cameron & Quinn, 1999). Organizational culture is classified in different ways. Cameron and Quinn's (1999) developed the competing values framework model and has been used in many empirical studies on organizational culture (e.g., Obenchain and Johnson, 2004; Stock *et al.*, 2007; Valencia et al., 2010. Cameron and Quinn (1999) define four types of organizational cultures; adhocracy, clan, market and hierarchy.

The various studies show that Organisational culture affects various outcomes related to the employees and organisations. It affect employee behaviour, learning and development (Bollinger ad Smith, 2001; Saeed and Hassan, 2000), creativity and innovation (Ahmed, 1998; Martins and Terblache, 2003; Martins and Martins, 2002; Mclean, 2005; Vincent *et al.*, 2004), knowledge management (McDermott and O'Dell, 2001; Tseng, 2010), performance (Han *et al.*, 1998; Kim *et al.*, 2004; Oparanna, 2010; Saeed and Hassan, 2000; Tseng, 2010; Zain *et al.*, 2009). **In this current study, it is argued that determinants of organisational culture, impact or influence innovation in software companies.**

2.2 Innovation: The Concept:

Innovation was derived from the Latin word 'innovare', meaning 'to make something new'. It is difficult to understand the whole concept of innovation, inspite the importance of innovation is increasing during these days. A number of innovation definitions have emerged through academic literatures; each shows its important aspects. A conclusion of various definitions focuses on two core aspects, concerned with its newness (i.e. first use of new knowledge) and the degree of relativity (i.e. something new in relation to a specific organization) (Jaskyte, 2002).

Schumpeter (1934) described innovation clearly in his preceding works as the carrying out of new combination of production means which include the introduction of new goods, new methods and new market. Zaltman *et al.* (1973) defined innovation as the perception of a social unit that decides its newness. According to Drucker (1974), innovation can be generally defined as the process of equipping in new improved capabilities or increased utility (i.e. innovation is not a science or technology but a value). Rogers and Kim (1985) describe innovation as anything perceived to be new by the people doing it. For Ahmed (1998), innovation is the process of commercializing one or more ideas that they can be exchanged for something of economic or competitive value. (Bubner, 2001) defines innovation in organisations as a series of processes that are designed and managed to create and apply ideas and knowledge, directed at value creation and capture, and leading to new and different products / services, processes, technologies, ventures and business systems. His contention is that innovation is a process and not an object or an outcome and hence it refers to both ideas and knowledge. Innovation, therefore, encompasses not only science and technology based innovation but also links it to knowledge creation and management. In this context, Nonaka and Takeuchi (1995) have a comprehensive view on knowledge creation in organisations which includes a broad set of socialisation, documentation and idea application processes that underpin continuous innovation in organisations. West and Farr (1990) defined innovation as "the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, group, organization or wider society". Apart from introducing new and improving existing technologies and processes, enhancing management practices are also viewed as innovation (Johannessen *et al.*, 2001).Innovation tops the list of organizational interventions especially in challenging business settings like price wars, shorter product cycles and entry of big players from different industries with huge resources. This is because innovation is seen as a platform to improve competitiveness, increase profits, enhance productivity (Nemeth, 1997; O'Regan and Ghobadian, 2005) and advance new product development outcomes (Brockman and Morgan, 2003). Innovation is also regarded as newness, as suggested by Johannessen *et al*. (2001) in which case these

researchers inferred; firstly, newness provides the beginning of employing innovation concepts. Secondly, newness can be an indicator of establishing organizational competitive advantages that are sustainable when intellectual capital is the outcome that inspire creativity and improve organizational performance. In summary, the above definition of innovation focuses on one of the following aspects, usefulness, newness, processes/value, commercialization, knowledge creation and management, socialisation, documentation and idea application, and enhancing management practices.

According to Russell (1988), since innovation is an uncertain, unpredictable process, it cannot be directed by formal structural means. Innovation requires creative problem solving during its initiation and implementation by a large number of organisational members. This is because innovation related norms help to express the value of innovation to group members and to define appropriate or expected behaviours within the context of the innovation process. Russell (1988) identified seven norm dimensions that were associated with innovation

It is widely accepted by both practicing managers and organizational scholars that businesses should pursue innovation. Through the various studies it has been observed innovation improved financial performance (Deal & Kennedy, 1982; Sorenson, 2002), others include expanding markets (Bussey, 2012; Korth, 2005), enhanced brand and a way to differentiate the business (Peace, 2011), faster adoption rates and making work fun (Needleman et al., 2011), better customer alignment and improved efficiency (Brynjolfsson & Schrage, 2009), a way to diversify and adapt to environmental change (Spencer, 2012), and a means to achieve long-term competitive advantage and increased company value (Herring & Galagan, 2011).

