HOW DOES INFORMATION TECHNOLOGY CAPABILITY SHAPE THE RELATIONSHIP BETWEEN ORGANIZATIONAL CULTURE AND INNOVATION CAPABILITY IN MANUFACTURING SECTORS?

Zeravan Abdulmuhsen Asaad
Cihan University-Duhok/Kurdistan Region
zeravan.asaad@gmail.com

Bayar Mohamed Rasheed Omer
Cihan University-Duhok/Kurdistan Region
bayar.marane@gmail.com

Abstract

The complexity and turbulent business environment nowadays forced organizations to enhance their capabilities to be able to respond to all the environmental changes. As a sign of response manufactures, among other sector, tried to acquire unique resources and capabilities, develop innovation capability. This argument has been justified by the increasing attention given by many researchers to examine the interaction between the Organizational Culture (OC) and information technology capability (ITC). Moreover, a great deal of attention has been paid to the Innovation capability implication of this interaction. This paper reviewed the literature related to the interaction between Organizational Culture (OC) and information technology capability (ITC) and Innovation capability (IC) of manufactures.

***Keywords*:** *Information technology capability (ITC), Innovation capability (IC), manufactures sector and Organizational Culture (OC)*

1. INTRODUCTION

Innovation has become widely recognized as a key to competitive success (Francis & Bessant, 2005). Scholars are mainly concerned with innovation because of the life requirements and the persistent desire for continuous change to be in accordance with individuals' needs and desires (Badawy, 1993). Developments in all aspects of life aspects are attributed to innovation. Peter Ducker, one of the administration scholars, says that innovation is one of the main forces in economic and social development and a basic tool in the growing, resistance and adaptability of the contemporary organizations with the changing environmental conditions as those organizations with no innovation will shortly remove (Drucker, 1995). Leaders of businesses of all sizes and from all industries make innovation among their top priorities and concerns (Scantlebury& Lawton, 2007). Many studies have found that innovation is the most important tool that firms use to maintain a competitive advantage (Kimberly and Evanisko, 1981; Damanpour and Evan, 1984; Badawy, 1993; Rabelo and Speller, 2005).

Innovation, in the developed countries, has become an activity practiced by all pioneer organizations and supervised by specialized sections to provide the suitable environment to support and encourage innovation to reach the creative solutions for the problem (Hadjlmonnoli, 2000). The important role of innovation for the states and organizations and the changes in the contemporary organizations environment, in particular changes in competition, complex customers' needs, products life cycle shortage and the increasing technologies, has changed bases and rules of competition supporting the view that innovation is the competitive force for achieving the success of the organizations (Shi, Yeo, and Wang, 2001).

A large number of variables have been proposed as determinants of innovation capabilities. In general, these can be grouped as individual factors, organizational factors and environmental factors. This study goes in depth into organizational factors since the literature has identified these as having the most effect on innovation (Damanpour, 1991).

However, there are many problems for manufactures in the current global business environment. The first problem sustainable and successful innovation is so difficult to be achieved by many firms (Marane, 2011; Al-Muafaq, 2009).The second problem is increasing competition and offering similar products and services from other firms, It becomes imperative for firms to develop capability to innovate at a faster rate and in a sustainable level (Fruhling & Siau, 2007).

Thus, the current paper intends to investigate the mediating role of information technology capability in relationship between organizational culture to innovation capability to increase firm performance, market share, market exposure and potential for revenue earning.

2. INNOVATION CAPABILITIES

Innovation is the main element in improving economic conditions for all the states, the large and the small, the developed and the developing. It is also the important factor in the long term success for all kinds of organizations (Galanakis, and Passey, 2001).

A review of literature from the past several decades revealed numerous definitions of innovation. Many of the definitions are slight variations built on common themes. Because this chapter synthesizes innovation concepts and strategy mechanisms, it is important to have a working definition of innovation. Thompson (1976) defined innovation as the generation, acceptance, and implementation of new ideas, processes, and products or services. Damanpour (1996) defined innovation as the adoption of an idea or behavior new to the adopting organization. Slappendel (1996) defined innovation as the process through which new ideas, objects, and practices are created, developed, or reinvented. Coopey, Keegan, and Emler (1998) defined innovation as a particular form of change characterized by the introduction of something new. Cortese and McDonough (2001) presented innovation as the processes by which firms master and get into practice product designs and manufacturing systems that are new to them. For Stoker, J.I., & Van der Heijden, B.I.J.M. (2001) innovation is defined as any idea, practice, or material artifact perceived to be new by the relevant unit of adoption. Finally, Edwards, Kumar, and Ranjan (2002) define innovation as a series of processes that are designed and managed to create and apply ideas and knowledge.

More specifically, there is a plethora of studies and discussions in the areas of organizational innovation and innovativeness, leaders' management and influence on fostering innovative cultures and innovations, individual innovativeness, and innovation-supportive cultures. However, this researcher believed there was a gap in published research on senior executives' support of innovation, particularly in the manufacturing sector. Wilson, Ramamurthy and Nystrom (1999) states that innovations are heavily dependent on executive leaders' interests and beliefs. However, very few studies have quantitatively examined the impact of top management on innovation (Papadakis & Bourantas, 1998). These seven definitions of innovation have two common themes: something new and processes. Synthesizing the two common themes from the referenced literature, the working definition of innovation for this study is a system designed and managed to create and apply new ideas that result in new products (goods and services) and processes. Thus, innovation is among the main requirements in the contemporary management where adopting the traditional managerial methods is not enough and could lead to failure (Hadjimanolis, 2000). Organizations searching for success should be characterized by innovation, invention and change.

3. ORGANIZATIONAL CULTURE

Studies concerned with the organizational culture presented various definitions regarding concepts and contents. One of the studies confirmed that the organizational culture is a common system of values and beliefs developing within the organization and clearly determine the members' behavior (Schermerhorn, James, Hunt and, Osbon, 1997). Another study indicated

that the organizational culture is the directed values and beliefs, understanding and methods of thinking shared by the organization members themselves. The study added that culture is the undocumented part of the organization (Daft, 2001).

Research has suggested that management is the key to innovation improvement (Saraph and Sebastian 1993). Therefore, the culture must be one that will allow management to change and respond to market demands. A critical area for any company in today's globalizing economy is the development of an organizational culture that lends itself to change and continuous improvement (Hitt et al., 1997). The competing values model of organizational culture was used to draw inferences about the culture of the companies surveyed in this research. Byar (1987) suggested four factors that contribute to the origin of an organization's culture: its history, environment, staffing process, and socialization process. Trice and Beyer (1993) argued that substances and forms are two basic elements of a corporate culture. Substances refer to work practice contained in organizational values, norms, and beliefs, whereas forms are expressed, affirmed, and communicated to the members of the organization (Trice & Beyer). The environment plays an important role in shaping organizations' cultures (Scott, Jennifer, and Anind, 2003).

