T.C.YEDITEPE UNIVERSITY
GRADUATE INSTITUTE OF SOCIAL SCIENCES

"THE ANALYSIS OF THE RELATIONSHIP BETWEEN THE KEY ORGANIZATIONAL DRIVERS, KNOWLEDGE MANAGEMENT PERFORMANCE AND ORGANIZATIONAL PERFORMANCE AS MEDIATED BY KNOWLEDGE MANAGEMENT PROCESSES"

By

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The analysis of the relationship between the key organizational drivers of knowledge management, knowledge management performance, and organizational performance as mediated by knowledge management processess
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İçinde bulunduğumuz bilgi çağında, organizasyonların başarısı, büyük ölçüde bilgiyi yönetmekteki başarılarına bağlıdır. Bu nedenle, bilgi yönetimi son yıllarda iş dünyasınca ve akademik çevrelerce üzerinde en çok tartışılan konuların başında gelmektedir.

Bu çalışmanın amacı örgüt kültürü, örgüt yapısı ve örgüt içindeki bilgi teknolojileri desteği gibi örgütsel etmenlerin bilgi yönetimi süreçleri (bilginin üretilmesi ve geliştirilmesi, bilginin tasnif edilmesi ve saklanması, bilginin transfer edilmesi ve paylaşılması, bilginin kullanılması ve değerlendirilmesi) aracılığıyla bilgi yönetimi ve örgütsel performans üzerindeki etkisini araştırmaktır.

Çalışmada nicel yöntemler kullanılmıştır ve araştırma kapsamında dokuz farklı şirketten toplam 210 kişi ile öngörülen model test edilmiştir. Öngörülen model örgüt kültürün, örgüt yapısının ve de örgütteki bilgi teknolojileri desteğinin bilgi yönetimi süreçlerini dolayısıyla bilgi yönetimi performansı ve örgütsel performansı etkileyeceği yönündedir.

Elde edilen veriler değerlendirildiğinde örgüt kültürü, örgüt yapısı ve bilgi teknolojileri desteği gibi örgütsel değişkenlerin bilgi yönetimi performansı ve örgütsel performans üzerinde bilgi yönetimi süreçlerini aracılığıyla yarı dolaylı ya da tam dolaylı olarak etkide bulunduğu gözlenmiştir. Özellikle destekleyici ve yenilikçi bir örgüt kültürünün, idari yetkiyi yerelleştirmenin ve güçlü bilgi teknolojileri desteğinin bilgi yönetimi süreçlerini ve dolayısıyla da bilgi yönetimi performansını ve örgütsel performansı olumlu olarak etkilediği sonucuna varılmıştır.

ABSTRACT

In today's knowledge era, the success of companies depends on their success in knowledge management to a great extent. Therefore, knowledge management has become one of the most highly debated issues in the corporate and academic world.

The purpose of this study is to investigate the natural influence of key organizational drivers of organizational culture, organizational structure, and information technology support on knowledge management performance and organizational performance through the knowledge management processes of knowledge generation and development; knowledge codification and storage; knowledge transfer and sharing; and knowledge use and evaluation.

In this study quantitative methods have been used to analyze data and the model proposed has been tested in a sample of 210 participants from nine different organizations. In the proposed model, organizational culture, organizational structure and IT support has been hypothesized to influence knowledge management and organizational performance through the knowledge management processes.

The results of the study revealed that organizational drivers of organizational culture, organizational structure, and IT support influence the knowledge management performance and organizational performance fully or partially by the knowledge management processes. Specifically, the supportive and innovative organizational cultures, the de-centralized organizational structure and a strong IT support are found to have positive relations with knowledge management and organizational performance through knowledge management processes.

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P.S. Just after days of writing this note, I have lost my dear father Mehmet Sami Tılı. So, I have a special note for him.

Dad! I have tried very hard for you to see my graduation before you go to heaven. I know you are watching me from there. So, I just want you to know that this thesis is dedicated only to you. I will never ever forget you. Keep taking care of us!

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1. INTRODUCTION

In the world economy, where wealth is increasingly the product of knowledge, rather than the physical resources, organizations are now realizing the importance of knowledge management and importance of getting prepared for such a knowledge-intensive future. The quality of knowledge generated in organizations and the way the knowledge is managed is becoming increasingly critical to competitiveness. Organizations are now realizing that they will not survive unless they change and respond to this reality through effective Knowledge Management (KM) initiatives.

In a rapidly changing world, reality is no longer so fixed; information is no longer static; and we do not know how the future will unfold for us, but we do know that KM is one way to prepare ourselves for such an uncertain future. KM is a way of preparing and planning for such an uncertain future and it encourages organizations to take advantage of their competencies and knowledge in a number of different but plausible ways. The pace of change, the spread of information technologies and the perceived link between KM and organizational performance have all transformed businesses' view of organizations, leading organizations to re-consider their cultures, structures, and information technologies, from a knowledge management perspective (Davenport & Prusak, 1998).

Because, the capability of managing knowledge is now regarded as very critical to competitiveness (Zaim, 2006), organizations now strive to re-assess and re-arrange their intellectual resources (Gold, Malhotra & Segars, 2001) from a knowledge management perspective. Through knowledge management (KM) initiatives, organizations, now intend

to manage and leverage their knowledge resources efficiently and effectively in order to remain competitive in an environment of rapid innovation and change.

To sum up, organizations trying to respond the challenges of this era's knowledge-based economies now strive to improve their organizational performance by managing the KM processes of knowledge generation and development; knowledge codification and storage; knowledge transfer and sharing; and knowledge use and application (Lee & Lee, 2007; Zaim, 2006) and the key organizational drivers of knowledge management (organizational structure, organizational culture and information technology support) to support these processes.

The problem addressed by this study concerns whether organizational culture, structure, and Information Technology (IT) support has a relationship with the resulting performance of KM and the organization as a whole. Therefore, in this study, the key organizational KM drivers of organizational structure, organizational culture and information technology support are planned to be taken as independent variables, while knowledge management processes of generating, storing, sharing and utilizing knowledge are considered as mediating variables in the relationship between those drivers and performance outcomes of KM both in terms of KM performance and organizational performance as a whole. The significance of the relationship between Knowledge Management performance and organizational performance will also be explored.

1.1 Problem Statement

We are living in a state of permanent change and an era of intense global competition. In today's knowledge economy where the capability of managing knowledge is getting more critical than managing the conventional sources of economic power – capital, land, plant, machinery and labor- (KPMG Consulting, 2000), the discipline of knowledge management which capture the knowledge-based competencies of organizations, store and disseminate them for the benefit of the organization as a whole, has taken a top-place on business agenda of most organizations (Anantatmula, 2007; Griffth University School of Management & BML Consulting, 2002).

In turbulent and competitive environments like Turkey's, KM becomes imperative for the long term survival and prosperity of organizations. However, KM has major implications for organizations. Organizations are confronted with a challenge how to implement KM initiatives to enhance their competitiveness. Therefore, for an organization, it is important to know how well KM would impact the organizational performance and what kind of benefits and a competitive advantage the organization will gain through its investment in KM.

It is evident that, organizations, which identify the best of their knowledge and create an appropriate environment, so to generate and utilize the best of their know-how, are going to enjoy a prosperous and secure future (Griffth University School of Management & BML Consulting, 2002). Therefore, organizations spend billions of dollars in the pursuit of KM with an intend to improve their organizational performance (Anantatmula, 2007;

Lesser & Storck, 2001; Meijden, 2009; Millen & Fontaine, 2003; Quink, 2008; Ribere, 2001).

Global analysis of KM initiatives, however, indicates that in many cases, the investments in KM does not produce the benefits strived for and in most cases KM does not seem to lead to an improved organizational performance (Anantatmula, 2007; Arora, 2002; Meijden, 2009). The failure in KM is largely due to a combination of factors: First and most notably, Knowledge Management is a complex construct with its multi-dimesional feature (Saeed, Basit, Anis-Ul-Haque, Mushtaq, & Anwar, 2010), and consequently, there is a confusion in the marketplace as to precisely what leads to a successful KM. Second, there are also some difficulties associated with measuring the performance of KM (Ahn & Chang, 2002); and third, there are some cultural and technical challenges faced by the organizations.

Therefore it is evident that there is an immediate need for studies clarifying the link between the key organizational drivers of KM (organizational structure, organizational culture, and IT support), KM processes, KM performance and organizational performance. The present study, therefore, investigates the influence of key organizational drivers of KM on KM performance through the processes of KM in order to attract management's focus on what is important; investigates the influence of KM processes and KM performance on organizational performance to justify ongoing investments in KM and to develop benchmark for future comparison that can lead to more successful KM implementations (Anantatmula, 2007; Kankanhalli & Tan, 2004; Turban & Aronson, 2001).

1.2 Purpose of the Study

The purpose of the study is to understand the relationship between the key organizational drivers of knowledge management (including the organizational culture, organizational structure and IT support), KM processes, KM performance and organizational performance. More specifically, this study

investigates the influence of key organizational drivers of KM (including the organizational culture, organizational structure and information technology support) on the KM processes of knowledge generation and development; knowledge codification and storage; knowledge transfer and sharing; and knowledge use and application.

- investigates the mediating effect of KM processes on the relationship between the key organizational drivers of organizational structure, organizational culture, and IT support on one hand and the KM performance on the other
- investigates the mediating effect of KM processes on the relationship between the key organizational drivers of organizational structure, organizational culture, and IT support on one hand and the organizational performance on the other
- presents how important the KM performance is for an improved organizational performance by investigating the significance of the relationship between KM performance and organizational performance
- provides a deeper understanding about what it is that makes an KM initiative successful for organizations in Turkey, as it is still a relatively unknown for researchers in Turkey.

1.3 Importance and the Originality of the Study

During the last two decades, Knowledge Management is recognized as one of the most critical management practices for firms and economies (Saeed et al, 2010). In today's Turkish business world, KM is getting more prevalent each year, and the perceived benefits of KM continue to boost the appetite of most business owners. Although companies are having difficulty in tackling knowledge management, for those which are mastered the issues of knowledge management, there are real benefits to be reaped (KPMG Consulting, 2000).

