Chapter 2: Literature Review

Organizational culture is important vehicle for implementing organizational change (Yeung, Brockbank and Ulrich, 1991). Though not all organizational change involves innovation, all organizational innovation involves change (King, 1990). Though studies have acknowledged existence of a relationship between organizational culture and organization innovation (Kotter and Heskett, 1992), empirical studies on the impact of organizational culture on innovation are very few.

The following review of related literature includes a discussion of 1) organizational culture, 2) organizational innovation, 3) organizational culture and innovation. The review of literature will conclude with the contribution of the study and summary of the related literature.

Organizational Culture

In a sample of United States firms, O'Reilly et al. (1991) identified the following seven dimensions of organizational culture using an instrument they developed, the Organizational Culture Profile (OCP): innovative, stable, respecting of people, outcome oriented, detail oriented, team oriented, and aggressive. These culture dimensions are quite similar to Hofstede et al. (1990) practice dimensions generated from an international sample of firms, the OCP dimensions also resemble two of the four types of cultural knowledge that Sackmann (1992) found generalized across a single organization.

Authors have generated many culture dimensions over the past few decades (e.g., Denison, 1990; Rousseau, 1990; Zammuto & Krakower, 1991).

Although there are some general similarities among various authors' categories, it is important to establish a robust set of culture dimensions that can characterize organizational cultures.

The construct of organizational culture is fairly constructs and remains today in that critical stage of adaptation to the field of organizational science. Studies have elaborated on what constitutes culture, on how it may be defined and operationalized, and on the anecdotal evidence of culture and organizations (Proenca, 1993). Relatively few studies have addressed methodological issues and measured organizational culture empirically.

Defining Organizational Culture

The notion of "culture" is often associated with exotic, distant peoples and places, with myths, rites, foreign languages and practices. Researchers have observed that within our own society, organization members similarly engage in rituals, pass along corporate myths and stories, and use arcane jargon, and that these informal practices may foster or hinder management's goal for the organization (Baker, 1980). In the organizational behavior literature, a number of definitions for organizational culture have been proposed. For example, Kilmann et al. (1985) defined organization culture as "the shared philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes and norms" that knit an organizational together. Deal (1986) defined it as "the human invention that creates solidarity and meaning and inspired commitment and productivity." Uttal (1983) defined it as a "system of shared values (what is important) and beliefs (how things work) that interact with a company's people, organizational structures, and control systems to produce behavioral norms."

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 behavior in the organization”.

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. Power distance is the degree to which a society expects there to be differences in the levels of power. A high score suggests that there is an expectation that some individuals wield larger amounts of power than others. A low score reflects the view that all people should have equal rights. Uncertainty avoidance reflects the extent to which a society accepts uncertainty and risk. Individualism is contrasted with collectivism, and refers to the extent to which people are expected to stand up for themselves, or alternatively act predominantly as a member of the group or organization. Masculinity vs. femininity refers to the value placed on traditionally male or female values. Male values for example include competitiveness, assertiveness, ambition, and the accumulation of wealth and material possessions.

Management researchers were quick to adapt Hofstede‟s work and begin to investigate cultures inside organizations. O‟Reilly, Chatman, and

Caldwell (1991) in some comparative work published that seven dimensions could be used to compare across organizations.

Schein (1985) defines culture as something an organization has as learned responses to the organization's problems of external adaptation and internal integration. Louis (1985) extends Schein's perspective stating that organizational culture is an interpretive scheme or way of perceiving, thinking and feeling in relation to an organization's issues, problems, etc.

Cameron and Quinn (1999) suggest organizational culture refers to the taken-for-granted values the underlying assumptions, expectations, collective memories, and definitions present in the organization. It represents how things are around here. It reflects the prevailing ideology that people carry inside their heads. It conveys a sense of identity and provides unspoken guidelines for how to get along and enhances the stability of the social system to which they belong.

Further, Deshpande, Farley and Webster (1993) suggest that organizational culture reveals "why things happen the way they do".

Those who hold the interpretive view of culture believe that norms, values, rituals (Schein, 1985), structure (Pettigrew, 1990), and ideologies (Zammuto et al., 2000) are manifestations of culture.