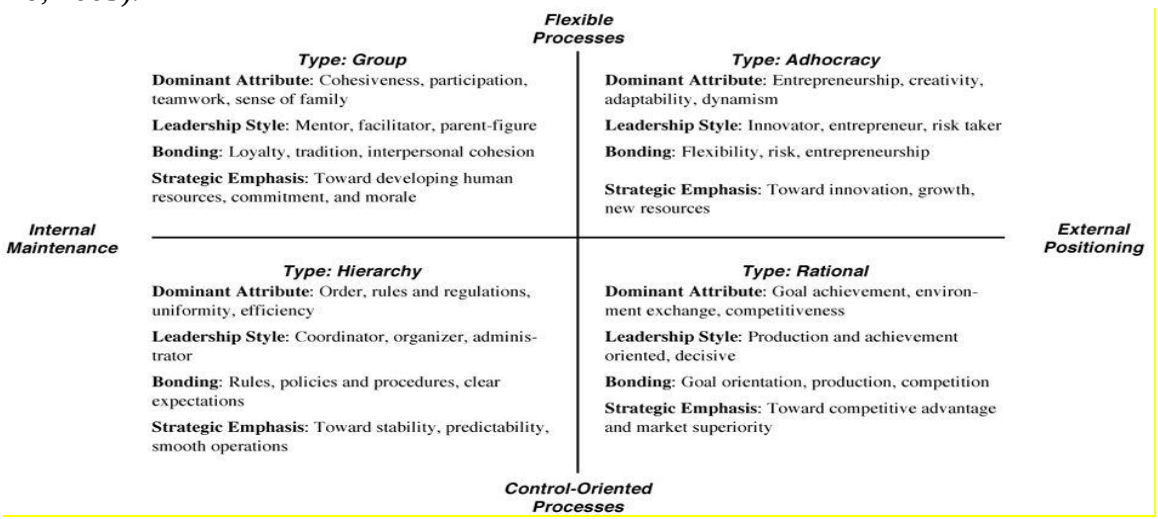

Figure (1) Competing Values Framework

Source: Quinn, R. E. & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria:

Toward a competing values approach to organizational analysis. *Management Science*, *29*.363-77. According to this model, adhocracy culture emphasizes flexibility and change and it is externally oriented. It is usual in companies operating in dynamic contexts and in those trying to be the leaders in their markets (Quinn and Rohrbaugh , 1983). The key values that adhocracy culture emphasizes are creativity, entrepreneurship and risk taking. Clan culture also emphasizes also flexibility but its focus is on the internal organization. Characteristics of clan-type firms are teamwork, employee involvement and corporate commitment to employees. Market culture is externally focused, but it is control oriented. The core values of firms with this culture are productivity and competitiveness. Finally, hierarchy culture is also control oriented but also focuses on the internal organization. Efficiency, coordination and close adherence to rules and regulations are its main characteristics (Maloney, 1989; Maloney and Federle, 1993).

4. THE IMPLICATIONS OF THE FOUR ORGANIZATIONAL CULTURE TYPES IN THE CVF

The four effectiveness criteria models in the CVF are also called four organizational culture types. Based on former organizational culture studies in the literature, Cameron and Quinn

(2006, p.28) termed the four culture types as Clan, Adhocracy, Market, and Hierarchy, respectively. The implications of each culture type are summarized as follows (Cameron and Quinn, 2006):

1. The Clan Culture

The clan culture is full of shared values and common goals, an atmosphere of collectivity and mutual help, and an emphasis on empowerment and employee evolvement. The authors contend that the clan culture is just the organizational culture defined by Wilkins and Ouchi (1983), which can be developed under certain conditions such as a relatively long history and stable membership, absence of institutional alternatives, thick interactions among members, etc.

2. The Adhocracy Culture

The adhocracy culture is like a temporary institution, which is dismissed whenever the organizational tasks are ended, and reloaded rapidly whenever new tasks emerge. The adhocracy culture is often found in such industries as filming, consulting, space flight, and software development, etc.

3. The Market Culture

The market culture focuses on the transactions with the environment outside the organization instead of on the internal management. The organizational goal is to earn profits through market competition. This concept originates from Ouchi's (1979, 1984) study on the market control system.

4. The Hierarchy Culture

The hierarchy culture has a clear organizational structure, standardized rules and procedures, strict control, and well defined responsibilities. This concept can be traced to the image of "bureaucracy" in Weber's (1947) early works on modern organizational management.

5. INFORMATION TECHNOLOGY CAPABILITY

In today's business environment, information technology capability (ITC) is playing an active role in creating competitive advantage for companies (Rayport and Jaworski 2001). Information technologies (ITC) have had a significant impact on organizations in a number of different ways. Researchers have studied the impacts of ITC on different dimensions of business and have established ITC as a strategic factor in organizations. To begin with, researchers have found ITC to directly impact the operational aspects of the firm that enables the firm to be more efficient (Mukhopadhyay, Kekre and Kalathur 1995, Menon and Lee 2000), reduce errors overall (Mukhopadhyay, Rajiv and Srinivasan 1997) and enhance the quality of business process execution (Devaraj and Kohli 2003). These different aspects of ITC capabilities have been summarized in three type which are ITC conceptualized as managerial capabilities, ITC conceptualized as technological capabilities and ITC conceptualized as a combination of both managerial and technological capabilities.

Sambamurthy & Zmud (1992) defined ITC The internal capabilities on which its competitive strategies are based… it also refers to the managerial capabilities required for a firm to productively acquire, deploy, and leverage its IT investments. Other one defined ITC as the ability to control IT-related costs, deliver systems when needed, and affect business objectives through IT implementations (Ross, Beath, & Goodhue, 1996).

Teo & King (1997) defined ITC the capabilities of the IS function… can be operationalized in terms of general technical expertise and technological leadership in the industry. Others define ITC the ability to easily and readily doff use or support a wide variety of hardware, software, compunctions technologies, data, core applications, skills and competencies, commitments, and values within the technical physical base and the human component of the existing IT infrastructure (Byrd & Turner, 2000). Sabherwal (1999) explain ITC as the extent to which the

technologies needed for manipulation, storage, and communication of information are available within the organization.

Ray, Muhanna &Barney (2005) defined ITC It is composed of two categories of resources: the first consists of raw IT spending, the technical skills and generic information technologies within the firm (i.e., the technology components) and the second consists of more managerial resources that "influence how the first [category] of resource is used". Bhatt & Grover (2005) it is composed of value capabilities, competitive capabilities, and dynamic capabilities.

Recently however, there have been attempts to adopt a more inclusive view of ITC which takes into account both the technological and managerial aspects. For example, Ray, Muhanna, and Barney (2005) view ITC as being composed of two categories of resources: the first consists of raw IT spending, the technical skills , and generic information technologies within the firm (i.e., The technology components) and the second consists of more managerial capabilities that " influence how the first [category] of resource is used. Bhatt and Grover (2005) view ITC as being composed of the value or technological capabilities (e.g., IT infrastructure), and more managerial capabilities such as competitive capabilities (e.g., IT business experience, relationship infrastructure), and dynamic capabilities (e.g., intensity of organizational learning). Bharadwaj (2000) categorizes various aspects of ITC within four dimensions. It is useful to observe that there are varying degrees of overlap amongst the existing perspectives on ITC Based on these and other studies, we have combined the similar elements of ITC and derived a more integrative set of underlying dimensions of the construct: (1) IT infrastructure, (2) IT architecture and (3) IT relationship resource.