However, KM is still in its infancy in Turkey leading to some difficulties in linking KM efforts to organizational performance (Zaim, 2006) and there is no empirical research in Turkey investigating the mediating effect of KM processes on the relationship between the key organizational drivers of organizational structure, organizational culture, and IT support on one hand and the organizational performance on the other.

Therefore, this study intends to work as a guide for the companies in Turkey planning to implement KM. According to the results of this study, Turkish companies planning for KM can pretest their KM capability to see whether the prospective KM initiatives will result in successful performance outcomes. Hence, the study intends to provide a significant contribution to Turkish business literature, since it might provide some solid ground for the future KM implementations in Turkey.

1.4 Research Questions

The study attempts to concentrate on the following research questions that need further analysis.

- Is there available support to suggest a significant relationship between the organizational structure (centralization or decentralization) and KM processes?
- Are there specific organizational cultures for a successful KM strategy? If so, what are they?
- Is there a significant relationship between information technology support and KM processes?
- What is the mediating role of KM processes on the relationship between the key organizational KM drivers and KM performance?
- What is the mediating role of KM processes on the relationship between the key organizational KM drivers and organizational performance?
- Is there a significant relationship between KM performance and the organizational performance?

2. LITERATURE REVIEW AND THEORETICAL BACKGROUND

2.1. Knowledge Management (KM)

A review of the literature reveals that there are many definitions of KM. Some of them are presented below.

KM is the systematic, and purposeful construction, re-newal and utilization of an organization's intelectual resources in order to increase its performance and gains (Wiig, 1997).

KM is the process of unlocking an organization's collective knowledge and expertise wherever it resides in and making it available for use the of organizational members so that it can yield the maximum return (Hibbard, 1997)

KM is getting the right knowledge to the right people at the right time so that the knowledge might be used to make the best possible decision for the benefit of whole organization (Pettrash, 1996 citied in Ribiere, 2001).

KM can be considered as the concious design of processes, technologies, structures, and etc. in order to accelerate and improve the transfer, re-newal and utilization of the knowledge represented in Structural, Human or Social forms of intellectual capital (Seemann, Stucky, & Guthrie, 1999).

KM encompasses all the processes in an organization that intend to create a synergy from its knowledge-related assets, information processing capacity, and the creativeness and innovativeness of its members (Malhotra, 2000).

KM is about identifying and utilizing the knowledge and expertise of individuals so that the tacit knowledge which resides only in the heads of individuals becomes the asset of the organization. (Gottschalk, 2000)

KM is a deliberate strategy of getting the right knowledge to the right people at the right time, thereby helping organization utilize its knowledge resources in ways to enhance its organizational performance (O'Dell & Grayson, 1998)

KM is the systematic generation, transfer, access, and the use of experience, knowledge and expertise of organizational members in order to create new competencies, better performance, enhanced customer value and innovation (Lytras, et al, 2002)

KM refers to capturing and utilizing of individual and collective knowledge in an organization to enhance its competitiveness (Carlsson, 2003).

Keeping all of these in mind, this study will employ the following definition of KM by Zaim (2006):

KM is the systematic management of knowledge generation and development, knowledge codification and storage, knowledge transferring and sharing, and knowledge application and utilization in an organization to achieve a competitive advantage.

2.2. KM Drivers

The knowledge management activities in an organization rely on some prerequisites (Saeed et al, 2010). KM is not only about managing the KM processes, but also about managing and creating an appropriate organizational structure, culture and IT support that makes the creation, storage, sharing and application of knowledge possible for a superior performance (Walczak, 2005). Many researcher highlight the fact that if organizations introduce a KM initiative without having an appropriate KM infrastructure, they generally fail to reap the expected benefits from their investments (Swan, Newell, Robertson, 2000; Goh, 2002; Nahm, Vonderembse, Koufteros, 2004; Walczak, 2005).

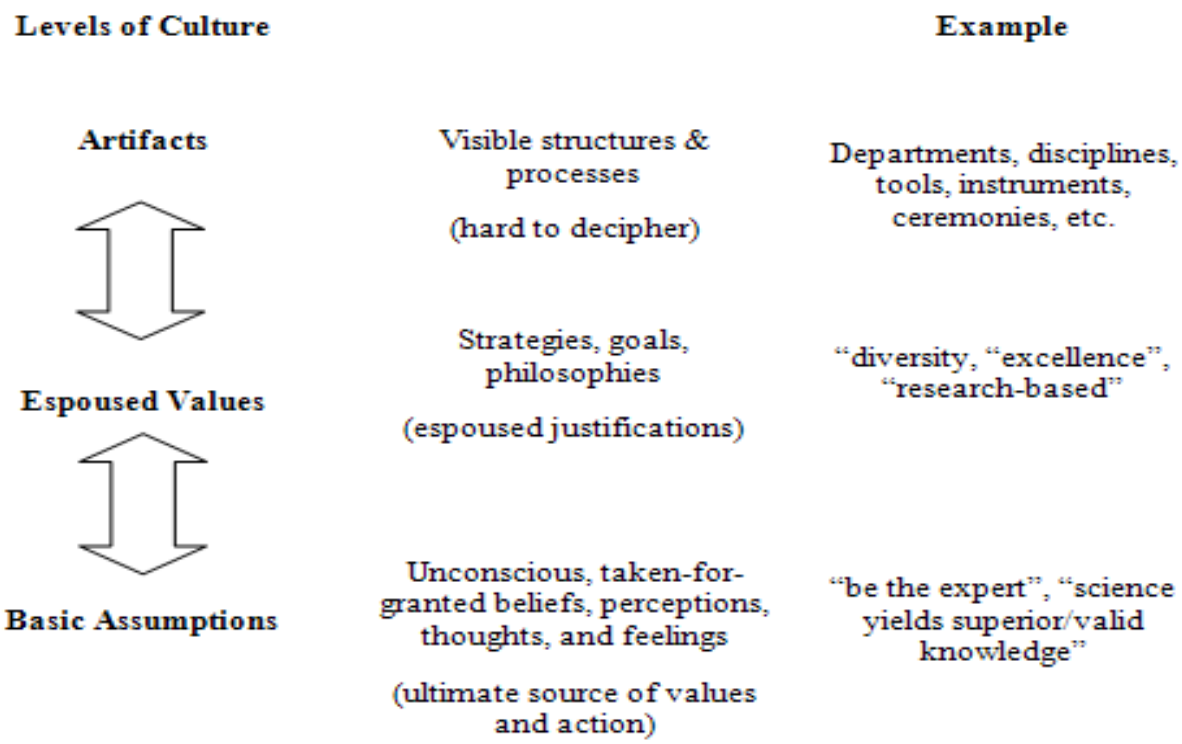
Many researchers have proposed various organizational drivers as antecedents to an effective KM. Knowledge management drivers of previous research suggested for an effective KM can be found in Appendix 1.

Out of variety of factors identified as KM drivers in the literature, three main factors seem to be most important for KM and can be found in almost all models: organizational culture, organizational structure, and IT support. These three factors will be explained in more detail in the following sections.

2.2.1 Organizational Culture (OC)

Organizations do not run in a social vacuum, and they are significantly affected from their social environments (Hofstede, 2001). Organizational culture can be considered as a sort of glue that bonds the organization together (Saaed et al, 2010). Therefore, it is considered as one of the most important preconditions for managing organizational change and renewal (Pettigrew, 1990), and also seen as a very critical form of organizational capital (Camerer & Versalainen, 1998). According to Denison organizational culture can be defined as the underlying beliefs, values, and assumptions shared, exemplified and reinforced by the members of an organization over the years. Hofstede has described culture as "deeply-rooted values or shared norms, moral or aesthetic principles." (1991). Blake and Mouton (1985) defined organizational culture as routinized ways of getting things done in an organization. Organizational culture has three different levels (Shein, 1992).

Figure 1 Levels of organizational culture

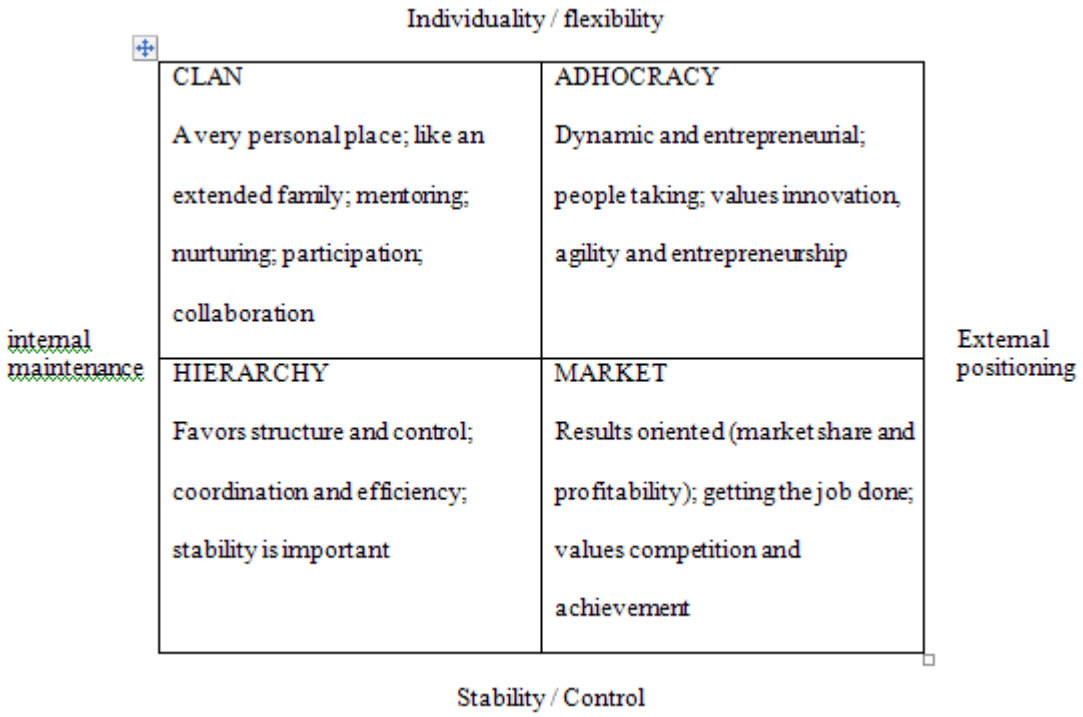


Source: Schein, E. H., (1992). Organizational culture and leadership (2nd ed.). Jossey-Bass

According to Schein (1992), artifacts can be seen as everything that the organizational members see, hear and feel when they encounter with a new group coming from a different culture. Espoused values, on the other hand can be seen as the indicators of an organization's values, principles, ethics, mission and vision guiding the behaviors, actions and decisions of organizational members (Shein, 1999). Finally, basic assumptions are the assumptions that are shared and accepted by the whole organization, and taken for granted over the years among organizational members and lived by (Shein, 1999).