Most of the literature has focused on innovation from the perspective of the individual. But there are few studies have examined the internal and external environmental factors that promote innovation. External factors that have been linked to innovation include the economic environment (Damanpour & Schneider, 2006), competition and market conditions (Kaiserfeld, 2005), technology (Brynjolfsson, & Schrage, 2009), government actions (More, 2011), industry life cycle stage (Utterback & Abernathy, 1975), environmental dynamism (Koberg, DeTienne, & Heppard, 2003) and environmental uncertainty (McGinnis & Ackelsberg, 1983). Internal factors linked to innovation include the organizations' structure and processes (Damanpour, 1991; Damanpour, 1996), organizational size (Damanpour, 1996; Damanpour & Schneider, 2006; Koberg, et al., 2003), organizational knowledge and information (Cowan & Jonard, 2003), and organizational complexity, organizational size, and top management education (Damanpour & Schneider, 2006). Burgelman (1986) suggests that innovation results from the innovative behaviour of organizational members when leaders create an environment in which desired actions can take place. Van de Ven (1986) recognizes that innovation results from a network of personal and group interactions. In organizations these interactions are shaped, to a large degree, by organizations' cultures that support the activity. Further, the link between innovation and culture is supported through organizational structures that are considered to be organic (Torenatzky et al., 1983). Kimberly (1981) argues that innovation relies on the receptivity to change that exists within the organization. This view clearly indicates the central role that culture plays in innovation. Further, it has been suggested that innovation requires a context in which the beliefs encouraging and supporting innovation as a necessary adaptive response to environmental change become ingrained (Russell & Russell, 1992) and that this perspective must permeate the entire organization Damanpour (1991).

3.0 Organizational Culture and Innovation

A lot of studies have been conducted which shows that innovation improve performance (Rosenbusch *et al.*, 2011), and organization infuse innovation in its culture, mainly high technical companies. It also seems that non tech industries innovation in its culture. , Lee and Yu (2004) found that an innovation orientated culture helps insurance firms improve growth in business (annual premium and sum insured). In an organization innovation not only depend creativity but also the effective. In other words, generation of creative ideas alone does little for the organization, what is highly important is the effective implementation of those creative ideas (Flynn and Chatman, 2001). Moreover, high involvement and adaptive cultures help foster creativity in terms of generation of ideas and implementation (Dennison, 1996).Based on the various cultural dimensions within the literature, one obvious question arises. What are the cultural dimensions that would promote innovation?

As economic conditions became more competitive and the speed of change in environment increased in the second half of the last century, the link between organizational culture and organizational effectiveness started to attract attention of researchers. Burns and Stalker (1961), Likert (1961), and Lawrance and Lorsh (1967) are considered classical theorists in this area. General interest in this subject was further elevated by writers such as Peters and Waterman (1982) in espousing a theory of excellence, which purports to identify cultural characteristics of successful and (Heskett; 1992; Deshpande et al., 1993; Denison and Mishra, 1995; Pinchot and Pinchot, 1996; Tesluk et al. 1997; Filipczak, 1997; Ahmed, 1998; Reigle, 2000; Martins and Terblanche, 2003) have attempted to identify traits of organizational culture that affect innovation and creativity of an organization. Among them, Martins and Terblanche (2003) represents the most recent and comprehensive work in this line of inquiry and will used as the framework and foundation for the discussions.

As one reviews the results from the studies, gives a profile of innovative organizations emerges. It shows, an innovative organization needs to embrace change by establishing a strategic vision or shared value toward change and/or innovation usually characterized by a flat organizational structure that values flexibility, freedom, democracy, cooperative teamwork, and autonomy, supports and rewards creativity by providing munificent resources to encourage creative ideas and risk taking and promotes open and transparent communication based on mutual trust. Arad et al. (1997) provided empirical evidence that the level of creativity of an organization is positively associated with the degree to which employees have freedom and authority to participate in problem solving, as increased autonomy and improved opportunities for professional growth are observed to facilitate innovation process Finally, cooperative work-teams which allow for diversity and individual talents that complement one another are observed to promote creativity and innovation by several authors (Arad et al., 1997; Mumford et al, 1997). Robbins, 1997 observed that Organizations that promote open communication have a positive influence on prompting creativity and innovation.