IT Architecture

The definition of IT architecture has emerged slowly overtime (Sullivan, 1982) with researchers usually focusing on different components of information systems, such as data storage, communications, or applications. Gibson (1994) adopted a more intergrative approach and viewd architecture as being composed of four physical elements: computing compatibility, data organization, communications connectivity, and applications functionality. Following Gibson's (1994) approach, IT architecture may be defined as a high-level map of information and technology requirements of the entire firm in this study. It provides a vision for how a firm will select and deply its corporate IT resources to derive business value. Well-designed and well-planned IT architectures deliver significant benefits to a firm, by lowering IT cost through technology standardization, and by enabling agility in the organization (Bhatt, 2000; Sambamurth, Bharadwaj, & Grover, 2003).

IT Infrastructure

The value of IT infrastructure, often defined as a shard information delivery base relying on hardware, software, and networks, is growing rapidly in today's organizations (Byrd & Turner, 2000). An IT infrastructure provides a shared foundation of ICT for building business applications and training employess, and is usually managed by the information system group. It is comprised of the computer and communication technologies and the shareable technical platforms, providing consistent and quick information support by enabling access to relevant databases throughout the organization (Ross, Beath, & Goodhue, 1996; Weill, Broadbent, & Butler, 1996). This IT infrastructure may thus be seen as a key source for attaining long-term competitive advantage (Keen, 1991; McKenney, 1995), serving as an enabler for future applications, and helping the organization cope with the uncertainty of future needs (Grossman & Packer, 1989).

IT Relationship Resource

IT relationship resource includes the social capital developed though relationship building. Specifically, it involves developing users' understanding of IT's potential and boosting users' feelings of ownership and satisfaction. It plays an important role in fostering mutual confidence, harmony of purpose. And enabling successful communication among those focused on the

business and technical agendas (Feeny & Willcocks, 1998 b). A strong IT relationship is characterized by high levels of respect and goodwill between IT personnel and clients, which results in excellence in bi-directional communication without significant distortion of meaning and collaboration across both sides of the relationship. This in turn enables mutual knowledge sharing and appreciation of the capabilities of information technology and the needs of the business. An important element of IT relationship is that it enables convenient IT-based linkages with the organization's customers as well as suppliers, and indeed such connectivity can often be transformed to valuable inter-organizational collaborations, leading to: the cration of joint designs, reduction of transcation costs, better management of inventory, greater agility of the relationship, and so forth (Grewal, Johnson, & Sarker, 2007; Turban, Leidner, Mclean, & Wetherbe, 2006).

6. ORGANIZATIONAL CULTURE AND INNOVATIONS CAPABILITY

It has been stated in organizational studies that organizational culture is important as a vehicle for implementing organizational change (Yeung, Brockbank & Ulrich 1991). Although not all organizational change involves innovation, King (1990) asserted that all organizational innovation involves change which ultimately is supported or hindered by organizational culture. Various studies have acknowledged the existence of a relationship between organizational culture and organizational innovation (Cherian & Deshpande' 1985; Kotter & Heskett 1992; Detert, Schoreder & Mauriel 2000; Zammuto, Gifford & Goodman 2000). Another research by Obenchain, Johnson & Dion (2002) also affirmed that organizational culture type is correlated with organizational innovation. The study suggests that culture types of adhocracy, market and 'balanced' (i.e. no-dominant) are associated with innovation implementation. In particular, the dominant culture type of adhocracy is affiliated with higher total organizational innovation, higher technical innovation and higher administrative innovation more than the culture designations of market, 'no-dominant', clan and hierarchy. Many different people have used the word 'culture' to explain a variety of phenomena. As each one tends to adopt a slightly different perspective, there is no universally accepted definition (Rollinson & Broadfield, 2002). identified over 70 different words or phrases used to define organizational culture. One of the first attempts was by Jacques (1952) who claimed that organizational culture is the customary and traditional way of doing things, which is shared to a greater or lesser degree by all members, and which the new members must learn and at least partially accept in order to be accepted for the firm's services. Harrison (1972) focused more on culture itself rather than on its effects and defined it as ideologies, beliefs, and deep-set values that occur in all firms and are prescriptions for the ways in which people should work in these organizations. Canalejo (1995), who considers that an innovation-based organizational culture must possess the following values: client-orientation, compromise with objectives, challenge and initiative, exemplary behavior, team work and permanent improvement. To sum up, in order to obtain competitive advantage by means of a search for new business processes, it becomes a must to possess previously a culture supporting such search. In this respect, Vrakking (1990) states that the cultural perception is a prerequisite for innovative behavior having effective results. As we have already said in this paper, there may be many ways to innovate, technology being one of them; therefore, we must define the general conditions of an organizational culture based on technology. For this purpose, we shall quote (Fons-Boronat 1992), for whom there is a basic difference between technics and technology.

Finally, within the same line of thought, Humble & Jones (1989) relate this cultural orientation to the purpose of often rendering the present products and services that the firm offers to the market, so as to improve customer satisfaction and obtaining profits. Another characteristic of this culture is the fact that it allows a considerable degree of autonomy and initiative to the members of the corporation. This results from stimulating and motivating the staff towards

technological innovation, refusing bureaucratic notions that may hinder the said cultural taxonomy (Rogovsky, Schuler and Reynolds, 2000). Moving on to another issue, if we relate corporate size to the possibility of developing a culture based on technological innovation, we may initially believe that, the lower the number of people present in the organization, the higher the possibility of these beliefs being accepted. Organizational culture has many dimensions and variations. The competing values framework (CVF) categorizes them in a two dimensional space (Denison & Spreitzer, 1991) see Fig. 1. Each axis represents contrast orientations. The first dimension stands for flexibility vs. control orientation. The second dimension describes the focus on activities occurring within or outside the organization. The combination of both dimensions defines four types of organizational culture: group, developmental, hierarchical, and rational. Group culture emphasizes flexibility and change and a focus on the internal organization. Developmental culture also emphasizes flexibility, but is externally focused. Rational culture is externally oriented, but focused on control. Hierarchical culture emphasizes stability; however, the focus is on the internal organization. Characteristics of all four types of cultures are represented in Fig. 1 and are further described in Denison and Spreitzer (1991), McDermott and Stock (1999) and Prajogo and McDermott (2005).An important assumption of CVF is that each type of culture is an ideal type. The culture in an organization is a combination of different culture orientations, although usually one type is more dominant than the others. ''A high rating on one dimension, e.g. internal orientation, does not exclude high rating at the other end, e.g. external orientation" (McDermott & Stock, 1999). Further, Denison and Spreitzer (1991) argued that overemphasizing any culture type may become dysfunctional and the strength of the quadrant may even become a weakness.While there is a consensus that organizational culture is critical in any change initiative, no such consensus exists as to what type of organizational culture best supports business transformation and innovativeness (Merx-Chermin & Nijhof, 2005). A lack of empirical investigations into organizational culture on various aspects of innovativeness is still noted. Only a few studies have tackled some aspects of this issue in recent years (e.g. Kandemir & Hult, 2005; Kusunoki, Nonaka, & Nagata, 1998; Martins & Terblanche, 2003; Merx-Chermin & Nijhof, 2005; Sarros, Cooper, & Santora, 2008). Findings of Prajogo and McDermott (2005) indicate that an organization can implement different, even opposite culture types, in harmony. This opened up the question of which combination of culture types is most appropriate for innovations. Škerlavaj, Indihar Štemberger ,Škrinjar, and Dimovski (2007) suggest the organizational culture as a combination of all four cultural types as shown above.