Cameron & Quinn assert that it is really hard to capture and assess a company's culture (1999), therefore, many researcher attemped to analyze organizational culture in many different ways. For instance, one of the well-known models used to assess organizational culture is the Competing Values Framework (CVF) which originally created by Quinn & Rohrbaugh in (1983). It is based on two dimensions representing contradictory approaches to value creation - (1) the degree to which the competitive environment requires flexibility or control; and (2) the degree to which the organization has internal or external focus. These two dimensions creates four quadrants - namely, adaptability, mission, clan, and bureaucratic. Each quadrant captures the appropriate strategies, competencies, and values that leaders and organizations employ to achieve a competitive advantage (Thakor, Cameron, DeGraff, & Quinn, 2006). The CVF, showing four quadrants is presented in figure 2 below.

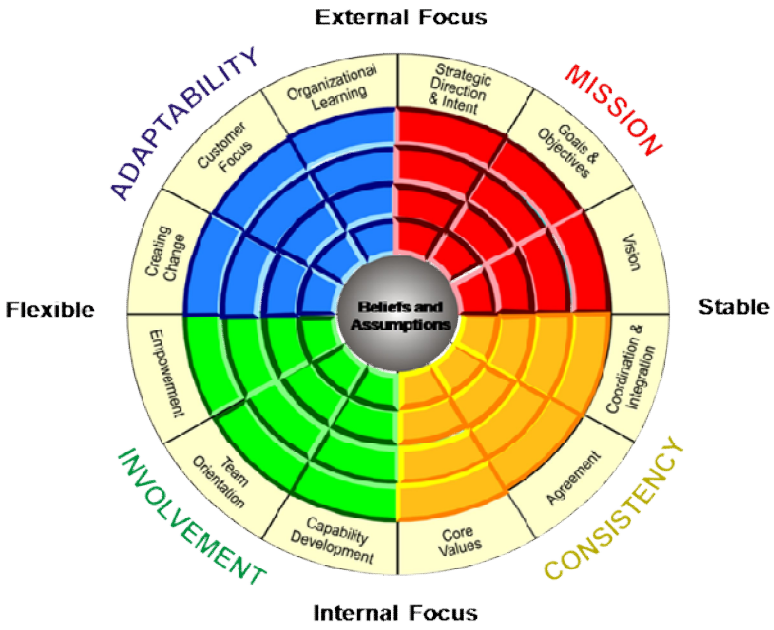
Figure 2 Competing Values Framework (CVF)



Source: Thakor, A.V., Cameron, K., DeGraff, J., & Quinn, R.E. (2006). Competing values leadership: creating value in organizations. Cheltenham, UK; Nortampton, MA: Edward Elgar Publishing Limited

Another conceptual framework was developed by Denison and Neale (1996). Denison identified four organizational cultural types that impacted on organizational performance: (1) involvement, (2) consistency, (3) adaptability, and (4) mission.

Figure 3 The Denison Organizational Culture Model



Source: Denison, D.R., Janovics J., Young, J., Cho, H. J. (2006). Diagnosing Organizational Cultures: Validating a Model and Method. Working paper, International Institute for Management Development, Lausanne, Switzerland.

Adaptability (Pattern…, Trends..., Market…). These organizations' focus are always on their customers. They are always ready to take risks, and focus on learning from their mistakes. They are always ready for change or for creating it by themselves. Since they can interpret the effects of the environment on their business, they constantly change and improve their organization to offer value for their customers.

Mission (Direction…Purpose…Blueprint). Mission organizations have a clear goal and a direction. They define their goals and strategic objectives for a stable future in advance and act on it.

Involvement (Commitment... Ownership...Responsibility). These organizations empower their employees, and try to leverage human potential. For this purpose, these organizations make their employees feel that that they are part of a family.

Consistency (Systems...Structures...Processes). Consistency organizations believe that organizations can be efficient if they have strong, steady, and well-synchronized cultures. In such organizations, behavior is expected to be aligned with a fixed set of values. In these organizations it is quşite common to see a high level of conformity. This kind of consistency is seen as a key to interior integration and long-term stability.

As can be seen from figure 3, while adaptability and mission cultures focus on the external environment, involvement and consistency cultures focus on the internal dynamics of an organization, but do not really take account of the external environment. On the other hand, while Involvement and Adaptability highlight the importance of flexibility and change, Consistency and Mission cultures focus more on the stability and objectives.

In this study, Wallach's Organizational Culture Index (1983) is used to analyze organizations from three stereotypical profiles: bureaucratic, innovative, and supportive profiles. While Wallach defines supportive cultures as harmonious, open, friendly, collaborative, encouraging, social, valued to personal freedom, and trustworthy; he defines innovative cultures as results-oriented, pressurized, risk taking, stimulating, challenging, enterprising, creative, and driving. On the other hand, he describes bureaucratic cultures as structured, procedural, hierarchical, ordered, regulated, established, cautious, and power oriented.

In this study, the researcher will investigate how, an organization‘s culture affects KM processes, KM performance and finally organizational performance.

2.2.2 Organizational Structure (OS)

Another important element of the KM is the organizational structure. It is because the organizational structure has potential to facilitate or prevent knowledge management (Gold, Malthotra, & Segars, 2001; Hedlund, 1994; Nonaka & Takeuchi, 1995). “Organizational structure is the formal system of task and authority relationships that control how people coordinate their actions and use resources to achieve organizational goals” (Quink, 2008). Organizations can be placed on a continuum from totally centralized to totally decentralized (Davidson & Griffin, 2006). While Davidson & Griffin (2006) defines centralization as the degree to which power of decision making belongs to managers at the the top of the hierarchy, they define de-centralization as the degree to which power of decision making is delegated to managers on lower levels.

Both centralization and de-centralization offer some advantages and disadvantages (Jones, 2007). For instance, centralization, by letting top managers coordinate all the organizational activities and strategies from one hand, keep the organization focused on its objectives and mission. There are also some studies showing that the diffusion and use of existing knowledge is better facilitated through a centralized organizational structure (Adler, 2001; Galbraith & Merill, 1991; Volberda, 1998). Centralization, on the other hand, can be problematic if managers at the top of the hiearchy become overloaded and immersed in operational decisions. Another disadvantage of centralization is that it prevents interdepartmental interaction and knowledge-sharing; it also causes ideas and

knowledge to be altered wrongly and fragmented since the knowledge travels through many layers before it reaches to its destination (Stonehouse & Pemberton, 1999). On the other hand, decentralization encourages flexibility and increases responsiveness by letting lower level managers to make on-the-spot decisions (Quink, 2008). A decentralized organizational structure also creates a climate where employees take part in the knowledge management processes more frequently (Hopper, 1990). Knowledge management processes demand more flexibility, decreased control and less red-tape (Ichijo, Von Krogh, & Nonaka, 1998). Therefore, as proposed by Lee & Lee (2007) de-centralized organizational structures tend to create more activated KM processes. The dis-advantage of decentralization, on the other hand, is that when the power of decision-making is shared by too many people, planning and coordination may become very difficult at the end.

2.2.3 Information Technology Support (ITS)

Information Technology Support is the other important element of KM. A well-developed IT is critical and essential for all sorts of knowledge processes (Lee & Lee, 2007; Ndlela & Toit, 2001).

IT comprises the resources used by an organization to manage data, information and knowledge needed by the organization to carry out its mission (Quink, 2008). It may consist of computers, computer network and other pieces of hardware and software that enables the system to manage and process data, information and knowledge in ways that are useful for the organization (Quink, 2008)..

A numerous number of researchers indicated that IT is critical for a successful knowledge management innitiative (Byounggu, 2002; Davenport & Prusak, 1998; Gold et al., 2001).

It helps people find, collect, store, and share knowledge in a way which is not possible in the past (Lee & Lee, 2007; Robert, 2000). By classifying and storing the data according to its type and purpose, it helps organization to retrieve the knowledge any time where needed, thereby making the knowledge an asset of the organization instead of the employee (Nemati, 2002). It also helps filtering the knowledge "heap" in organizations, and finding out what really an organization knows (Lueg, 2001; Zaim,Tatoğlu, Zaim, 2007). It can also integrate the previously fragmented knowledge (Gold et al., 2001) and helps for a problem-free knowledge flow (Byounggu, 2002). IT also expands knowledge sharing by extending the individual's access to more networks and helping the people searching for knowledge find people who may possess it (Robertson, Swan, & Newell, 1996). Furthermore, IT is important for the knowledge generation and development in two aspects. Firstly, with the increased level of information exposure employees experience because of IT, chances of knowledge creation in organizations increase. Secondly, by decreasing the workload of employees and letting them focus on more creative task, it enhances knowledge generation.

Overall, extensive research on the impact of IT support on different KM processes can be found in the literature. An overview about the KM processes and the corresponding role for IT is presented in Table 1.

Table 1 KM Processes and the potential role of IT

KM Processes	Supporting IT	IT Enables
Knowledge Generation & Development	Data Mining Learning tool	Combining new sources of knowledge Just-in-time learning
Knowledge Storage & Coding	Electronic bulletin boards Knowledge repositories Databases	Support of individual and organizational memory Inter-group knowledge access
Knowledge Sharing & Distribution	Electronic bulletin boards Discussion forums Knowledge directories	More extensive internal network More communication channels available Faster access to knowledge sources
Knowledge Use and Evaluation	Expert systems Workflow systems	Knowledge can be applied in many locations More rapid application of new knowledge through workflow automation

Source: Alavi, M. & Leidner, D. E. (2001). Knowledge management and knowledge management systems: conceptual foundations and research issues. MIS Quarterly. 25(1): 107-136

To sum up, investments made on information technology are certainly necessary for successful knowledge management projects because of their ability to process knowledge (Borghoff & Pareschi, 1997; Davenport et al., 1998; Gold et al., 2001; Hansen et al., 1999; Markus, 2001; Weiser & Morrison, 1998). However it should be noted that investments made on the IT should not be made on the expense of human capital (Sveiby, 1997).