Barley (1983) suggests that a common thread runs through these definitions, which renders culture as "something" shared by organization members.

Some theorists have defined culture as simply as “A system of informal rules that spells out how people behave most of the time” (Deal & Kennedy, 1982).

A widely accepted definition of organizational culture was offered by Schein (1992) as a pattern of basic assumptions – invented, discovered, or developed by a given group as it learns to cope with its problem of external adaptation and internal integration – that has 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.

Furthermore, culture could also be viewed as consisting of three levels with the most visible level being behavior and artifacts (Schein, 1992). This aspects of culture is easiest to observe in an organization and contains member behavior patterns and aspects of culture more transparent than most (e.g., work environment layout, technology, dress codes, building decorum). These components of culture are visible but are often difficult to understand.

At the next level of culture are values (Schein, 1992). Unlike behaviors, values are not as transparent but to a large degree do results in behaviors in the organization. Members generally hold two types of values – stated and operating – which are usually different but generally behavior results in large part due to stated values.

It is at the deepest level of culture, assumptions and belief, where the true meaning of culture should be examined. Schein (1992) believed that our values result in our underlying assumptions but these assumptions no longer become part of our awareness once they are taken for granted. Schein (1992) further asserted that most people may not conscious of or unable to articulate the beliefs and assumptions making up their deepest level of culture.

The theoretical framework of this dissertation incorporates Schein's key dimensions of external and internal integration (Denison, 1996).

Organizational Culture Measured

One issue that has continued to remain controversial in the organizational sciences is whether cultures can be measured and compared (Denison, 1996; Hatch, 1993; Hofstede et al., 1990; Martin, 1992; Schein, 1992).

Cameron and Quinn (1999) have developed an organizational culture framework built upon a theoretical model called the "Competing Values Framework." This framework refers to whether an organization has a predominant internal or external focus and whether it strives for flexibility and individuality or stability and control. The framework is also based on six organizational culture dimensions and four dominant culture types (i.e., clan, adhocracy, market, and hierarchy). In addition the framework authors generated an "Organizational Culture Assessment Instrument (OCAI)" which is used to identify the organizational culture profile based on the core values, assumptions, interpretations, and approaches that characterize organizations (Cameron & Quinn, 1999).

Ashkanasy, Broadfoot, and Falkus (2000) conducted a comprehensive review of 18 survey measures of organizational culture based on a variety of methods. Each method came from a stream of specific research and identified specific factors of culture in a manner that supported those lines of research.

The Denison organizational culture model proposed for this dissertation research used a similar process which examined the relationship between organizational culture and organizational performance. This process developed an approach to understanding organizational culture that helped to explain differences in performance and effectiveness (Sparrow, 2001).

One of the two broad categories of culture described posits that culture is based on underlying systems of unconscious assumptions and beliefs. These assumptions and beliefs are held by the organization regarding customers, competitors, employees, and suppliers. The Denison culture model and survey are rooted in a theoretical framework that views these assumptions and beliefs are not remaining hidden, but instead are manifested in a set of outward behaviors toward these groups. Since they are observable, these behaviors are quantifiable (Denison, 1996).

Furthermore, Denison (1996) argued that while assumptions and beliefs underlie behaviors that create the culture that everyone experiences, it is equally true that behavior drives results. When one's research interest is on how culture drives results, Denison argued that it is both practical and appropriate to approach culture via its most obvious dimension: how people behave.

Organizational Innovation

An overview of innovation literature shows that few topics have enjoyed a greater consensus among researchers than the current importance given to innovation. Innovation is a strategic option for improving the organization and making it more competitive. At the same time, it opens the doors to competitive advantage both in global and international markets (Hitt et al., 1997; Tidd, 2001) by (1) providing the marketplace with new or unique products/ services; (2) creating entry barriers that make learning the necessary resources to develop innovation more difficult; (3) creating new values that re-write the rules of competitive play. Facing turbulent markets and high competition in globalization, the success of developing new products was one of the very important indicators for corporate performance (Berthon et al., 2004; Sengupta & Bushman, 1998).