7. ORGANIZATIONAL CULTURE AND INFORMATION TECHNOLOGY CAPABILITY

The relationship between organizational culture and ITC may be better understood by examining the interactions between an organization and ITC in general. According to Schein's (1992), there are at least seven different ways in which ITC and the organization interact. An analysis of these interactions explains why ITC cannot be implemented without considering organizational culture change issues.

1. New ITC system to be effective, new organization policies or designs, such as a different distribution of authority, new training programs, broader and more flexible jobs or different selection criteria, may be required (Tricker 1988).
2. The introduction of an ITC system may elicit unanticipated organizational dynamics, such as new contests for power, altered patterns of communication, or more pervasive monitoring of behavior.
3. ITC itself may be further elaborated and revised by end users to better suit their personal preferences.

4. ITC may create or promote new organizational solutions. In many ways, ITC can change organizational practices and the ways businesses operate. Advanced ITC enable organizational members to work together across space and time, promoting the concepts of mobile offices and home-based professionals. In a way these changes might make the concept of a centralized or decentralized structure more relative since with the help of ITC, an organization might be able to enjoy the flexibility and responsiveness characteristics of a decentralized organization while achieving the integration and control of a centralized organization.
5. ITC can accelerate and refine organizational adaptation to changing conditions by early detection of possible problems, often achieved with the help of quick, consistent and comprehensive information.
6. ITC systems and organizational forms can sometimes be considered as alternatives since each is capable of performing similar functions (often with regard to communication and coordination).
7. Introduction of a new ITC system can create opportunities for introducing organizational changes that management might view as desirable independently of the requirements or potential effects of the system. For example, management might set higher standards of excellence, promote a more open communication style or a more organization-wide versus a territorial view following the capability of a new IT system.

It can be seen quite apparently from the above analysis that in most of these seven ways of interactions between the organization culture and ITC, references can be made to aspects of organizational culture to some extent (Rollinson & Broadfield, 2002). Therefore, organizational culture should be viewed as a very important factor affecting the capability of ITC in an organization. In other words, as concluded by (Kendall, Buffington & Kendall 1987; Schein's, 1992), the ITC process should be guided by organizational values.

Although increasing attention has been given to organizational culture in recent ITC literature, empirical research specifically addressing the relationship between organizational culture and ITC is still sparse. Some studies merely aim to identify the social/cultural factors affecting IT capability without attempting to establish a model of how the relationship between these two organizational variables work. In an extensive study by Hill et al. (1998), the following factors which are (Social class status in organization, Educational level, Leadership in organization, Personal relations in work group and between levels of organization, Allegiance to family and kin group, Communal world view, Religion, Valuing the past, and face to face interactions) have been viewed as having an impact on ITC adoption and capability in the sociocultural context of the Arab world.

8. INFORMATION TECHNOLOGY CAPABILITY AND INNOVATION CAPABILITY

Despite progress in the understanding of innovation process in firms and the various impacts of information technology capability, there is limited understanding about the role of information technology capability and its impact on the innovation process of the firm. The literature on innovation in marketing has addressed information technology capability in many different ways. Overall, two different themes seem to emerge from the literature on the role of Information technology in the innovation capability of firms.

Table following on the next two (2) pages

Table (1) the role of information technology capability as a medium of carrying out Innovation capability within firms

Research	Antecedents	Reference to IT	Innovation capabilities
Atuahene- Gima (1996)	R&D Focus, Marketing proficiency,Technologicl Synergy,Management Support, Newness of product	Technological synergy in new products is more important for innovation success than for new services	Subjective measure of new product success
Moorman & Miner (1997)	Depth and dispersion of organizational memory	Technology in general has been referred to as a force that contributes to environmental turbulence by affecting operations.	Short term financial performance of new products
Han, Kim and Srivastava (1998)	Market Orientation	IT has been referred to as a force that contributes to environmental turbulence by affecting operations	No of Administrative innovations and No of Technical innovations
Hurley & Huit (1998)	Team culture Participativeness, power sharing, Learning	Technology as a component of the product that provides barriers to succeed and hence needs to be overcome with learning and joint sense-making.	No of ideas generated by the firm (Capacity to innovate)
Sethi (2000)	Task interdependence and interconnectedness between departments and teams	Discusses new age information technology to enable the interconnectedness between departments and hence aid in new product development.	Subjective evaluation of firm achieving financial benchmarks with new products
Massey, Montoya-Weiss and O'Driscoll (2002)	Knowledge Management Strategy and Tools.	IT enabled Knowledge management strategy was shown to radically alter new product development processes in a firm and enable it to be more innovation productive.	New product development process and activity
Cavusgil, Calantone &Zhao (2003)	Innovation Capability and Extent of tacit knowledge transfer	IT has been referred to as a force that contributes to environmental turbulence by affecting operations	Financial returns and ROI.
Atuahene-Gima (2005)	Strategic Orientation of firm and Interfunctional coordination	IT has been referred to as a force that contributes to environmental turbulence by affecting operations	No of innovations & Financial impact of innovations (incremental & radical)
Zhou et al (2005)	Strategic Orientation, Technology based innovation and market based innovation	Technology as a component of the product that provides barriers to succeed and hence needs to be overcome with learning	Subjective evaluation of Firm Performance & Product Performance
Laursen & Salter (2006)	R&D Intensity, Breadth and Depth of Sources of Information	Discusses IT as a possible changer in the environment to which firms need to adapt.	Percentage of Revenue from New products
Durmusoglu, Calantone and Sambamurthy (2006)	T infrastructure and product development flexibility	IT infrastructure enables flexible yet costly new product development.	New product development activities
Salomo et al(2007)	Business planning and Risk Management	Technology has been explained as a force of change that increases ambiguity in innovation	Financial Success and Project efficiency
De Luca & Atuahene-Gima (2007)	Inter-functional coordination and Knowledge integration	IT has been referred to as a force that contributes to environmental turbulence by affecting operations	Extent to which new product objectives are achieved

Citrin, Lee and McCullough (2007)	Type of Information Use	Information technology was used as both the medium that enabled information use and as the factor that creates environmental turbulence.	Subjective evaluation of product market performance
Barczak, Sultan and Hultink 2007)	Extent of IT use and embeddedness of IT in the systems.	IT has been specifically identified as an enabler of innovation activity that leads to a better new product performance.	Speed to market and Market Performance of Products
Troy et al (2008)	Integration between various units in Innovation project	Technology enables fine effectiveness - grained integration that fosters product	Product effectiveness and Market Performance
Voss & Voss (2008)	Strategic Orientation of the firm and Interfunctional coordination	Technology in general has been referred to as a force that contributes to environmental turbulence by affecting operations	Product Quality, Financial Performance of Product and Subjective evaluation of product innovation
Lopez-Cabrales, Pérez and Cabrera (2009)	Collaboration and Knowledge Management practices of employees	Information technology is alluded in the paper as the medium that enables collaboration and knowledge management that fosters innovation activity.	Subjective evaluation of firm achieving financial benchmarks with new products)

A summary of studies that have addressed ITC in the innovation capability of the firm that were reviewed is presented in Tables 1. Studies have examined IT as a medium of operations and an exogenous factor that affects innovation. These findings from these studies have not found a clear link between information technology capability and innovation capability. While some studies show that ITC has helped in automating tasks and thereby improving efficiency of many steps in the new product development process, other studies show information technology capability as a deterrent in the product innovation process. Some studies show information technology capability as a process in which information is well integrated and acts a good collaboration enabler between various parts of the firm thereby enabling innovation. On the other hand, some studies find that ITC brings about volatility in the environment due to frequent changes and thereby disturbing the routines of innovation in an organization and ITC has positive relationship with innovation capabilities (Zhou, Yim and Tse 2005).