2.3. KM Processes

KM concepts existing in the literature differ considerably in the terms of numbers and labelling of the processes rather than its underlying meaning (Alavi & Leidner, 2001). For example, De Long (1997) defines three key knowledge management processes as capture, transfer and use. Teece (1998) defines five: create, transfer, assemble, integrate, and exploit. Ernst & Young (1998) defines four: planning, acquiring, applying, and assessing. At large, most concepts define four basic knowledge management processes: knowledge generation, knowledge storage, knowledge sharing, and knowledge application (Alavi & Leidner, 2001; Zaim, Tatoglu, Zaim, 2007). To sum up, there are many different approaches to label the KM processes and some of those labels can be found at the Appendix2: an overview about the different approaches. I

In this dissertation KM processes are analyzed in four categories and labeled as: knowledge generation and development; knowledge codification and storage; knowledge transfer and sharing; and knowledge utilization as they are labeled by Zaim (2006). The following section below illustrates these four processes of knowledge management briefly.

2.3.1. Knowledge Generation & Development (KG&D)

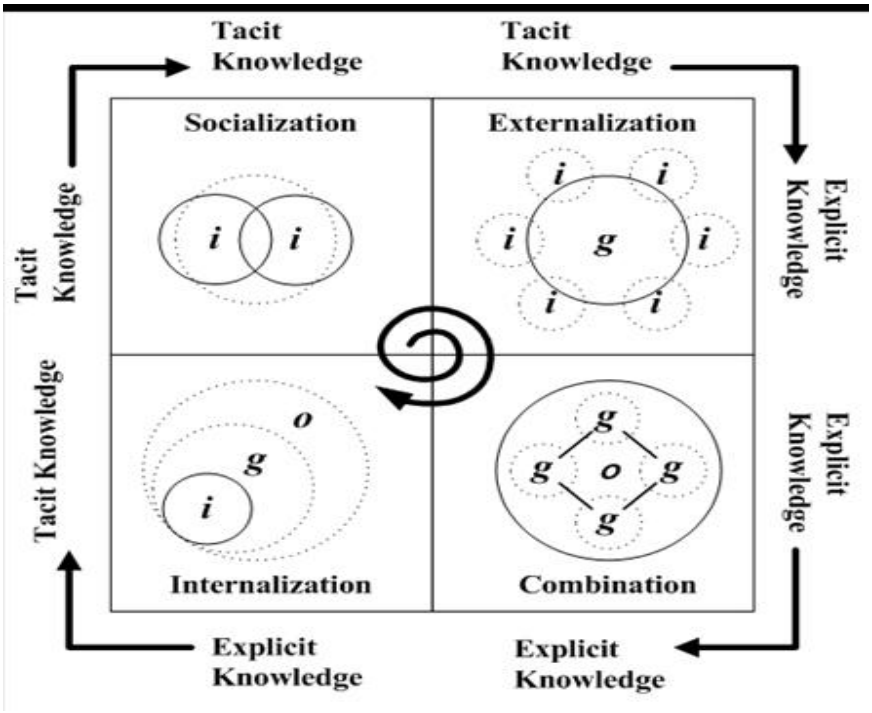
Knowledge generation and development is generally considered as the major focus of knowledge management. Knowledge generation encompasses all the activities and processes that intend to create new and helpful solutions for the benefit of whole organization (Abou-Seid, 2002). Likewise, according to Davenport & Prusak (1998), knowledge generation can be decsribed as the deliberate creation of knowledge under systematic organizational processes for the use of organization. On the other hand, knowledge development can be seen as all the activities that turn innovative and creative ideas into useful solutions for the generation of increased customer value (Shani, Sena, & Olin, 2003). Contrary to knowledge generation, knowledge development requires "a systematic, disciplined and sustained effort" (Zaim, Tatoglu, Zaim, 2007).

First, knowledge can be generated through information processing using knowledge discovery in databases (KDD) or data mining which focuses on finding out new and helpful patterns and relationships in data using various techniques drawn from computer science, statistics, mathematics and through model building (Wickramasinghe, 2006, Wickramasinghe & Von Lubitz, 2007).

Second, organizations can generate knowledge by its people within the organization (Wickramasinghe, 2006). This is a social process that involves continuous creation, inspiration, intuition, social interaction and spontaneity. Many leading voices in knowledge management advocate that knowledge creation is an individual and social process, and thus the knowledge is always embedded in the context in which it is created, and that knowledge is embedded in groups or communities (Dixon, 2000; Tywoniak,

2007). Organizations are composed of a set of relationships which create immediate knowledge flows and networks which makes organization-wide knowledge creation possible. Organizational knowledge is generated by individuals and disseminated to the whole organization (Nonaka & Takeuchi, 1995). According to Nonaka and Takeuch's SECI (Socialization, Externalization, Combination and Internalization) model, extensive social interactions among organizational memebers are very important for organizational knowledge creation (Chua, 2002), and knowledge creation is, in fact, is all about converting between tacit and explicit knowledge. The Figure 4 below represents all the conversions between tacit and explicit knowledge.

Figure 4 The Knowledge Spiral of knowledge creation



Source: Nonaka, I. & Konno, N. (1998). The concept of 'Ba': Building a foundation for knowledge creation. California Management Review. 40(3):40-54

Third, according to Bhatt (2000) organizations may also perform knowledge generation by acquiring knowledge from other organizatons and employing it for their own use. Imitation, benchmarking, replication, purchasing, outsourcing and discovering are some of the methods of acquiring knowledge from other organizations (Abou-Zeid, 2002; Bhatt, 2000; Zaim, 2006). As asserted by Hong (1999), once the information acquired, it is converted into organizational knowledge through organizational learning, and throwned into new combinations with organizations' prior knowledge, experiences, values and procedures.

Forth, organization can generate and develop knowledge by collaborating with other organizations. Organizations, nowadays, also collaborate with other their customers, suppliers, and competitors for the purpose of knowledge generation and development by moving their knowledge generation and development activities beyond their borders (Zaim, 2006).

Fifth, as pointed out by Davenport & Prusak (1998) in order to generate and develop knowledge, organizations also tend to create specific departments within the organization like research and development departments, or establish their research and development units outside the company borders.

2.3.2. Knowledge Codification and Storage (KC&S)

The second main KM process identified through the literature is knowledge codification and storage. Knowledge codification and classification can be defined as the process of capturing and storing knowledge for the re-use of the employees and organization when needed (Roger, 1997). Knowledge which is stored within the organization is generally defined as 'organizational memory' (Stein & Zwass, 1995). Because of the aging workforce and the increased worker mobility in industries, the need to retain "organizational memory" has become more important than ever (Lesser & Storck, 2001).

Organizational memory includes physical resources (like written documents, structured information stored in electronic databases, codified human knowledge stored in expert systems, documented organizational procedures and processes) and non-physical sources (knowledge stored in the heads of the employees-also referred to as individual memory) (Alavi & Leidner, 2001). Other storages of organizational knowledge, on the other hand, are external sources such as suppliers, consultants and contractors (Helleoid & Simonin, 1994), and together with the growing interconnectivity of organizations worldwide, external knowledge becomes more and more important (Kraaijenbrink & Wijnhoven, 2006), while keeping track of the knowledge becomes more and more challenging.

As pointed out by Davenport & Prusak (1998), the most difficult thing in knowledge codification and storage is to find out, codify, classify and store the knowledge without losing its distinctive features which makes it valuable for the organization. "Organizational knowledge is dispersed and scattered throughout the organization (Zaim, 2006)", and as pointed out by Bhatt (2001), it can be found in numerous places: in the minds of people, in

organizational processes, in organizational culture, in written documents, or digital storage devices.

Another important challenge of knowledge codification and storage is the codification of tacit knowledge. The knowledge which is stored in physical resources is more likely to be permanent than knowledge which is stored in the minds of individuals (Helleoid & Simonin, 1994). Therefore it has to be transformed into explicit knowledge (Cuel, Bouquet, & Bonifacio, 2006). However, tacit knowledge may not be formalized, documented and articulated easily as pointed out by Chua (2002), because it is very subjective, situational, and tied to the person who possesses it (Zaim, 2006).

Research has shown that knowledge which is codified and classified enables employees to "get wired" into the organizational memory, and makes the knowledge available to the whole organization whenever needed (Nemati & Barko, 2002; Zaim, 2006). Without knowledge codification and storage, organization may get lost in the information heap or totally lose the information once they have acquired (Darr, Argote & Epple, 1995); and this is a very high cost for organizations to incur. Therefore, it is highly critical for organizations to find effective ways to store and organize knowledge (Grant, 2005).

2.3.3. Knowledge Sharing and Distribution (KS&D)

Knowledge sharing and distribution is another important KM process which has been discussed extensively in the literature. One of the most important aims of KM is to bring together intellectual resources of an organization and make them available to whole organization (Zaim, 2006). Many researchers note that knowledge sharing requires a high level of co-operation (Goh, 2002; Syed-Ikhsan & Rowland, 2004).

Cross and Sproull (2004) highlight the fact that knowledge sharing is the result of information search and problem solving in situations where people must solve complicated problems in shortage of time. Advantages of knowledge sharing are that (1) knowledge sharing reduces uncertainty (Gulati & Gargiulo, 1999, Tywoniak, 2007), (2) it ensures that the knowledge owned by the organization rather than the individual (Nemati, 2002; Nonaka, 1994), (3) it prevents repeating the same mistakes and reduce redundancies (Bender & Fish, 2000) and (4) it ensures that all the employees in the organization have a common understanding (Nickerson & Zenger, 2004). However, individuals generally tend to resist knowledge sharing, because being generous in knowledge sharing may sometimes create a disadvantage. When people feel that their value depends largely on the knowledge they possess, giving up the control of the knowledge they alone had previously may seem risky (Stenmark, 2000).