(Ramus , 2001), Organizations wants that there employees participate in the development of innovative ideas , they should provide sufficient incentives for stimulation, including the commitment from the organization on issues that promise to provide assistance for resources, support, and rewards, and be open-minded to employee feedback. Therefore, the employees can sense the encouragement and support of the organization in the system's design or creativity-related policies, and thus, they will be more willing to contribute innovative work. Zhou and Jennier (2001) found that it would be helpful to enhance the employees' creativity when they perceived organizational support and recognition for innovation; supportive behaviour would also reduce the employees' degree of risk aversion with respect to innovation.

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Amabile (1997) showed that the resource elements include, among others, experts, capital, materials, work systems and processes, related information, and training. Anderson et al. (1998) pointed out that the amount of resources is directly related to the degree of innovation of the task. The amount of resources will indirectly affect employees' motivation; the more resources they have the more effective their work will be. A lack of adequate resources is a major setback for employees, especially for the development of new ideas. If the organization cannot promise to provide resource support, most of the original support will be used on the inherent activities. With a lack of support, employees will give up easily, and innovation will not occur. Oldham and Cummings (1996) pointed out that the characteristics of task complexity include the following: high autonomy, skill variety, autonomy, importance, and feedback; these characteristics are positively related to the motivation of the employee's innovative behaviour. Mumford and Simonton (1997) proposed that autonomy was related to work innovation. Amabile and Gryskiewicz (1987) proposed that free space and challenging work enhance creativity and the innovative performance of employees.

Therefore, the characteristics of the organizational environment and organizational innovation are significantly and positively correlated, indicating that organizational characteristics affect the organizational innovation capability.

Innovation activities occur in the specific social and economic context and the cultural and political traditions of the respective national. Given the complexity of the innovation phenomenon and the inconsistency of innovation research results, it is increasingly evident that the cultural perspective might be useful for understanding innovation (Jaskyte, 2004). Kanter (1983) suggested that innovative organizations need to adopt a "culture of pride and climate of success". Tushman and O'Reilly (1997) viewed culture as one of the most important factors in the management of innovation. Therefore, a more participative management style within a supportive culture is favoured, where communication and teamwork are optimal, and where the structural flexibility, empowered employees, risk taking, and occasional failures are tolerated. With the right mix of these factors in place, innovation has the potential to flourish.

In order to operate successfully within any business environment, it is essential to understand the values that drive and support the culture of that environment. It has been argued that the capability to produce new ideas, and transform them into successful propositions is fostered by the culture of the organization. Organizational culture becomes a powerful determinant of the innovative potential (Gregory and Carmazzi, 2005; Anthony, 1999) and an organizational ability to sustain an innovative-supportive culture. To nurture and sustain a culture of innovation, organizations first need to develop a conductive environment where members feel free to contribute (Beck, 2004). Organizations need openness, mutual trust, encouragement management behaviour, strategic orientation, supportive structure, and learning and knowledge acquisition approaches. Thus, nurturing of the innovation culture is fundamentally a managerial, cultural, strategic and structural factor.

Few models have been developed to illustrate the role of organizational culture in fostering innovative potential. Hauser (1998) developed a conceptual model which suggested that organizational culture plays a vital role in the innovation process. Schein (1992), on the other hand, developed a model that looks at culture as a pattern of basic assumptions, which exists at three levels: artefacts, values, and basic assumptions.

Conceptual arguments suggest that the effect of organisational culture on organisations is huge with different implications. A strong, positive organizational culture is critical to learning, development and sharing (skills, resources, and knowledge) (Bollinger and Smith, 2001). Martins and Martins (2002) argued that organisational cultural issues are becoming increasingly important in obtaining

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competitive advantages for firms. Martin and Martins(2002) conducted an empirical study in service oriented organization. She developed a new model and compares the both models. In her study she put forward seven factors that would promote creativity and innovation Oparanma (2010) contend that organisational culture stimulates or engenders several important activities and initiatives, leading to the success of the firms. Tseng (2010) found that adhocracy culture improve firm performance more than clan and hierarchy cultures.