9. UNDERPINNING THEORY

The underpinning theory to combine all variable is resource based view (RBV) of the firm.The currently dominant view of corporate strategy, resource based theory or resource based view of firms is based on the concept of economic rent and the view of the firm as a collection of capabilities, this view of strategy has a coherence and integrative role that places it well ahead of other mechanisms of strategic decision making. (Freiling, 2008; Govind Menon, 2008; Peteraf,2006; Priem & Butler, 2001) .The contemporary approach to this view maintains that whether a firm is capable of creating and sustaining competitive advantage depends on how the firm's resources are deployed (Barney & Arikan, 2001). Each organization is a collection of unique resources and innovation capabilities that provides the basis for its strategy and the primary source of its returns. In the 21st-century hyper-competitive landscape, a firm is a collection of evolving capabilities that is managed innovationally in pursuit of above-average returns. (Freiling, 2008; Govind Menon, 2008; Peteraf, 2006; Priem & Butler, 2001) Thus, differences in firm's performances across time are driven primarily by their unique resources and innovation capabilities rather than by an industry's structural characteristics.

Innovations capabilities are difficult to imitate combinations of resources, including effective coordination of inter organizational relationships, on a global basis that can give a firm a

competitive advantage (Dyer and Singh, 1998; Teece et al., 1997). Such capabilities have two primary characteristics:

1. They develop systemic global coherence while recognizing the unique features of each country's environment to facilitate customization of an individual country's strategies and;
2. They adapt, integrate, and reconfigure internal and external assets to match opportunities in the global marketplace (Eisenhardt and Martin, 2000; Teece et al., 1997).

Innovation capabilities are derived by a firm leveraging its internal and external asset. This strategy enhances its power in its global relationships, and enables it to coordinate inter organizational activities and respond rapidly, in a flexible manner, to global competitors' strategies (Eisenhardt and Martin, 2000; Teece et al., 1997). Internal and external assets provide the power base necessary to develop strategies that enable a firm to gain a global competitive advantage, thus providing an action dimension to the resource and market based views of the firm (Eisenhardt and Martin, 2000).

Innovation capability refers to the organizational capability that generates and generalizes innovations that will gain the organization competitiveness (Hurley & Hult, 1998). The concept stresses not only the ability to create new ideas, but also the ability to implement new ideas. Drawing on the RBV of ITC, Bharadwaj (2000) provides a rich conceptualization of ITC where ITC is determined by a firm's ability to use its resources to gain (and maintain) competitive advantage.

Content of the Social Environment and its Impact on Innovation:

The relationship between the individual and his/her social environment is of great importance in order to understand the powers supporting or hindering innovation (Spence, 2000). Despite the impact of the personal factors on the innovative (Amabile, 1998), there are additional factors related to certain conditions and situations that are necessary to assess their impacts as important sources of innovation. These include esprit, referring to de groups, nationality, the mutual relation among the individuals and the environment which is a relation that none of the two parts could live without the other.

Societies are inclined to show the characteristics held by influential individuals in the society whether they were a majority or not. Thus, there will be progressive communities in addition to innovative individuals inside these societies and many societies show known classes but not distinguishing the majority of those inside the society. Such societies and individuals could form a network of interrelated relation among the innovative individuals and innovative societies. Figure (1) shows this interrelation through two continuums of the innovative individuals and the innovative societies. The innovative individual's continuum coincides with the innovative society continuum leading to four stages of interrelated conditions.

The four cases provide a useful guide for knowing the indicators that might affect the judgment issued by someone in decision making inside the environment. These cases mentioned in the squares represent the limits separating among the innovative and non innovative individuals and innovative and non innovative societies. But in fact, there are no such cases because what are existing are numerous conditions leading to endless conditions gathering endless circles of innovation and non innovation in innovative and non innovative societies (Spence, 1994).

There are innumerable individuals between the two sides of the innovative and the non innovative, the innovative and non innovative societies. What is represented through the first square in the figure of less innovative individual in a progressive society make it possible to add four new additional squares (Dongil, Chee, and Anne, 2008).

The cases presented according to relation circles between the innovative and the non innovative in innovative and non innovative society are logical cases in their contents and impacts but still

the interaction between the innovative and his/her society (Galanakis, and Stuart, 2001). The optimum case supposed to be the relation between the innovative and the innovative society is dominant in addition to the opposing case because the real condition supposes various differences among the cases presented by the study (Hadjlmonnoli & Drckson, 2000). The process as a whole is governed by innumerable variables, in particular the cultural variables consisting of values, morals, customs and traditions and this is applied on the organizations and the individuals (Subramanian and Nilakanta, 1996).

The optimum case as the study confirmed suppose that the innovative individual will be more creative when being in a progressive society (innovative) unlike existing in a traditional society (Hitt et al., 1997). The same is said for non innovative individual in a progressive and innovative society. In both cases, there is agreement among the all the sides because agreement between innovation and progressive society is reducing pressure factors imposed on the innovative (Spence, 1994).

Variance among the societies as related to innovations is attributed by one of the studies to the following reasons (Lynch, 2000):

1. Factors affecting the inputs of the innovative process in particular the scientific society in that country and its relation with the existing educational institutes.
2. Factors affecting demand in particular the customers.
3. The industrial structure preferring competition to evoke innovation.

In general, studies started to examine variance among the progressive societies and the traditional ones with their characteristics. One the specialized dictionaries presented the characteristics of the innovative societies as follows (Warner, Malcolm, 1996):

1. Innovative societies focus on strong culture.
2. Innovative societies focus is distributed among individuals, groups and organizations to encourage innovation.
3. Innovative societies focus on investment and financing activities.
4. Innovative societies acquire and store knowledge to be spread through adopting the developed and easiest technologies to be fully utilized by the society.

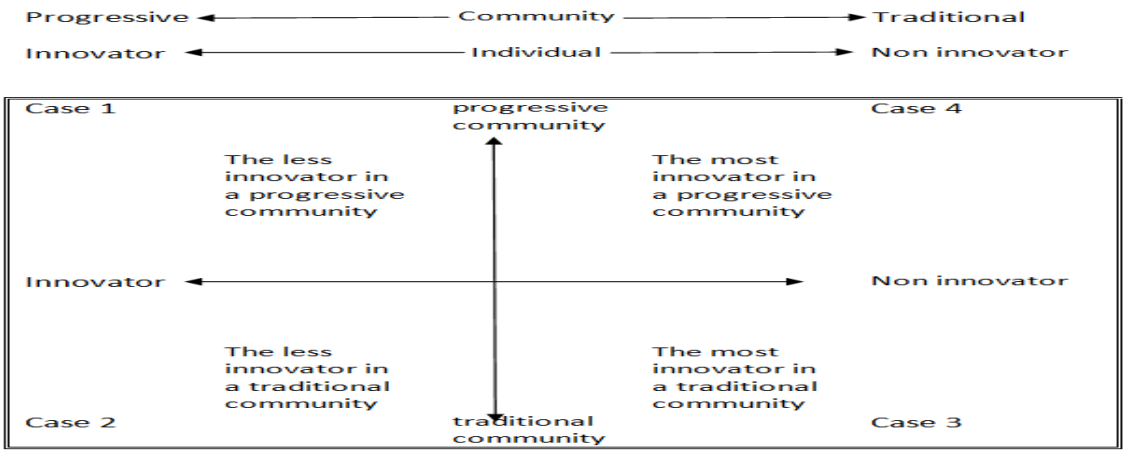

Figure (2) The Interactive Relations among the Individuals and the Societies depending on the Innovative Conditions

Spence, W.R. (1994). *Innovation: The Communication of Change in Ideas, Practices and Products.* Chapman & Hall: London.