In knowledge sharing, two approaches are commonly used: codification and personalization (Hansen, Nohria & Tierney, 1999) which is also referred to as repositories and networks (King, 2006). Codification strategy argues that knowledge can be disconnected from its source (objective view of knowledge) and deals with the capture and

storage of knowledge representations in electronic repositories/databases, independent of the individual that generated it. Repositories are databases of knowledge usually contributed by individuals, teams, or organizations for potential use by others. The repositories, therefore, enable knowledge sharing throughout the whole organization. Benchmarking through best practices databases are a good example for an instrument used by companies following the codification strategy. O'Dell and Grayson (1998) regard exchange and share of the best practices as one of the most important contribution of KM. On the other side, Szulanski (1996) argues that the complexity of knowledge, particularly tacit knowledge, poses the greatest barriers to best practice transfer. Personalization strategy, on the other hand, argues that knowledge cannot be disconnected from its source (subjective view). Knowledge can be shared through person-to-person interactions or networks. These interactions might be done face-to-face or mediated by the technology. While the role of technology in codification strategy is to classify and store the knowledge in a computer for the use of organizational members at ant time, its role in personalization strategy is to help transfer and share knowledge (Mueller-Prothmann, 2006). Because of globilazation, technology is becoming especially important as it is the best tool that can make the knowledge transfer and sharing possible between individuals who need to work together but scattered all around the world.

2.3.4. Knowledge Use and Evaluation (KU&E)

The last of the four main KM processes identified through the literature is knowledge use and evaluation. Creating value from the organization's knowledge repositories and transforming it into the fields of application is considered as one of the main priorities of KM. (Ordonez et al., 2004, cited in Quink, 2008). It has been largely argued that

sustainable competitive advantage is only possible if the knowledge held by the organization can be converted into use (Alavi & Leidner, 2001, Grant, 1996). Therefore KM activities should focus on creating changes in behavior, practices and policies that makes the transfer of knowledge possible into the fields of application (Bender & Fish, 2000). It is the only way that an organization can gain a competitive advantage through its KM initiatives. To sum up, the success of KM activities relies to great extent on the ability of organization to transform it knowledge base into action in the marketplace (Wilhelmij & Schmidt, 2000).

While the other three KM management processes namely the knowledge generation, sharing and storage do not necessarily create an increase in the performance of organizations, knowledge use and evaluation, on the other hand, does. It is because the performance of companies generally relies on the ability of organizations to utilize its intellectual resources rather the the knowledge itself (Alavi & Leidner, 2001).

2.4. KM Performance

According to Toften and Olsen, KM performance evaluation is one of the most important stages of a KM initiative as it has a considerable amount of potential to create an added value for the organization and enhance organizational performance (2003). It is highly expected that without KM performance evaluation a KM initiative would fail easily to meet its objectives. KM performance evaluation is considered the heart of the whole KM process as it is the only way to ensure effectiveness, efficiency and adaptability of KM efforts (Toften & Olsen, 2003). However, how to measure KM performance is also one of the biggest challenges of the overall KM efforts. While some researchers prefer to measure

some knowledge management outcomes like knowledge satisfaction (Becerra-Fernandez & Sabherwal, 2001) or organizational creativity (Byounggu, 2002), others adopts more traditional measures like ROA (Simonin, 1997) or organizational effectiveness (Gold, Malthotra, & Segars, 2001) in order to measure KM performance. Moreover, while some studies recognized knowledge management performance as the independent variable of organizational performance, other studies consider the knowledge management performance as organizational performance.

KM performance might be considered of as the output of knowledge processes that improve various aspects of KM (Lesser & Storck, 2001). Numerous studies reveal that there is a positive relationship between KM performance and organizational performance (Claycomb, Droge, & Germain, 2002; Hasan & Al-Hawari, 2003). However, a very few reseachers empirically examine this relationship (Zaim, 2006).

As it is pointed out by Tarim (2003) performance improves only through evaluation and therefore, it is logical to claim that measuring the KM performance is critical to ensure the continuity and success of KM efforts (Zaim, Tatoğlu, & Zaim, 2007). Without clarifying the relationship between the KM performance and organizational performance, it is not possible for the organization to legitimize its investments on KM and to keep its employees motived to be involved in KM efforts (O'Dell & Grayson, 1998). It should be noted that KM performance evaluation is also very critical as it is the only way to measure the extent organization's knowledge resources are transformed into useful actions (Firer & Williams, 2003; Marr et al., 2003 cited in Zaim, Tatoğlu, & Zaim, 2007).

The ultimate goal of KM is considered as the transfer of the experience and knowledge of all members in the organization into organizational assets and resources, and utilizing theim in ways to enhance organizational performance (Lin, 2007). Therefore, KM performance can be measured in terms of realizing successful outcomes of KM processes, including generating, storing, sharing, and applying knowledge thereby improving the performance of organizations (Gupta, & Govindarajan, 2000).

In this study KM performance is measured based on the four immediate KM outcomes defined by Lesser & Storck (2001): (1) decreased learning curve of new employees, (2) reduced rework and prevention of "re-invention of the wheel", (3) more rapid response to customer needs and inquiries, and (4) spawning of new ideas for new products and services

(1) decreased learning curve of new employees

First, regarding the decreased learning curve of new employees, one of the most important problems faced by the organizations is to rapidly increase the productivity level of new employees (Lesser & Storck, 2001). The quicker employees are more productive, and more valuable to the company. As workforce mobility continues to increase all around the world, the ability to quickly assimilate new members of the organizations into the organizational routines, procedures and processes becomes highly critical to organizational competitiveness.

(2) Reduced rework and prevention of "re-invention of the wheel"

Second, according to Arora (2002), perhaps one the most important objectives of KM efforts is the prevention of re-invention of the wheel in organizations and the reduction of knowledge-based activities by utilizing the already accumulated knowledge in the organization. Likewise, Lesser and Storck (2001) argues that it is a waste of time and money when employees try to solve a problem that has already been solved once by someone. As pointed out by Robertson (2002), when the the knowledge transfer or sharing is weak or not practiced at all, organizations end up wasting their time, resources and money by repeating the same work over and over again as the organizational members are unaware of each others' knowledge.

(3) More rapid response to customer needs and inquiries

Third, in the era of hypercompetition as we are experiencing today, responding quickly and successfully to customer needs and inquiries is getting more and more important. Business have all realized that if they fail to be responsive to their customers' needs and wants they will eventually lose them, let alone acquiring new ones. Lesser & Storck (2001) advocate that KM is highly critical to addressing customer issues as it facilitates the quick transfer of the knowledge to the right people in the organization. If every employee knows from whom and where they can find knowledge, they can be much quicker in responding customer needs and wants.

(4) Spawning of new ideas for new products and services

Forth, one of the primary reasons that KM is seen as vital to innovating is its ability to create an atmosphere where people feel sharing their ideas without fear. Such an environment is especially necessary when the progress needs some challenge or when the ideas are not fully "baked" and need to be tested (Lesser & Storck, 2001). In lots of organizations which adopted KM, the ability of individuals to share their innovative thoughts with other members in the organization and tap their expertise to refine and develop their not fully baked ideas is the heart of innovation in many organizations (Meijden, 2009).

2.5. Organizational Performance (OP)

Performance measurement is considered as one of the most important managerial activities that top managers engaged in. It is often said that "what you measure is generally what you get"- thefefore measuring organizational performce is highly critical for the continuity and success of organizations.

Traditional methods for measuring organizational performance were primarily concerned with quantifiable, accounting-based, financial measures (Lehr & Rice, 2002), which are only good at capturing the organization's past but weak at capturing its present and future. Financial measures are not adequate for measuring and managing performance, since they are only historical. While it can only measure the past performance it is neither a good indicator of present nor of the future (Kaplan & Norton, 1996).

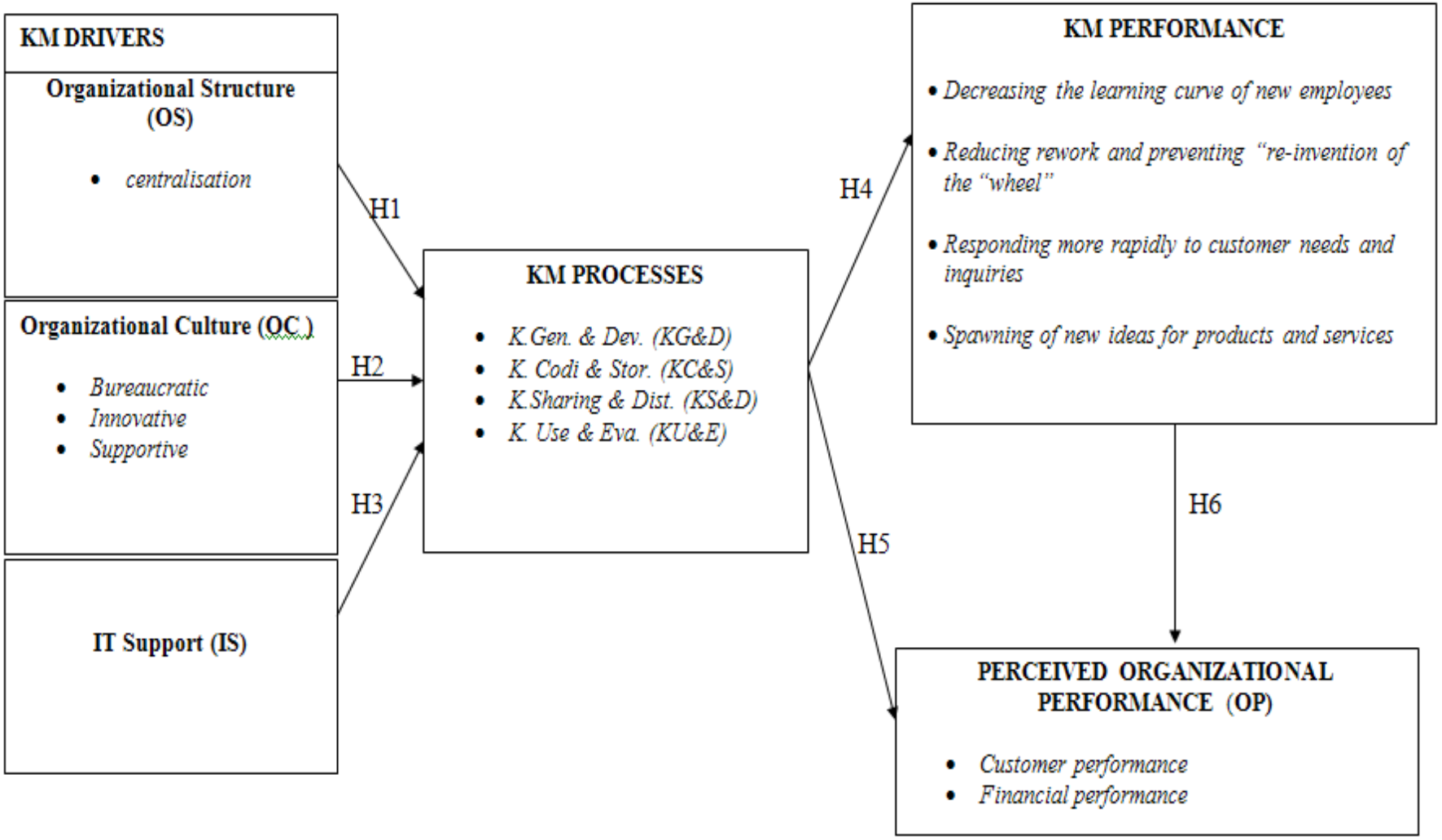
Since the late 1980s many organizations have begun to recognize the value of non-financial measures such as customer and employee satisfaction, performance measurement concepts and models such as the balanced scorecard (BSC) approach, intellectual capital approach, quality management and business process reengineering have emerged in the field of organizational performance which focus on measuring the leading indicators (customer & employee satisfaction or process performance) as well as lagging ones (financial indicators) (Kaplan & Norton, 1996).