Organisational culture also affects organisational innovation capability and innovation. Edwards *et al.*, (2002) reflected that the organisation culture with values, norms and beliefs is an invaluable enabler of innovation. Martins and Terblanche (2003) argued that organisational culture appears to have an influence on the degree to which creativity and innovation are stimulated in an organisation. Values, beliefs and norm affect innovation positively or negatively depending on how they affect employees and groups in organisations. Vincent *et al.*, (2004) argued that role of environmental, organizational capabilities, organizational demographics, and organizational structure variables affect innovation in organisations. In particular, organizational capabilities and structure account for the greatest level of unique variance on innovation. Martins and Martins (2002) argued that many researchers agree that organisational culture is a contributing factor to the degree to which creative and innovative behaviour is found among employees in an organisation. Han *et al.*, (1998) argued that in recent years, a market-oriented corporate culture increasingly has been considered a key element of superior corporate performance. They found that market orientation facilitates an organization's innovativeness. Ahmed (1998) argued that culture is a primary determinant of innovation and possession of positive cultural characteristics provides the organisation with necessary ingredients to innovate.

Several characteristics of culture can serve to enhance or inhibit the tendency to innovate in organisations (Ahmed 1998; McLean, 2005). McLean (2005) discussed that organizational culture related characteristic and organizational climate dimensions are related to the supports of or impediments to creativity and innovation. While, organizational encouragement, supervisory encouragement, work group encouragement, freedom/autonomy, and resources support the ability to innovate, the control reduces creative and innovative ability of the organisations. The way different dimension of culture and related characteristics affect innovation capability and innovation in the firms seem to be inconclusive. March-Chorda and Moser (2008) noted that there is no agreement regarding what type of organisational culture foster innovations. They argued that characteristics of innovating firms such as open-minded thinking and a relaxed, open and rule-free environment were not present in their study. Instead, characteristics that are assumed to negatively affect innovation were found to be present in innovating organisations. Several organisational characteristics associated with different dimensions of organisational culture affected innovation. Supporting this, Ahmed (1998) argued that identifying and proposing one type of culture for innovation in organisations can be misleading. A conclusion from these studies is that proposing certain organisational cultural dimensions and characteristics as panacea for innovation can not reflect the reality experienced with the organisations. Rather all the characteristics related to different dimensions of organisational culture with varying degrees may affect innovation capability of the firms.

If we go deeply in to the various studies it shows that most characteristics associated with each dimension can be argued to influence innovation capability of the firms. There four organisational cultural dimensions used in the study; clan, adhocracy, market and hierarchy.

Salih Yeşil and Ahmet Kaya(2012) noted that adhocracy culture dimension positively affects innovation capability of the firms. Result supports the theoretical arguments (Ahmed, 1998; Barlow, 1999; Edwards *et al.*, 2002; Martins and Martins, 2002; Vincent *et al.*, 2004) along with empirical

studies that found positive effect of organisational culture on performance (Kotter and Heskett, 1992; Marcoulides and Heck, 1993; Oparanma, 2010; Tseng, 2010), innovation capability (e.g., Dasanayaka, 2009; Han *et al.*, 1998: Yeşil et al., 2012) and product innovation (e.g., Valencia *et al.,* 2010). But his study also reveals that the other cultural dimensions, namely clan and hierarchy were not related to innovation capability of the firms.

Ng Yu Seen, Sharan Kaur Garib Singh, and Sharmila Jayasingam (2012) noted that only two variables were related to innovation – creating change, and organizational learning. Hence statistical results provided a partial support for the relationship between organizational culture and innovation of Malaysian employees in this study. The weak correlation between organizational culture and innovation was unexpected. There are no significant relationships between empowerment, team orientation, customer focus, capability development, with innovation, respectively. Thus, these results did not support earlier studies, which found organizational culture to be positively associated with innovation (Ashley and Bryan, 2009).

Maz Jamilah Masnan, Noormaizatul Akmar Ishak, Noor Asliza Abdul Rahim**,** Siti Aisyah Mohd Nor, and Nor Hazadura Hamzah noted organizational culture to be absorbed, followed and practiced by the subordinates. Some of the components of organizational culture have been discussed which display directly what the university is doing. The component of organizational culture outlined in the mission and vision, is indirectly consist of the factor that might stimulates students to be innovative and creative. However, one may hardly recognize the components of organizational culture that can stimulates innovation and creativity in the customer focus, means to achieve objectives, management processes and interpersonal relationship.