10. CONCLUSION

There are certain reasons for such trend including the challenges faced by the contemporary organizations that are continuous threats. The customers complexities have increased and their demands varied in addition to the increasing of quality levels and complexities of most of the

products presented by these organizations, including goods, services and ideas. Trade, communication and information globalization have created new opportunities for the organizations to have new market portions in addition to the threats represented by the competition barriers and impacts, Innovation is the main element in improving economic conditions for all the states, the large and the small, the developed and developing ones. It is also important factor in the long term success for all kinds of firms. A comprehensive review of the management literature revealed that organizational culture has been emphasized as one of the solid ground for successful strategies' implementation. Since strategies are meant for the long run, organizational culture of a firm and ITC should lead the employees to adopt the firms' values towards achieving the future vision. In other words, firm's environment should tolerate failure and encourage employees to develop new and innovative ideas to enhance the firm competitive advantage. The role of the firm leader and top management has been emphasized in the management literature; the development of entrepreneurial culture is the responsibility of all the management levels. Hence, the role of firm's managers is justified and emphasized. Once the ITC has been developed in a firm, it is expected that all the employees' capabilities, skills, and knowledge are utilized to extreme extent. Finally, resulting from literature review for the interaction of organizational culture and information technology capability and innovation capability was provided showing the importance of competing value framework and information technology capability to enhance firm innovation capability.

LITERATURE:

1. Ahmed, P. (1998). Culture and climate for innovation, *European Journal of Innovation Management*, 1(1), 30-43.
2. Al- Muafaq, (2009). Determine the level of innovation capability in Iraq industrial sector. *Al-Rafidan Journal*. 15 (4).
3. Al Shamaa, K. M. & Hamood, K. M. (1989). Impact of organization culture on performance. *Baghdad Journal*, *4*(2), 38-58.
4. Amabile, T. M. (1998). *How to Kill Creativity*. Harvard Business Review, September–October.
5. Badawy, O. (1993). The fifth little dragon . *Englneering Management Review, 21*(1):89-92.
6. Barczak, G., Sultan, F., & Hultink, E. J. (2007). Determinants of IT Usage and New Product Performance. *Journal of Product Innovation Management, 24*(6), 600-613.
7. Barney, J. B., Arikan, R., (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management, 27*(6), 643-650.
8. Bharadwaj, A. S. (2000). A Resource-based perspective on information technology capability and firm performance, an empirical investigation. *MIS Quarterly, 24*(1), 169-196.
9. Bhatt, G.D., & Grover, V. (2005). Types of information technology capabilities and their role in competitive advantage. *Journal of MIS, 22*(3), 253-277.
10. Byar, L.L. (1987). *Strategic management planning and implementation: Concepts and cases. (2nd E.D)*. New York: Harper and Row Publishers.
11. Byrd, T. A,. & Turner, D. E. (2000). Measuring the flexibility of information technology infrastructure, exploratory analysis of a construct. *Journal of Management Information Systems, 17*(1), 167-208.
12. Cameron, K. S. and Quinn, R. E. (2006). *Diagnosting and Changing Organizationalture.* Revised Edition, Jossey-Bass, US. First published by Addison-Wesley in 1999.
13. Canlejo, M. (1995). Innovation organization en alcatel standard eléctrica S.A. V Congreso Nacional de la Association Client Economic y Direct on de la Empresa. *ACEDE, 1*(1), 205-216.

14. Cavusgil, S. T., Calantone, R. J., & Zhao, Y. (2003). Tacit knowledge transfer and firm innovation capability. *Journal of Business & Industrial Marketing, 18*(1), 6-21.
15. Cherian, J. and Deshpande, R. (1985). The impact of organizational culture on the doption of industrial innovations (pp.30-34). *American Marketing Association Educators' Conference Proceedings*.
16. Citrin, A. V., Lee, R. P., & McCullough, J. (2007). Information use and new product outcomes: The contingent role of strategy type. *Journal of Product Innovation Management, 24*(3), 259-273.
17. Cooper, R & Zmud, R W. (1990). Information Technology Implementation Research: A Technological Diffusion Approach, *Management Science 36*(2), 123-139.
18. Coopey, J., Keegan, O., & Emler, N. (1998). Managers innovations and the structuration of organizations. *Journal of Management Studies, 35*, 263-284.
19. Cortese, A.D., and McDonough, W. (2001). Accelerating the Transition to Sustainability Through Higher Education. *Environmental Grantmakers Association News & Updates*, Spring, pp. 11-13, 34.
20. Daft, R. L. (2001). *Organization Theory and Design.* Ohio: South–Western College Publishing.
21. Damanpour, F. (1991). Organizational innovation: a meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, *34* (3), 550-590.
22. Damanpour, F. (1996). Bureaucracy and innovation revisited: effects of contingency factors, industrial sectors, and innovation characteristics, *Journal of High Technology Management Research, 7*, 150-75.
23. Damanpour, F. and Evan, W. (1984). Organizational innovation and performance: the problem of organizational lag, *Administrative Science Quarterly*, *29*(3), 392-409.
24. Deal T.E., Kennedy, A.A., 1982, Corporate Culture: The Rites and Rituals of Corporate Life. Reading, MA: Addison-Wesley.
25. Denison, D.R., & Spreitzer, G.M. (1991). Organizational culture and organizational development. *Research in organizational change and development, 5*(21). 33-49.
26. Detert, J., Schroeder, R., Mauriel, J. (2000). A framework for linking culture and improvement initiatives in organizations. *The Academy of Management Review*, *25*(4), 850-863.
27. Devaraj, S. & Kohli, R. (2003). Performance impacts of information technology: Is actual usage the missing link?. *Management Science*, *49(*3), 273-289.
28. Dongil, D. J., Chee W. C. & Anne, W.(2008). Towards Understanding the Direct and Indirect Effects of Transformational Leadership on Firm Innovation, *leadership Quarterly, 19*, 582-594.
29. Drucker, P.F. (1985), The discipline of innovation, *Harvard Business Review*, 63(3), 67-72.
30. Druker P.F. (1995) *Managing in a Time of Great Change*, Butterworth-Heinemann,
31. Durmusoglu, S. S., Calantone, R. J., & Sambamurthy, V. (2006). Is more information technology better for new product development?. *Journal of Product & Brand Management*, *75*(7), 435-441.
32. Dyer, Jeffery H. & Habir Singh. 1998. The Relational View: Cooperative Strategy and Sources of Interorganizational, Competitive Advantage. *Academy of Management Review, 23*(4): 660-679.
33. Edwards, R. W., Kumar, P. and Ranjan, R. (2002), Organisation Culture and Innovation. Paper presented at the Paper presented at the 28th EIBA *(European International Business Academy) Conference*, Athens, Greece.
34. Eisenhardt, K.M., and Martin, J.A. (2000) Dynamic Capabilities: What are they?. *Strategic Management Journal, 21*(Special issue), 1105-1121.