This study adopts a modified balanced scorecard method which is developed and validated by Lee and Lee (2007).

3. PROPOSED RESEARCH MODEL & HYPOTHESES

This chapter shows how the proposed conceptual model is designed through an intensive literature review, explains the assumed relationships between the concepts and introduces the hypotheses. The proposed research model which delineates the interactions between the concepts and and the review of the related research studies used to construct hypothesis are presented in the following pages.

Figure 5 The Proposed Research Model



3.1 Relationship between Organizational Structure (OS) and Knowledge Management Processes (KMP)

Knowledge Management Processes, in part, dependent on the structure of the organization. Although, the influences of organizational structure on knowledge management are widely recognized (Zaim, Tatoğlu, Zaim, 2007; Zaim, 2006; Eppler & Sukowski, 2000; Jarvenpaa & Staples, 2000; Riggins & Rhee, 1999), literature found for the relationship between OS and KMP presents mixed results. The organizational structure of an organization might facilitate or prevent knowledge management processes in an organization (Gold, Malhotra, & Segars, 2001; Hedlund, 1994; Nonaka & Takeuchi, 1995). For instance, Stonehouse & Pemberton (1999) suggest that organizational hierarchy, with its different and several layers makes it harder to build on, diffuse, co-ordinate and control knowledge, since the knowledge may be distorted or even get lost as it travels through the mentioned layers. For these reasons, Stonehouse & Pemberton (1999) argues that decentralized organizational structures are more appropriate to effective knowledge management processes. On the other hand, there are also studies showing that the diffusion and use of existing knowledge is better facilitated through a centralized organizational structure (Adler, 2001; Galbraith & Merill, 1991; Volberda, 1998; Lee & Choi, 2003; Zaman, 2006). Some researchers even suggest a radical re-design at organizational structure for effective KMP (Malhotra, 2000). However, many researchers argue that while there is no single structure that uniquely supports KMP, decentralized structures are better for more activated knowledge management processes instead of highly centralized, rigid hierarchies, since KMP demands more flexibility in organizational structure and less emphasis on red-tape (Ichijo et al., 1998; Maier & Hadrich, 2006; Malhotra, 2005). Furthermore, there is evidence that a decentralized structure facilitates knowledge management processes (Priestley, 2006), and the enhanced flexibility and

less control in organizational structure can result in more activated knowledge management processes (Lee & Lee, 2007). Therefore, it can be hypothesized that:

Hypothesis 1(H1): There is a positive relationship between de-centralization and the knowledge management processes.

3.2 Relationship between Organizational Culture (OC) and Knowledge Management (KM) Processes

Very little is known about how organizational culture contributes to or impedes knowledge management (Gray & Densten, 2005). Literature relating to the relationship between OC and KMP is still scarce. In fact, there is a lack of research investigating KMP as a function of OC (such as Cameron and Quinn's Competing Value Framework (1999) or Wallach's Organizational Culture Profile (1983)). Literature concerning the relationship between OC and KMP, focuses primarily on the effect of single factors of OC such as trust, reward systems, participative decision-making, interaction between staff, learning, education, training, and mentoring on the single factors of KMP such as knowledge sharing and dissemination, or knowledge creation (e.g. Gray & Densten, 2005; Lee and Lee, 2007; Janz & Prasarnphanich, 2003, Al-Alawi et al., 2007). However, one common thing found in the literature is that Knowledge Management processes are highly influenced from their social settings (Alavi, Kayworth & Leidner, 2006). As pointed out by Byounggu (2002), the culture would surely impact on how an organization accepts and continue knowledge management initiatives. Therefore; creating knowledge friendly culture can be considered as the backbone of successful knowledge management processes (Davenport et al., 1998; Demarest, 1997). Furthermore, since the knowledge management has to be an integrated element of how things get done in an organization, top management should seriously take into account of the organizational culture when initiating the KM efforts (Byounggu, 2002; Ndlela &

Toit, 2001). Many researchers believe that for the successful knowledge management processes, organizations should develop and nurture an appropriate organizational culture (Davenport & Prusak, 1998; Holsapple & Joshi, 2001; Ndlela and Toit, 2001; Ribiere, 2001). Therefore, it can be hypothesized that:

Hypothesis2 (H2): There is a significant relationship between the concepts of organizational culture and KM processes.

In an environment where newcomers and outsiders can easily blend in (Hofstede, Neuijen, Ohavy, & Sanders, 1990), and where people trust to one another, knowledge sharing will be less problematic. Furthermore, the business cost arising from the management of distrust will also be reduced (Ruuskanen, 2005, cited in Alanen & Godenhjelm, 2006) and organizational members will be more likely to share their knowledge and experiences.

On the other hand, an organizational culture that open communication is not practiced at all induces a context that discourages knowledge sharing (De Long & Fahey, 2000). In an environment that is secretive and reserved where employees can hardly blend in (Neuijen, Ohavy, & Sanders, 1990), employees can hardly share and disseminate their knowledge and experience (Ciganek, Mao, Srite, 2010). Likewise, an organization where distrust is prevalent, sharing information is frowned upon because it creates a disadvantage for employee being generous (Ruppel & Harrigton, 2001). Distrust also leads people to hide or hoard their knowledge (Jarvenpaa & Staples, 2000). In such cultures where distrust is prevalent, employees may think their value depends largely on the knowledge they possess (Stenmark, 2000). Furthermore, lost of ownership or the control of the knowledge can make employees feel vulnerable and expendable

thereby making knowledge sharing problematic from employee perspective (De Long & Fahey, 2000). Hence:

Hypothesis2A (H2A): The sub-dimensions of trust, collaboration, and openness (supportive culture dimensions) are going to explain the majority of the variance in Knowledge Sharing & Distribution (KS&D)

As pointed out Miller & Friesen (1982), organizations having conservative attitudes toward innovation and its associated risks engage in innovation only when they are seriously challenged by their competitors or when their costomers seriously demand something different. In contrast, organizations which are risk-oriented, fostering a stimulating and challenging environment (Hofstede et al., 1990) actively support KG &D for the sustainability and prosperity of the organization (Ciganek, 2010). Hence, it can be hypothesized that:

Hypothesis2B (H2B):The sub-dimensions of risk-taking, stimulating and challenging climate properties (innovative culture dimensions) will be the most significantly contributing conceptual dimensions that explain a higher level of variance in Knowledge Generation and Development (KG&D).

3.3 Relationship between Information Technology Support (ITS) and Knowledge Management (KM) Processes

Research has shown that IT is the backbone of all of the KM processes (Byounggu, 2002; Davenport & Prusak, 1998; Gottschalk, 2000; Gupta & Govindarajan, 2000, Raven & Prasser, 1996). Information technology has an impact on knowledge processes in many different ways. First of all, IT helps people find, collect, store, and share knowledge on a scale not practicable in the past (Lee & Lee, 2007; Robert, 2000). By classifying and storing the data according to its type and purpose, it helps organization to retrieve the knowledge any time needed, thereby making the knowledge an asset of the organization instead of the employee (Nemati, 2002). It also helps filtering the knowledge "heap" in organizations, and finding out what really an organization knows (Lueg, 2001; Zaim, Tatoğlu, Zaim, 2007), preventing the knowledge get lost in organization.

Second, IT eliminates barriers to communication among people in organization and enhances knowledge sharing by extending the employees' reach to more dispersed networks (Quink, 2008). Without the help of IT, search for the knowledge in organizations will tend to be limited only to a few people who are in close contact with the knowledge seeker leading the knowledge seeker find out a very similar information which he or she already has, because people in the close knits will likely to have similar knowledge (Robertson, Swan & Newell, 1996). IT expands the individual's network to more extended connections thereby facilitating the contact between the people seeking knowledge and those who may have the possession of this knowledge (Robertson, Swan & Newell, 1996).

Third, IT can rapidly increase the knowledge generation in two ways. Firstly, because IT increases the level of information exposure employees are subject to, it may lead to greater

knowledge creation possibilities. For instance, knowledge creation possibilities can be increased with IT tools designed to facilitate collaboration, coordination, and communication within and beyong the organization, as these kinds of systems increase individuals' contact with one another and encourages sharing and trasfering of vast amounts of intellectual resources in the organization horizontally and vertically. Thus, it can be said that with the help of increased level of information exposure experienced by employees, IT may also facilitate knowledge creation (Alavi & Leidner, 2001). Secondly, by decreasing the workload of employees and letting them focus on more creative tasks, it enhances knowledge generation.