Gholamreza Rahimi, Ghader Vazifeh Damirchi and Mir Hossein Seyyed (2011) noted Organizational culture and management behaviour as two important organizational factors were not supportive for facilitating suitable environment for organizational innovation. This study shows that the important factor of organizational culture communication, encouragement, capacity to achievement, foster the employee potential and emphasis on team work was low, which is essential factor for innovation but inspite of this positive relationship was found between organizational culture factor and organizational innovation. Similarly the management behaviour was also assessed low to moderate.

Drawing on a variety of approaches and theories used in the previous studies the model presented here is develop using Competing Value Framework (Cameron and Quinn, 1999; Kimberly and Quinn, 1984; Quinn and Rohrbaugh, 1981, 1983) and the integrated, interactive model (Martins, 2000).
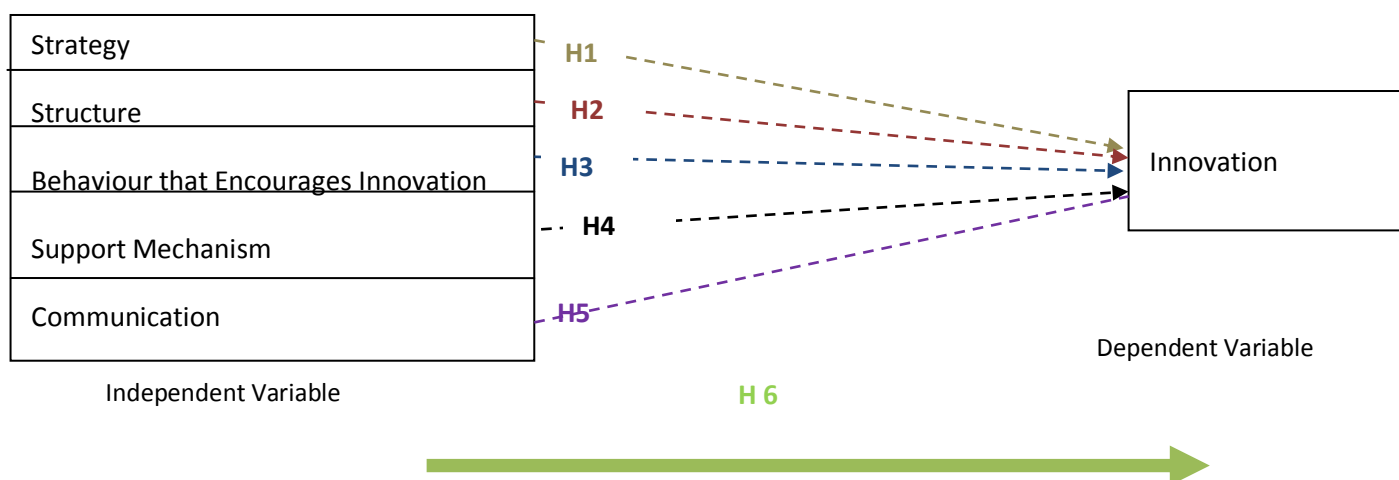
Strategy

To effectively use culture over the long term, organizations need to also possess certain values and assumptions about accepting change. These values must be driven by the strategic direction in which the company is moving (Ahmed, 1998). Having a clear corporate philosophy enables individuals to coordinate their activities to achieve common purposes, even in the absence of direction from their managers (Ouchi, 1985). An innovation strategy is a strategy that promotes the development and implementation of new products and services (Robbins, 1996). The indicators include: Mission and Vision are the origin of creativity and innovation in shared vision and mission, which are future oriented. Furthermore, the vision and mission of an innovative organization are said to be customer- and market oriented, focusing on solving customers problems (Covey, 1993).Goals and Objectives are personal and organizational goals emphasizing on quality rather than effectiveness improve innovation capacity (Arad and Schneider, 1997). "It appears that reflecting the value of purposefulness in the goals and objectives of organizations has an influence on creativity and innovation (Martins and Terblanche, 2003)".Furthermore, such organizations are committed to systematically challenging the fundamental beliefs and practices that define the innovation process itself (Day, 1991; Baker and Sinkula, 1999). Thus it is hypothesized that

H1: There is a significant relationship between strategy and innovation.