35. Feeny, D. F., & Willcocks, L.P. (1998 b). Re-designing the IS function around core capabilities. *Long Range Planning, 31*(3), 354-367.
36. Fons-Boronat, J.M. (1992). *Gestin de la innovacin. Discource of admission to the Real Academia de Ciencias Economicas y Financieras.* Barcelona.
37. Francis, D., & Bessant, J. (2005). Targeting innovation and implications for capability development. *Technovation, 25*(3), 171-183.
38. Freiling, J. (2008). RBV and the road to the control of external organizations. *Management Revue, 19*(1/2). 33-52.
39. Fruhling, A. L., & Siau, K. (2007). Assessing Organizational Innovation Capability and Its Effect on E-Commerce Initiatives. *The Journal of Computer Information Systems, 48*(1), 133-145.
40. Galanakis, K. and Passey, S., (2001). The creative factory: An innovation systems model using thinking approach. *The R & D Management Conference*, 7-9 February (35), Wellington, New Zealand.
41. Gibson, R. (1994). Global information technology architectures. *Journal of Global Information Management, 2*(1), 28-39.
42. Goetsch, D. L., & Davis, S. B. (1997). *Introduction to total quality: Quality management for production, processing and services* (2nd ed.). Upper Saddle River: Simon & Schuster.
43. Govind Menon, A. (2008). Revisiting dynamic capability. *IIMB Management Review, 20*(1). 22-33.
44. Hadjimanolis, A. (2000). A resource-based view of innovativeness in small firms. *Technology Analysis & Strategic Management, 12*(2), 263-281.
45. Han, J. K., Kim, N., & Srivastava, R. (1998), Marketing orientation and organizational performance: Is innovation a missing link?. *Journal of Marketing, 62*, 30-45.
46. Harrison, R., (1972), Understanding you organisation's character. Harvard business Review 5-6: pp. 119-28.
47. Hill, C.E., Loch, K.D., Straub, D.W. & El-Sheshai, K. (1998). A qualitative assessment of Arab culture and information technology transfer. *Journal of global information management*, 6(3), 29-38.
48. Hitt, M.A., Hoskisson, R.E. and Kim, H. (1997), International diversification: effects on innovation and firm performance in product-diversified firms, *Academy of Management Journal*, *40*(4), 767-98.
49. Humble, J. & Jones, G. (1989). Creating a climate for innovation. *Long Range Planning. 22*(4), 46-51.
50. Hurley R. and Hult T. (1998). Innovation, market orientation and organizational learning: An integration and empirical examination, *Journal of Marketing*, 62(5), 42-54.
51. Jacques, E., 1952, *The Changing Culture of a Company*. London: Tavistock.
52. Jonscher, A. K., (1983). Dielectric relaxation in solids *(Chelsea Dielectric Press, London)*.
53. Kandemir, D., & Hult, G. T. M. (2005). A conceptualization of an organizational learning culture in international joint ventures. *Industrial Marketing Management, 34*(5), 430–439.
54. Keen, P.G. W. (1991). *Shaping the future, business design through information technology.* Boston: Harvard Business School Press.
55. Kendall, K.E., Buffington, J.R. & Kendall, J.E., (1987), The relationship of organisational subcultures to DSS user satisfaction, *Human System Management, 7*, 3 1-39.
56. Kimberly J.R. and Evanisko M.J., (1981). Organizational innovation: The influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovation. *Academy of Management Journal, 24*, 689-713.
57. Kotter, J. and Heskett J., (1992). *Corporate culture and performance*. New York: The Free Press.

58. Kusunoki, K., Nonaka, I., & Nagata, A. (1998). Organizational capabilities in product development of Japanese firms: A conceptual framework and empirical findings. *Organization Science, 9*(6), 699–718.
59. Laursen, K., & Salter, A. (2006). Open for innovation: the role of openness in explaining innovation performance among UK manufacturing firms. *Strategic Management Journal, 27(*2), 131-150.
60. Lopez-Cabrales, A., Pérez-Lu no, A., & Cabrera, R. V. (2009). Knowledge as a mediator between HRM practices and innovative activity. *Human Resource Management*, *48*(4), 485-503.
61. Lynch, R. (2000). *Corporate Strategy*. 2nd ed., Financial Times, Prentice Hall, London, 580.
62. Malhotra, A., Gosain, S., &E1 Sawy, O. A. (2005). Absorptive capacity configurations in supply chains: gearing for partner-enabled market knowledge creation. *Quarterly*, *29*(1), 145-187.
63. Marane B.M., (2011). How does ITC Shape the Relationship between Organizational Culture and innovation Capability in manufacturing sectors?.*Al-Rafidan Journal*.*28*(6).
64. Martins, E. and Terblanche, F. (2003), Building organizational culture that stimulates creativity and Innovation, *European Journal of Innovation Management*, *6*(1), 64-74.
65. Martins, E. and Terblanche, F. (2003), Building organizational culture that stimulates creativity and Innovation, *European Journal of Innovation Management*, *6*(1), 64-74.
66. Massey, A. P., Montoya-Weiss, M. M., & Tony, M. O. (2002). Knowledge management in pursuit of performance: Insights from Nortel Networks. *MIS Quarterly*, *26*(3), 269-289.
67. McDermott, C.M., & Stock, G.N. (1999). Organizational culture and advanced manufacturing technology implementation. *Journal of Operations Management*, *17*, 521–533.
68. McKenney, J. L. (1995). *Waves of change, business evolution through information technology.* Cambridge, JA: Harvard Business School Press.
69. Menon, N. M., & Lee, B. (2000). Cost control and production performance enhancement by IT investment and regulation changes: evidence from the healthcare industry. *Decision Support Systems*, *30*(2), 153-169.
70. Merx-Chermin, M., & Nijhof, W. J. (2005). Factors influencing knowledge creation and innovation in an organization. *Journal of European Industrial Training, 29*(2), 135–182.
71. Moorman, C, & Miner, A. S. (1997). The impact of organizational memory on new product performance and creativity. *Journal of Marketing Research*, 91-106.
72. Mukhopadhyay, T. S., Kekre, S. & Kalathur, S. (1995). Business value of information technology: A study of electronic data interchange, *MIS Quarterly*, *19*(2), 137-156.
73. Mukhopadhyay, T., Surendra, R. & Srinivasan, K. (1997). Information technology impact on process and output quality, *Management Science*, *43*(12), 1645-1659.
74. Ouchi, W. G. (1979). A conceptual framework for the design of organizational control mechanisms. *Management Science*, *25*(9), 833.
75. Ouchi, W. G. (1984). The M-Form Society: Lessons from Business Management. *Human Resource Management, 23*(2), 191-213.
76. Papadakis, V. and Bourantas, D., (1998). The Chief Executive Officer as Corporate Champion of Technological Innovation: An empirical investigation, *Technology Analysis and Strategic Management*, *10*(1), 89-109.
77. Peteraf, M. A. (2006). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal, 14*(3). 179-191.
78. Prajogo, D.I., & McDermott, D.M. (2005). The relationship between total quality management practices and organizational culture. *International Journal of Operations & Production Management*, *25*(11), 1101-1122.