Due to failure to innovate in technologies and products, corporations lost competitiveness and the ability to sustain success in the global market (O'Regan & Ghobadian, 2005). Thamhain (1990) believed that innovation was able to result in competitive advantage for a company. However, due to the lack of a general consensus about definitions of innovation, it was difficult to develop good measures of innovation in an organization (Johannessen et al., 2001).

Defining Innovation

Definitions of innovation found in the literature vary according to the level of analysis which is used. Some definitions are general and broad, while others focus on specific innovations like the implementation of an idea for a new product or service. In an organizational environment, examples of innovation are the implementation of ideas of restructuring, or saving of costs, improved communication, new technology for production processes, new organizational structures and new personnel plans or programmes (Robbins, 1996).

West and Farr (1990) define 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 significant benefit the individual, the group, organization or wider society”. Innovation can be defined as the implementation of a new and possible problem-solving idea, practice or material artifact (e.g. a product) which is regarded as new by the relevant unit of adoption and through which change is brought about (Martins, 2000).

According to research by Linder, Jarvenpaa, and Daveport (2003), innovation was defined as “implementing new ideas that create value”. Nohria and Gulati (1996) suggests that any policy, administrative system / structure, manufacturing process, technology, product, service, or market opportunity perceived to be new by adopters could be viewed as an innovation.

Innovation was also defined by Damanpour (1991) as the generation, development and adoption of novel ideas on the part of the firm.

Johannessen et al. (2001) pointed out that the general meaning of innovation was viewed not only as improving the existing technologies, accelerating and seeking a breakthrough in current process technologies, but was also viewed as enhancing corporate management practices. Especially when facing a turbulent market, shorter product cycles, and radical price wars, innovation was considered to play an important role in improving competitiveness, increasing profits, and enhancing productivity (Nemeth, 1997; O'Regan & Ghobadian, 2005). Moreover innovation was able to advance new product development outcomes (Brockman & Morgan, 2003).

Nemeth (1997) pointed out that if innovation originated from top management, then it would be prevalent in their organization. Fry (1987) also suggested that top management should let innovation emerge at every organization level of a firm. When in a company innovation was viewed as the most important responsibility of managerial practices, not only would innovation be one culture assumption, but it would also encourage all members in the company to develop their creativity. (Citrin & Tansuhaj, 1998; Hurley & Hult, 1998).

In a more turbulent environment, firms with innovation outperform ones with marketing orientation. In a relatively stable environment, however, performance of firms focusing on marketing orientation was better than that of those focusing on innovation orientation (Berthon et al., 2004). This implied that environmental uncertainty might mediate relationships between innovation and corporate performance (Berthon et al., 2004). In consequence, innovation was included in the components of organizational culture to help corporations improve their performance.

Increasingly, scholars have linked innovativeness to organizational performance, suggesting that a firm needs to be innovative to gain competitive edge in order to survive and grow (Gronhaug and Kaufmann, 1988).

Drucker (1994) argues that innovation is a core process for a firm; he suggests that: “in a period of rapid change the best perhaps the only-way a business can hope to prosper, if not survive, is to innovate. This is the only way to convert change into opportunities. This, however, requires that innovation itself be organised as a systematic activity” follows that enterprises that are better able to manage innovation than others and demonstrate a record of successfully exploiting new ideas can be said to possess, at least for a period of time, a superior ’innovation capability’. Developing such capability is an important strategic issue since innovation plays a key role in survival and growth of enterprises.

This is also true at the level of the firm. Tidd et al. (1997) in their review of the field conclude that:” Management research suggests that innovative firms—those which are able to use innovation to differentiate their products and services from competition—are on average twice as profitable as other firms”.

Measurement of Innovation

The impact of innovation on corporate performance has been identified (Berthon et al., 2004; Johannessen et al., 2001). Based on Zaltman’s et al. (1973) innovation definition, Johannessen et al. (2001) conducted an empirical study to identify the operationalization of innovation and measure the characteristics of innovation. Innovation in Zaltman’s et al. (1973) definition was identified to embrace newness.

As a result, innovation in the study by Johannessen et al. (2001) was viewed as newness. Johannessen et al. (2001) created the three basic questions, including “what is new, how new, and new to whom” to explore the nature of newness. The authors adopt six variables, “new products, new services, new methods of production, opening new markets, new sources of supply, and new ways of organizing.