Structure

The structure seems to emphasize certain values which have an influence on the promotion or restriction of creativity and innovation in organization (Martins and Terblanche, 2003). A flat structure, autonomy and work teams will promote innovation, whereas specialization, formalization, standardization and centralization will inhibit innovation (Arad and Schneider, 1997). Innovation is increased by using more participative structures. Decentralization will increase the likelihood of more frequent and effective communication which will result to knowledge sharing in ways that promote innovation, risk taking, and proactive behaviour. High levels of centralization and formalization have been found to be associated with lower rates of innovation adoption (Martins and Terblanche, s2003).Generally it can be said that innovation is enhanced by organic structures rather than mechanistic structures (Ahmed ,1998). Values like rigidity, control, predictability, stability and order (mostly associated with hierarchical structures) will hinder creativity and innovation (Arad and Schneider, 1997). Therefore, more flexibility and autonomy and less Centralization may lead to more innovation. Thus it is hypothesized that

H2: There is a significant relationship between structure and innovation.

Behaviour that encourages innovation

Management should create values that support risk taking and should demonstrate through their actions that risk taking and experimenting are acceptable behaviour (Arad, Hanson & Schneider, 1997, p. 48, Khalil, 1996, p. 35, Robbins, 1996, p. 736). At the same time it is important that risk taking should be calculated and balanced to allow employees freedom in taking risks, but also to increase the possibility of success by creating a culture that allows for moderate risk taking. Management should realise that innovative employees are largely motivated by the possibility of success rather than the results of success (Aber, 1996, p. 5, Frohman & Pascarella, 1990, p. 22). Thus it is hypothesized that

H3: There is a significant relationship between behaviour that encourages and innovation.

Support Mechanism

The literature study revealed that rewards and recognition and the availability of resources namely time, information technology and creative people, are mechanisms that create such culture which will promote creativity and innovation. Behaviour that is rewarded reflects the values of an organization. If creative behaviour is rewarded it will become the general dominant way of behaving (Aard et al, 1997). It has been observed that many organizations rewarded for well proven, trusted methods and fault free work. Personnel should also be rewarded for risk taking, experimenting and generating ideas. Intrinsic rewards like increased autonomy and improved opportunities for personal and professional growth may support the innovation process. (Shattow, 1996; Amabile and Gryskiewicz (1987) and Kanter (1983) cited in Arad et al (1997).Information technology as a support mechanism is an important resource for successful innovation (Shattow, 1996). In organizations where it is part of the culture to use computer technology such as the internet and intranet to communicate and exchange ideas, the chances of creativity and innovation taking place are improved. (Bresnahan, 1997; khalil, 1996). Recruitment, selection and appointment and maintaining employees are an important of promoting the culture of and specifically creativity and innovation in an organization. The values and beliefs of management are reflected in the type of people that are appointed. Apart from personality traits like intelligence, knowledge, risk taking, inquisitiveness and energy, a value like diversity is of utmost importance in the appointment of creative and innovative people. Appointing people of diverse backgrounds should lead to richer ideas and processes that should stimulate creativity and innovation (Bresnahan, 1997; Gardenswartz and Rowe, 1998). Thus it is hypothesized that

H4: There is a significant relationship between support mechanism and innovation.

Communication

Robbins, 1996, 1997 emphasised that an organization culture that supports and promote open and transparent communication, which based on trust, are observed to have a positive influence on promoting creativity and innovation. Organizations that have open door communication policy, including open communication between individuals, teams and departments it helps in the generation of new ideas and perspectives that contribute for creativity and innovation (Martins and Terblanche, 2003), (Filipczak, 1997; Samaha, 1996). Thus it is hypothesized that

H5: There is a significant relationship between communication and innovation.

Conclusions:

Based on the various study it was found that Organizational culture important organizational factor for organizational innovation. The literature review discussed above shows that there is a relationship and link between organizational culture and innovation.

It appears consistently in the literature several characteristics, traits and dimension of organizational culture supports to or impediments to creativity and innovation. On the support side, strategic vision and mission or shared values, flat organizational structure that values flexibility, freedom, democracy, cooperative team work and autonomy, empowerment and quick decision making, rewards and resources, organizational encouragement and allowing employees to exchange views to develop creative ideas through participation, recognition for innovation, risk taking and open and transparent communication, , mutual trust, encouragement management behaviour and knowledge acquisition approaches are observed to have a positive influence on prompting creativity and innovation. .

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On the impediments side, control is the dimension that has been identified as decreasing organizational creativity and innovation. A conclusion from these studies is that proposing certain organisational cultural dimensions and characteristics as panacea for innovation can not reflect the reality experienced with the organisations. Rather all the characteristics related to different dimensions of organisational culture with varying degrees may affect innovation capability of the firms. Looking deeply into the different characteristic of each organisational culture dimension support our argument because most characteristics associated with each dimension can be argued to influence innovation capability of the firms.

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