79. Priem, R. L. & Butler, J. E. (2001). Is the resource-based "view" a useful perspective for strategic management research?. *The Academy of Management Review, 26*(1). 22-40.
80. Quinn, R. E. & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Toward a competing values approach to organizational analysis. *Management Science, 29*, 363-77.
81. Rabelo, L., Speller, T.H., (2005). Sustaining growth in the modern enterprise: A case study, Journal of Engineering and Technology Management, *22*, 274–290.
82. Ray, G., Muhanna, W. A., & Barney, J. B. (2005). Information technology and the performance of the customer service process: A resource-based analysis. *MIS Quarterly, 29*, 625-652.
83. Rayport, J. and Jaworski, B. (2001*), E-Commerce*. McGraw-Hill/ Irwin, New York, NY.
84. Reigle, F. (2001), Measuring organic and mechanistic cultures, *Engineering Management Journal*, 13(14), 3-8.
85. Rogovsky, N.G., Schuler, R.S., Reynolds, C. (2000). How can National Culture Affect Compensation Practices of MNEs?. *Global Focus, 12*(4), 35-42.
86. Rollinson, D., Broadfield, A., (2002), *Organisational Behaviour and Analysis – an Integrated approach.* 2nd ed. Pearson Education.
87. Ross, J. W., Beath, C. M., & Goodhue, D. L. (1996). Develp long-term competitiveness through IT assets. *Sloan Management Review, 38*(1), 31-33.
88. Sabherwal, R. (1999). The relatiohship between information system planning sophistication and information system success, an empirical assessment. *Decision Sciences, 30*(1), 137-168.
89. Salomo, S., Weise, J., & Gemünden, H. G. (2007). NPD planning activities and innovation performance: the mediating role of process management and the moderating effect ofproduct innovativeness. *Journal ofProduct Innovation Management, 24(*A), 285-302.
90. Sambamurthy, V., & Zmud, R. W. (1992). *Managing IT for success, The empowering business partnership.* Morristown, NJ: Financial Executives Research Foundation.
91. Sambamurthy, V., Bharadwaj, ?., & Graver, V. (2003). Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS quarterly*, *27*(2), 237-263.
92. Saraph, J.V. and R.J. Sebastian. (1993). Developing a quality culture. Quality Progress 26 (9), 73-78.
93. Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership & Organizational Studies, 15*(2), 145–158.
94. Scantlegury, S. & Lawton, C. (2007).Gaining a seat at the innovation table. The Boston Consulting Group. Retrieved August 13, 2008 from http://www.bcg.com/publications/files/Gaining_Seat_Innovation_Sept_2007.pdf
95. Schein, E. (1992). *Organizational Culture and Leadership, Second Edition*. San Francisco: Jossey-Bass.
96. Schermerhorn, J.R., James, H., James, G. & Osbon, R., N. (1997). *Organizational Behavior***,** John Wiley and Sons, Inc., New York, 420.
97. Scott L., Jennifer M., and Anind K. D.(2003). Who Wants to Know What When? Privacy Preference Determinants in Ubiquitous Computing, *Short Talk in the Extended Abstracts of CHI 2003, ACM Conference on Human Factors in Computing Systems,* pp. 724-725, April 5-10.
98. Sethi, R. (2000). Superordinate identity in cross-functional product development teams: Its antecedents and effect on new product performance. *Journal of the Academy ofMarketing Science, 25*(3), 330.
99. Shi, J.Y., Yeo, K.T & Xuefeng, W. (2001). Acknowledge-Enabled Approach for Managing Constraints in Product Innovation. *The R & D Management Conference,(*47) 7-9 .

100. Slappendel, C. (1996). Perspectives on innovation in organizations. *Organizations Studies*, 17(1): 107-129.
101. Spence, W.R. (1994). Innovation: The Communication of Change in Ideas, *AlRafedain Journal*, *11*(1), 51.
102. Stoker, J.I., & Van der Heijden, B.I.J.M. (2001). Competence development and *appraisal in organizations. Journal of Career Development, 28*(2), 97-113**.**
103. Subramanian, A. and Nilakanta, S. (1996), Organizational innovativeness: exploring the relationship between organizational determinants of innovation, types of innovations, and measures of organizational performance, *Omega*, 24(6), 631-47.
104. Sullivan, C. H., Jr. (1982). Rethinking computer systems architecture. Computerworld extra, XVI, 5-10.
105. Teece, D., Gary P. & Amy S. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, *18*(7), 509-533.
106. Teo, T. S. H., & King, W. R. (1997). An assessment of perceptual differences between informants in information systems research. *Omega, 25*(5), 557-566.
107. Teresko, John. (2001). The value of velocity, *Industry Week*. *250*(13), 43-44.
108. Thompson, E.A. (1976). A restriction of the space of genetic relationships. *Ann. Hum. Genet. 40*, 201−204.
109. Trice, H. M., & Beyer, J. M. (1993). *The cultures of work organizations*. Englewood Cliffs, NJ: Prentice Hall.
110. Tricker, R.I., (1988), Information resource management: A cross-cultural perspective. *Information and Management, 15*, 37-46.
111. Troy, L. C, Hirunyawipada, T., & Paswan, A. K. (2008). Cross-functional integration and new product success: an empirical investigation of the findings. *Journal of Marketing, 72*(6), 132-146.
112. Turban, E., Leidner, D., Mclean, E., & Wetherbe, J.(2006*). Information technology for management* (5th ed.). NJ: John Wiley & Sons.
113. Voss, G. B., & Voss, G. (2008). Competitive density and the customer acquisition – retention trade-off. *Journal of Marketing, 72*(6). 3-18.
114. Weber, M. (1947). *The Theory of Social and Economic Organization*. Trans. A. M. Henderson and Talcott Parsons. Ed. Talcott Parsons. New York: Oxford University Press.
115. Wilkins, A. L. and Ouchi, W. G., (1983). Efficient cultures: Exploring the relationship between culture and organizational performance, *Administrative Science Quarterly*, *28*, 468-481.
116. Wilson, A.L., Ramamurthy, K. and Nystrom, P.C. (1999) A Multi-attribute Measure for Innovation adoption: The Context of Imaging Technology, *IEEE Transactions on Engineering Management, 46*(3), 311–321.
117. Yeung, A., Brockbank, J. and Ulrich, D. (1991). Organizational culture and human resources practices: An empirical assessment. In R.W. Woodman and W.A. Pasmore (Eds.) Research in organizational change and development, (pp. 59-82). London: JAI Press.
118. Zammuto, R., Gifford, B., and Goodman, E. (2000). *Managerial Ideologies, Organizational Culture, and the Outcomes of Innovation*. In N.
119. Zhou, K. Z., Yim, C. K., & Tse, D. K. (2005). The effects of strategic orientations on technology-and market-based breakthrough innovations. *Journal of Marketing, 69*(2), 42-60.