There were two different mails surveys in the study. The purpose of the first study was to examine the operationalization of innovation, and the second was used to measure the extent of newness. Based on the findings, Johannessen et al. (2001) drew four conclusions. First, this study provided a good working definition about innovation and an instrument to measure it based on this definition. Second, innovation in a company was able to be treated as a single organizational construct and then be measured. Third, the innovation construct did not need to be separated into different types or categories when it was measured. Finally, not only was innovation viewed as newness, but it was also responded to the three basic aspects, including “what is new, how new, and new to whom” (Johannessen et al. 2001). From the study by Johannessen et al. (2001), two implications were also inferred. First, if newness was rooted in innovation, it would provide a starting point in employing innovation concepts. Second, innovation embracing newness was viewed as an indicator of creating sustainable competitive advantages in organizations because it could be treated as intellectual capital, and also inspire their creativity and to improve their performance. Johannessen et al. (2001) pointed out that broadly measuring aspects of innovation instead of only focusing on R&D would help companies understand their newness. On the whole, the framework of this study was logically developed based on much of the early research.

Organizational Culture and Innovation

Based on research by Lee and Yu (2004), finding supported the idea that organizational culture focusing on innovation orientation was able to help insurance firms improved growth in business (annual premium and sum insured), and help high-tech manufacturing firms to enhance their ROA, even though hospitals in the sample paid less attention to innovation due to the characteristics of the hospital industry. In consequence, innovation was included in the components of organizational culture to help corporations improve their performance.

In the study by Hurley and Hult (1998), not only were market and learning orientations treated as organizational cultures, but were also explore differences between marketing and innovation orientations and then to develop an inclusive model.

To be truly innovative, an organization must not only be creative, but also must be able to successfully implement those creative ideas. Because of this distinction, the organizational behaviors, norms and values that promoted the production of creative ideas within an organization may differ from those that foster the successful implementation of creative ideas (i.e. innovation) (Flynn & Chatman, 2001). Therefore it is expected that the aspects of culture that foster each may differ as well. Many of the behaviors and values that promote creativity are represented within the Adaptability and Involvement traits of the Denison Model, including:

- Risk-taking

- Gathering ideas from diverse perspectives
- Teamwork
- A strong sense of ownership

Organizations scoring high in involvement tend to foster a sense of freedom and autonomy that is important for idea generation. They also utilize teams to get work done, placing value on working cooperatively and mutual accountability. This integration of employees promotes a sharing of ideas and responsibility that is conducive to creativity and innovation. High involvement cultures tend to build a sense of capability and ownership in their employees, and therefore create an environment in which creativity can occur (Denison, 1996).

Likewise, Adaptability is also important for creativity. Organizations that are market- and customer-focused create a diverse network of ideas for learning and change through interaction and understanding of their people, customers, and their competitors. They encourage employees to take 'calculated' risks and promoted direct communication with their customers in order to develop creative responses to customer needs (Denison, 1996). If leaders want to encourage creativity in their organization, they need to develop and support a culture high in Adaptability and Involvement.

Kotter and Heskett (1992) found that "organizations with *adaptive values* were strongly associated with superior performance over a long period of time, as compared to short-term performance". Collins and Porras (1994) supported this finding in their research on financially successful organizations. Following this, Denison and Mishra (1995) provided a thorough comparison between internal integration and external adaptation, and between flexibility and stability all of which are major dimensions of the Denison model discussed above. Finally, Saffold's (1988) discussion of "strong" culture, having a sense of mission and being adaptable, resembled Kotter and Heskett's discussion on adaptable culture. These early findings highlighted the notion that culture could impact organizational performance especially if aspects of it are strong (e.g., widespread consensus) and in touch with its environment (e.g., relevant with its industry).

There are three dimensions for adaptability and involvement which are suggested by Denison (1996):

Involvement

1) Empowerment;
2) Team Orientation;
3) Capability Development;

Adaptability

1) Creating Change
2) Customer Focus
3) Organizational Learning

Involvement

The research literature has shown that effective organizations empower and engage their people, build their organization around teams, and develop human capability at all levels (Spreitzer, 1996). Organizational members are committed to their work, and feel a strong sense of ownership. People at all levels feel that they have at least some input into decisions that will affect their work and feel that their work is directly connected to the goals of the organization. This allows high involvement organizations to rely on informal, voluntary and implicit control systems, rather than formal, explicit, bureaucratic control systems (Buckingham & Coffman, 1999).

In the model, this trait is measured with three indexes:

1) Empowerment

2) Customer Focus

3) Organizational Learning

Empowerment

Empowerment has been defined as Individuals have the authority, initiative, and ability to manage their own work. This creates a sense of ownership and responsibility toward the organization (Denison, 1996)

Discussion of employee empowerment has been prevalent in the popular literature for many years, Thomas and Velthouse (1990) conceptualize empowerment as a set of four task assessments or cognitions that individuals make as they attempt to interpret their work situation. The four dimensions of empowerment include *meaning, impact, competence, and choice*.

A more operational-level and process-oriented definition of empowerment was offered by Bowen and Lawler (1992). They define empowerment “as sharing with front-line employees’ information about an organization’s performance, information about rewards based on the organization’s performance, knowledge that enables employees to understand and contribute to organizational performance, and giving employees the power to make decisions that influence organizational direction and performance.”

Empowerment is the process of passing authority and responsibility to individuals at lower levels in the organizational hierarchy (Wellins et al., 1991). To achieve empowerment managers must be sure that employees at the lowest hierarchical levels have the “right mix” of *information* (about processes, quality, customer feedback and events), *knowledge* (of the work, the business and the total work system), *power* (to act and make decisions about all aspects of work) and *rewards* (tied to business results and growth in capability and contribution) to work autonomously or independently of management control and direction (Lawler, 1994). The advantages of an empowerment or involvement are said to include higher quality products and services, less absenteeism, lower turnover, better decision making, and better problem solving which, in turn, result in greater organizational effectiveness, which includes innovation (Dennison, 1984). Therefore, it is hypothesized:

H1. There is a significant correlation between empowerment and organizational innovation.

Team Orientation

Team Orientation is defined as value is placed on working cooperatively toward common goals for which all employees feel mutually accountable. The organization relies on team effort to get work done (Denison, 1995)

Teamwork cohesion plays a central role in the development of learning inside firms, bridging organizational and individual learning (Swieringa and Wierdsma, 1992) and enhancing knowledge flows between teams or individuals in a team (Marquardt, 1996). In order to reach a high level of organizational learning, active attention needs to be paid by management to the handling of the conditions to create cohesion, co-ordination and teamwork (Dyerson and Mueller, 1999), since although the sphere of the learning is organizational, in learning organizations, the learning is defended through work teams (Swieringa and Wierdsma, 1992).

It has been argued that participation in decision-making increases organizational members' commitment to working through the sometimes difficult implementation stage of innovation, with the result that resistant is reduced (Wall and Lischeron, 1977). Hage and Aiken's (1967) study of welfare organizations found a positive relationship between participation in decision making, and rate of change. They also found a negative relationship in decision hierarchy of authority and programme change. Similarly, Burns and Stalker (1961) found that organic structure, with its greater inclusion of people in decision-making, is more effective in dealing with the uncertain conditions that often accompany attempts in innovation.

Team cooperation, communication, and conflict resolution are also critical dimensions in teams with an innovation expectation (Beer & Eisenstat, 2000; McDonough, 2000). Co-operative teams are identified by some researches as having an influence on the degree to which creativity and innovation take place in organizations. Well-established work teams which allow for diversity and individual talents that complement one another should promote creativity and innovation (Arad et.ak., 1997; Mumford et al., 1997). Thus, it is hypothesized:

H2: There is a significant correlation between team orientation and organizational innovation.

Capability Development

Capability Development is defined as the organization continually invests in the development of employee's skills in order to stay competitive and meet on-going business needs (Denison, 1995).

The strategic growth of an organisation's value must, in the end, be directly related to positive change in all the factors as follows:

- personal capabilities
- professional and technical know-how experience
- the network and range of personal contacts
- the values and attitudes that influence actions.

Value can be continually created with a population of constant capability. However the increase can be greatly enhanced by focused managed development of the factors outlined above (Andrew, 2000)

Internally developing human capital helps firms realize the benefits of these employees in terms of their value-creating potential. Because employees in this skill group possess abilities that are both valuable and unique, we can view them as core employees, who may service as a source of competitive advantage (Stewart, 1997). For example, Intel's talent and creative engineers consistently develop new microprocessors, which create significant customer value and enable Intel to stay out in front of its competition. Thus it is hypothesized that:

H3: There is a significant correlation between capability development and organizational innovation.

Adaptability

Despite some of the natural advantages of well-integrated organizations, they can also be the least adaptive and the most difficult to change. Internal integration and external adaptation can be at odds (Lawrence & Lorsch, 1967). Adaptable organizations translate the demands of the organizational environment into action. They take risks, and learn from their mistakes, and have capability and experience at creating change (Senge, 1990). They are continuously improving the organization’s ability to provide value for its customers by creating a system of norms and beliefs that support the organization's capacity to receive, interpret, and translate signals from its environment into internal systems that increase the organizations chances for survival and growth. Organizations that are strong in adaptability usually experience sales growth and increased market share (Deniso, 1995). In the model, this trait is measured with three indexes:

1) Creating Change

2) Customer Focus

3) Organizational Learning

Creating Change

Creating Change is defined as the organization is able to create adaptive ways to meet changing needs. It is able to read the business environment, react quickly to current trends, and anticipate future changes (Denison, 1995).

Implementing organizational change is one of the most important, yet, least understood skills of contemporary leaders. It is quite common for the business press to report that numerous organizations have experienced less than desirable performance improvements and unfavorable employee reactions to needed organizational changes (Gilmore et al., 1997). It is felt that some of the negative responses to organizational changes are caused by leaders' oversight of the importance of communicating a consistent changes message. The change message both convey the nature of the change and shapes the sentiments that determine reactions to the change.

Members of the change target are interested in "what is in it for me?" during organizational change, Cobb et al. (1995) emphasize that members of the change target will assess the distribution of positive and negative outcomes, the fairness of the change, and the manner in which individuals are treated. Thus, if an individual's self-interest is threatened a proposed change will likely be resisted (Clarke et al., 1996).

Support for change is a value that will influence creativity and innovation positively (Tushman and O'Reilly, 1997). Managers can create a culture that supports change by looking for new and improved ways of working; creating a vision that emphasizes change and revealing a positive attitude towards change (Tushman and O'Reilly, 1997). Thus it is hypothesized that:

H4: There is a significant correlation between creating change and organizational innovation.

Customer Focus

Customer Focus is defined as the organization understands and reacts to their customers and anticipates their future needs. It reflects the degree to which the organization is driven by a concern to satisfy their customers (Denison, 1995).

Customer focus is about being able to provide a service specific to individual customers. Ekdahl et al. (1999) talk of “true customer focus” as a prerequisite for effective and efficient development activities. Companies that have become customer-focused tend to trade off resource efficiencies for increased responsiveness to their customer’s demands. Previously, resource efficiency was used as a key performance indicator (KPI) for measuring successful operational performance; now it is more a case of having sufficient resources available to use as and when required in order to respond to variable customer demand (Griffiths et al, 2000).

Customer focus businesses focus on understanding the expressed desired of the customers in their served markets and on developing products and services that satisfy those desired. Typically, customer focus businesses use focus groups and customer surveys to enhance their understanding of customers’ wants and perceptions of current products and services, and technique such as concept testing and conjoint analysis to guide the development of new products and services (Leonard and Rayport, 1997). Customer focus businesses may also develop close relationship with important customers to gain deeper insight into those customers' desires (Timewell, 1994).

Homburg et al. (2000) define a customer-focused organization as having a structure that "uses groups of customers related by industry, application, usage situation, or some non-geographic similarity as the primary basis for structuring the organization". Narver and Slater (1990) view a customer-focused organizational structure as an antecedent to and as a facilitator of "market information acquisition and dissemination and the coordinated creation of customer value". Despite the fact that customer-focus is not a new concept, research seems to suggest that managers are still in the process of trying to implement organizational changes which will increase attention to customer needs (Homburg et al., 2000). Thus it is hypothesized that:

H4: There is a significant correlation between customer focus and organizational innovation.

Organizational Learning

Organizational Learning is defined as the organization receives, translates, and interprets signals from the environment into opportunities for encouraging innovation, gaining knowledge, and developing capabilities (Denison, 1995).

The wide and diverse literature on organizational innovation has received important contributions from works on organizational learning since the last decade. Many of these contributions have noted a positive relationship between organizational learning and innovation (Gilbert and Cordey-Hayes, 1996). Organizational learning supports creativity (Yli-Renko et al., 2001), inspires new knowledge and ideas, and increases the potential to understand and apply them (Damanpour, 1991).

Generative learning is the most advanced form of organizational learning and occurs when an organization is willing to question long-held assumptions about its mission, customers, capabilities, or strategy and generate changes in its practices, strategies, and values (Argyris and Schon, 1996). This kind of learning is a necessary underpinning for innovations in products, services, systems, policies, programs and processes adopted by an organization (Senge et al., 1994).

These ideas have recently begun to receive some empirical attention. Hurley and Hult (1998) focused on a large agency of the US federal government to show that organizational innovativeness was positively associated with a culture that emphasizes adaptation, innovation, and learning. Meeus et al. (2001) analysed a sample of innovator firms to show that more complex innovative activities urged firms to coordinate and exchange information between users and producers. This implies strong interactive learning. Thus, the type of innovation (e.g. administrative and technical) is determined by the learning processes (Mezias and Glynn, 1993).

Learning enables organizations to build an organizational understand and interpretation of their environment and to begin to assess viable strategies (Daft & Weick, 1984). It results in associations, cognitive systems, and memories that are developed and shared by members of the organization.

Both learning and innovation can be seen as a response to changes in the environment and as the basis for obtaining competitive advantages (Holt, 1999). Most studies consider that learning injects new ideas into the organization, increases the capacity to understand new ideas and strengthens creativity and the ability to spot new opportunities; in other words, it favours the presence of innovation (Damanpour, 1991). In fact, numerous organizational learning models have been successfully applied to specific aspects of the innovative process and firms are increasingly beginning to give new meaning to the term innovation: as a process of organizational learning. Thus it is hypothesized that:

H6: There is a significant correlation between organizational learning and organizational innovation.

Summary of Organizational Culture and Innovation

According to Tushman and O'Reilly (1997), organizational culture lies at the heart of organization innovation. Organizational culture affects the extent to which creative solutions are encouraged, supported and implemented. A culture supportive of creativity encourages innovation ways of representing problems and finding solutions, regards creativity as both desirable and normal and favours innovators as models to be emulated (Lock and Kirpatricks, 1995).

Certain environmental circumstances, strategic approaches, the values and actions of top management, organizational structure and technological cycles can be associated in the following ways with organizational cultures that support creativity and innovation:

1) External environment (e.g. economy and competitiveness encourage continual changes in products, technology and customer preferences) (Tesluk et al., 1997)

2) Reaction to critical incidents outside and within the organization, which is reflected in the strategy (e.g. innovation strategy) of the organization (Robbins, 1997; Tesluk et al., 1997)

3) Managers' values and beliefs (e.g., free exchange of information, open questioning, support for change, diversity of beliefs) (Amabile, 1988; Tesluk et al., 1997).

4) The structure of the organization, which in turn allows management to reach organizational goals (e.g. flexible structure characterized by decentralization, shared decision making, low to moderate use of formal rules and regulations, broadly defined job responsibilities and flexible authority structure with fewer levels in the hierarchy) (Hellriegel et al., 1998).

5) Technology, which includes knowledge of individuals and availability of facilities (e.g., computers, internet) to support the creative and innovative process (Shattow, 1996).

As regards the influence of organizational culture on a structure that supports creativity and innovation, values like flexibility, freedom and cooperative teamwork will promote creativity and innovation. On the other hand, values like rigidity, control, predictability, stability and order (mostly associated with hierarchical structures) will hinder creativity and innovation (Arad et al., 1997).