Forth, IT can also increase and make possible knowledge application by facilitating accessibility and transfer of knowledge within and beyond the organization. By allowing automation, rapid updating, integration of new knowledge to the existing database, rapid sharing and transfer of information, and shorthening the time new employees need to learn how things are get done in the organization, it allows more time for employees to focus on knowledge application rather than the search of knowledge itself. Moreover, by making organizational memory available to organizational members who may need it, and reducing the need for communication and coordination, IT lets organizational knowledge to be applied timely and across space (Quinck, 2008). Hence, based on the above explanations it can be hypothesized that:

Hypothesis3 (H3): There is a significant positive relationship between IT support and KM processes.

3.4 Relationship between the key organizational drivers of knowledge management and Knowledge Management Performance: Mediating Role of "Knowledge Management (KM) Processes"

As it is suggested by Lesser & Storck (2001), KM performance can be measured in terms of realizing the successful outcomes of KM processes, including 'decreased learning curve of new employees', 'reduced rework and prevention of the re-invention of the wheel', 'more rapid response to customer needs and inquiries', and 'spawning of new ideas for products and services'.

First, knowledge sharing is essential in order to reduce re-work and avoid 're-invention of the wheel'. One of the most valuable contributions that knowledge sharing can make to an organization is that since the knowledge sharing makes other people's and departments's knowledge and experience accessible to anyone who may need it, it helps the re-use of existing intellectual work and prevents all types of re-work (Bender & Fish, 2000). Without effective knowledge sharing, organizations will be likely to lose huge amount of time and money by repeating the same mistakes and replication the similar works over and over (Robertson, 2002). Likewise, organizational memory which is codified and stored by knowledge codification and storage processes help organizations avoiding the waste of its resources by making them available throughout the organization and diminishes the loss of tacit knowledge (Simon, 1991).

Second, knowledge management processes are one of the most critical pre-conditions and an important premise for organizational innovation (Leal et al., 2006; Xing et al., 2007).

Third, knowledge codification and storage along with knowledge sharing and dissemination help new employees learn the ways of doing in the organization and quickly "fit in" the organization. Forth, the effective use and application of the knowledge at the right time, and where it is

necessary help employees respond to customer needs and inquiries more rapidly. Therefore, it can be hypothesized that:

Hypothesis4 (H4): There is a significant positive relationship between KM processes and KM performance.

As explained in the literature review before, de-centralized organizational structure is proven to be related to increased levels of knowledge management processes (i.e. Lee & Lee, 2007; Priestley, 2006), and knowledge management processes are proven to be related to increased level of KM performance (e.g., Lesser & Storck, 2001; Lin, 2007). While no studies have been found in the literature in which knowledge management processes were taken as mediator between de-centralisation and KM performance specifically, it is logical to assume that KM performance might be related to organizational structure via "KM processes". A de-centralized organizational structure encourages flexibility and responsiveness by creating a setting where employees can easily and spontaneously engage in knowledge building processes (Quink, 2008; Hopper, 1990), which in turn increases the effectiveness of knowledge management initiatives. To be more specific, because a de-centralised organizational structure may increase organizational members' involvements by providing a partipatory work environment (Byounggu, 2002), a decentralised organizational structure may indirectly lead to reduced level of re-work, decreased learning curve of new employees, increased innovation and increased responsiveness to customer needs and inquiries. Based on this explanation, it can be hypothesized that:

Hypothesis4A (H4A): The relationship between de-centralization and KM performance is mediated by "KM processes"

The characteristics of organisational culture and how it affects knowledge management processes are explained in the literature review before. Supportive culture which includes climatic values such as encouragement, openness, friendship, harmony, collaboration, sociability, personal freedom, and trust (Wallach, 1983) creates an environment conducive to more activated knowledge management processes (Gold, Malhotra, & Segars, 2001; Nahapiet & Ghoshal, 1998). By eliminating the fear of risk and uncertainty and facilitating open discussion, and information exchange (Byounggu, 2002), supportive culture encourages a climate where employees are more willing to engage in knowledge management processes. Therefore, creating a supportive culture is highly crucial for more activated knowledge management processes (Ichijo, Von Krogh, & Nonaka, 1998; Lubit, 2001; Nelson & Cooprider, 1996; Scott, 2000). To sum up, it is logical to assume that effective knowledge management requires a supportive culture that fosters open dialogue, and social interaction, which in turn may result in increased levels of KM performance especially in terms of reduced re-work, and decreased learning curve of new employees. Hence we hypothesize that:

Hypothesis4B1 (H4B1): The relationship between bureaucratic organizational culture and KM performance is mediated by "KM processes"

Innovative cultures which include climatic properties like driving, stimulating, creative, risk taking, pressurized, challenging, enterprising, and result-oriented (Wallach, 1983) are especially essential for knowledge generation and development. Through its emphasis on risk taking, results-orientaion, creativeness, challenge, and entrepreneurship, organizations which carry the attributes of innovative cultures are more likely to create an environment where members play a more active role in learning and discover something new about problems. It is evident that

successful knowledge creation in organization requires organizational members ask questions without fear of being judged, take risks, and challenge each other indoor to be more creative and innovative (Ndlela & Toit, 2001). The capacity of an organization to generate and innovate is increased only when employees in organizations are challenged to take more risks, ask questions, learn more, be more creative and provided with a stimulating and driving environment, therefore organizations that are serious about knowledge generation and development need to nurture an innovative organizational culture (Ndlela & Toit, 2001; Nevis, Anthony, & Gould, 1995). Therefore, it is logical to assume that this innovative organizational culture will lead to more activated knowledge management processes and, in turn, will eventually open up the possibility of achieving higher level of KM performance especially in terms of increased innovativeness. Hence, we hypothesize:

Hypothesis 4B2 (H4B2): The relationship between innovative organizational culture and KM performance is mediated by "KM processes"

Very little is known about the effect of bureaucratic culture on KM performance through knowledge management processes. Nevertheless, examination of the related literature may give us some insights about this relationship. To start with, in KM literature, several cultural values can be identified as central to the phenomenon of knowledge management. The cultural values that were found to be vital for an KM initiative to be successful are trust, learning, collaboration, and sharing, which are definitely not the characteristics of bureaucratic culture. On the contrary, bureaucratic cultures which possess procedural, hierarchical, structured, ordered, regulated, established, cautious, and power oriented climatic properties was indicated as not being supportive of knowledge management (Devi, Chong; & Lin, 2007; Kongpichayanond, 2009; &

Lawson, 2003;). Therefore, it is logical to assume that bureaucratic organizational culture has a negative relationship with KM performance because it engenders a context that undermines knowledge management processes. Hence, the following hypotheses can be set:

Hypothesis 4B3 (H4B3): The relationship between supportive organizational culture and KM performance is mediated by "KM processes"

As indicated before, research has shown that IT is the fundamental for the efficient implementation of KM processes (Davenport & Prusak, 1998; Gold, Malhotra, & Segars, 2001; Gottschalk, 2000; Gupta & Govindarajan, 2000, Raven & Prasser, 1996). Because, IT facilitates rapid collection, storage, and exchange of knowledge on a scale not practicable in the past (Lee & Lee, 2007; Robert, 2000), and integrates the previously fragmented knowledge (Gold, Malhotra, & Segars, 2001), IT enables practitioners to "get wired" into the organizational memory, and makes the knowledge available to the right person, at the right time, in the right way (Zaim, 2006), thus, in turn, help reduce re-work, and decrease learning curve of new employees and gives time employees to come up with fresh ideas for innovation and respond more rapidly to customer needs and requires. Hence, the following hypothesis can be set:

Hypothesis 4C (H4C): The relationship between IT support and KM performance is mediated by "KM processes"

3.5 Relationship between the key organizational drivers of Knowledge Management and Organizational Performance: Mediating Role of "Knowledge Management (KM) Processes"

In the world economy, where wealth is increasingly the product of knowledge, rather than the physical resources, organizational performance is largely depended on effective knowledge management processes. Moreover, many researchers have found that improvements in knowledge processes can result in better organizational performance (Claycomb, Droge, & Germain, 2002; Davenport, 1999; Gold, Malhotra, & Segars, 2001; Hasan & Al-Hawari, 2003; Lee & Lee, 2007; Quinn, Anderson, & Finkelstein, 1996). Hence,

Hypothesis5 (H5): There is a significant relationship between KM processes and organizational performance (OP)

As illustrated before, de-centralized organizational structure is proven to be related to activated knowledge management processes (i.e. Lee & Lee, 2007; Priestley, 2006), and activated knowledge management processes are proven to be related to increased level of organizational performance (Gold, Malhotra, & Segars, 2001; Hasan & Al-Hawari, 2003; Lee & Lee, 2007). A de-centralized organizational structure facilitate the creation of an environment where employees engage in knowledge management processes more spontaneously (Hopper, 1990), which in turn leads to increased organizational performance both from customer and financial perspective (Lee & Lee, 2007). Based on this explanation, it can be hypothesized that:

Hypothesis5A (H5A): The relationship between de-centralization and organizational performance is mediated by "KM processes"

Literature concerning the relationship between OC and KMP showed that creating a supportive culture is important for the foundation of more activated knowledge management processes (Ichijo, Von Krogh, & Nonaka, 1998; Lubit, 2001; Nelson & Cooprider, 1996; Scott, 2000), which may in turn increase the performance of an organization both from customer perspective and financial perspective. Thus,

Hypothesis5B1 (H5B1): The relationship between bureaucratic organizational culture and organizational performance is mediated by "KM processes"

As pointed out by D'Aveni (1999) we are living in the age of hypercompetition, and as suggested by Hamel (2000) only way to win in such a world is to throw away the old rule book, imagine a future that others have not seen, and then taking the initiative to act on it, however, this is only possible for organizations which are mastered the art of knowledge management. Because, innovative cultures which relies on taking risks, creativeness, result-orientation, challenge, enterprenuership and requires a climate that values pressurized, stimulating, and driving work environments (Wallach, 1983) are appropriate for more activated knowledge management process which may create organizations which are as nimble as change itself (Hamel, 2000), it is logical to assume that innovative cultures lead to improved knowledge management processes, which can, in turn, lead to improved organizational performance. Hence, it can be hypothesized that:

Hypothesis5B2 (H5B2): The relationship between innovative organizational culture and organizational performance is mediated by "KM processes"

As indicated before, bureaucratic cultures which values procedural, hierarchical, structured, ordered, regulated, established, cautious, and power oriented climatic properties (Wallach, 1983) are proved to have negative relationship with knowledge management processes (Lawson, 2003). Therefore, in the light of previous discussions, it is logical to assume that bureaucratic organizational culture weakens the organizations' chance to survive in a rapidly changing world, because it first slows down the knowledge management processes and then worsens the organizational performance. Hence, the following hypotheses can be set:

Hypothesis5B3 (H5B3): The relationship between supportive organizational culture and organizational performance is mediated by "KM processes"

One of the most important challenges that organizations may have to face is the capture and identification of the knowledge scattered throughout the organization, and to clarify what knowledge an organization possesses exactly (Zaim, 2006). Literature review concerning the relationship between IT support, knowledge management processes and organizational performance suggest that this challenge is more likely to be overcome if a greater IT support can be provided (Alavi & Leidner, 2001; Lueg, 2001; Robertson, Swan, Newell, 1996; Quink, 2008). Organizations can achieve greater levels of organizational performance if they can support the four processes of knowledge management; namely, knowledge codification and classification knowledge creation and development knowledge sharing and distribution and knowledge use and application through the help of IT support, because IT has capacity to speed up all these four processes of knowledge management. Hence,

Hypothesis 5C (H5C): The relationship between the IT support and organizational performance is mediated by "KM processes"

While the processes of creating, storing, sharing and utilizing knowledge are all vital for an improved organizational performance, the source of competitive advantage (e.g. creating a customer value) resides primarily in the application of the knowledge rather than the knowledge itself (Alavi & Leidner, 2001, Grant, 1996).

Research has shown that success in knowledge management largely depends on the ability of an organization to transform its members' creative ideas into useful solutions and actions in order to create a higher customer value (Alavi & Leidner, 2001; Zaim, Tatoglu, Zaim, 2007). Therefore, while knowledge generation, storage, and sharing do not necessarily result in an increase in organizational performance, effective knowledge use and application does. Hence:

Hypothesis 5D (H5D): Among the KM processes, KU&E is the one that explains most of the variance in organizational performance.

3.6 Relationship between Knowledge Management Performance and Organizational Performance (OP)

A numerous number of research reveals that there is a positive relationship between the performance of organizations and knowledge management performance (Claycomb, Droge, Germain, 2002; Hasan & Al-Hawari, 2003).

One potential gain that should accrue to organizations adopting KM is that they are able to create continuous temporary advantages that should be targeted in today's markets where sustainable competitive advantage is no longer achievable (Eisenhardt & Santos, 2002).

First, in an era where competition peaks to its top, both prospective and existing customers demand rapid answers to their inquiries and wants (Lesser & Storck, 2001). Therefore, responsiveness and speed in meeting customer needs and wants has become one of the most important priorities in order to achieve higher levels of organizational performance, since it is key to retain existing customers and create new ones.

Second, since we are living in an age where addressing customer issues is regarded as the most important source of competitive differentiation in the marketplace (Lesser & Storck, 2001), the ability to change quickly and adapt to shifting market conditions and decrease the learning curve of new employees have become vital for a better organizational performance.

Third, in era where there is no tolerance to any kind of waste (money or time), prevention of re-work is the most important precondition to an improved organizational performance, specifically from financial perspective. Finally, in an era where only constant is known to be the change, "spawning of new ideas for new products and service" lies at the heart of an improved

organizational performance. All of these, of course, depend heavily on an improved knowledge management performance. Hence, we hypothesize:

Hypothesis6 (H6): There is a significant relationship between KM performance and organizational performance.

4. RESEARCH DESIGN AND METHODOLOGY

This chapter defines the research outline, research approach and the research methodology that were employed for this study. It first explains the research outline and the strategy, and then goes on to clarify the research approach and the techniques used for choosing the sample, both for the pilot study and for the major research. It also describes the way the data has been collected. Finally, the preliminary results of the pilot study and the methods used for data analysis were explained and discussed.

4.1 Research Outline

This research has gone through three sequential phases: Preparation phase, design and development phase, and implementation and validation phase. These phases are briefly introduced below.

4.1.1 Preparation Phase

This research has embraced two sequential preparation phases:

First stage of the preparation phase was a carefully designed literature review. Necessary background information from the literature in the field of knowledge management has been compiled. The literature study shed a light on the six main aspects of the proposed research model; organizational culture, organizational structure, information technology support, knowledge management processes, knowledge management performance, and the organizational performance.

The second stage of the preparation involves the development of the theoretical framework for the study. Based on the literature review and the formal and informal interviews conducted with

scholars and practitioners, researcher has developed a theoretical framework explaining the relationship between the key organizational drivers of KM namely the organizational structure, organizational culture, and information technology support; KM processes; KM performance and organizational performance.

4.1.2 Design and Development Phase

This phase included the finalization of the model design and the development of the survey questionnaire. The quantitative data was held by a survey study including six measurement instruments (Organizational culture, organizational structure, the level of information technology support, knowledge management processes, knowledge management performance, and organizational performance)

A pilot study was conducted to check the reliability and the validity of the questionnaire before the main application. SPSS 16.0 software program was used for statistical and analytical studies.

4.1.3 Implementation and validation phase

Distribution of the questionnaires, acquisition of relevant data and the implementation of the proposed (developed) model were completed in this phase. Reliability and validity analysis have been performed, and research questions have been answered based on the hypothesis testing.

4.2 Sampling

The population of this study consists of employees who are working in companies that adopted KM. For the pilot study 68 participants from 5 different organizations are selected. Number of total participants in the main study was 210 from 9 different organizations. The necessary condition for inclusion in the dataset was "working in the organization for more than 1 year".

4.3 Research Approach

A quantitative research method was used for the present study. An explanatory (hypothesis testing) type of research design was preferred because the problem addressed by this study concerns with understanding the relationship between the key organizational drivers of knowledge management (including the organizational culture, organizational structure and IT support), KM processes, KM performance and organizational performance. The nature of the design is correlational, and it is a cross-sectional investigation.

4.4 The Structure of the Survey Questionnaire and Measurement Instruments

In the following two sections the structure of the survey questionnaire is explained and the measurement instruments that were used for this study are introduced.

4.4.1 The Structure of the Survey Questionnaire

The survey questionnaire developed for the pilot study is composed of two main sections and 89 questions. The first part of the survey questionnaire consists of 7 questions requesting demographic information namely age, gender, education, total work experience, the length of time spent with the company, the sector of the company, and the current job title; and the second part consists of 82 items measuring organizational culture, structure, the level of information technology support, knowledge management processes, knowledge management performance and organizational performance.

The survey questionnaire developed for the pilot study, of which a sample can be found in Appendix 4, required respondents to define their organizational culture and structure, the level of information technology support that exist in their organizations and to indicate their level of

agreement on each of the items measuring various aspects of KM processes including knowledge generation and development; knowledge codification and storage; knowledge transfer and sharing; and knowledge utilization. Finally, they were asked to answer some statements on the KM performance in their organizations and rate the performance of their organizations compared to other organizations. The survey also requested them to fill out a brief demographic profile of the participants and the company they are working for.

The survey used in the pilot study is revised for the main study. The second part of the survey questionnaire measuring the organizational culture, organizational structure, information technology support, knowledge management processes, knowledge management performance and organizational performance were reduced to 77 from 82 after factor analysis. In total, the number of questions in the main questionnaire has become 84 together with 7 questions requesting demographic information namely age, gender, education, total work experience, the length of time spent with the company, the sector of the company, and the current job title.

4.4.2 Measurement Instruments

The survey uses six different measurement instruments in total. All the items; except demographic questions, are measured using 5-point Likert-type scale. In the following section, the measurement instruments that were used for the pilot study are introduced and in the table 3, overview of research variables and measurement instruments used for the study is presented.

Table 2 Overview of research variables and measurement instruments used for the pilot study

Variables	Operational Definition	Measurement instrument
de-centralisation	The extent to which power of decision making is delegated to managers on lower levels (Davidson & Griffin, 2006)	3 items
Innovative culture	Characterised by properties like risk-taking, result oriented, creative, pressurized, stimulating, challenging, enterprising, and driving (Wallach, 1983)	8items
Supportive culture	Characterised by properties like harmony, openness, friendship, collaboration, encouragement, sociability, personal freedom, and trust (Wallach, 1983).	8 items
Bureaucratic culture	Characterised by properties like procedural, hierarchical, structured, ordered, regulated, established, cautious, and power oriented (Wallach, 1983).	8 items
Information Technology Support	Accessibility, adequacy, convenience and relevance of technological insfrastructure provided by the organisation (Zaim et al., 2007)	6 items
KM processes	Activities of knowledge generation and development, knowledge codification and storage, knowledge sharing and distribution, and knowledge use and evaluation	30 items
Knowledge generation and development	A process that aim to originate novel and useful ideas and solutions, and convert them into actions, goods and services for a higher customer value (Abou-Seid, 2002; Shani et al., 2003)	9 items
Knowledge codification and storage	A process that classify and store the knowledge according to its type and purpose in line with organizational objectives and priorities for the access of employees at present and in the future (Davenport & Prusak, 1998)	8 items
Knowledge sharing and distribution	The process of bringing together intellectual resources and make them available across organizational boundaries (Robertson, 2002)	5 items

Knowledge use and evaluation	The process of creating value from organization's knowledge resources so that the knowledge held by the company will be transformed to the fields of application and action (Ordaz et al., 2004)	8 items
KM performance	the extent to which the successful outcomes of knowledge management processes are realized in terms of reduced re-work, decreased learning curve of new employees, increased responsiveness to customers, and increased innovation	12 items
Reduced rework	The extent to which 're-invention of the wheel', duplication and redundancy of knowledge-based activities are prevented in the organization	3 items
Decreased learning curve	The extent to which individuals can be assimilated into methods, tools, routines and activities of a new position.	3 items
Increased responsiveness to customer need and inquiries	The extent to which employees in an organisation can respond to customer needs and inquiries	3 items
Increased innovativeness	The extent to which new ideas for products/services, methods, and markets are experimented	3 items
Organisational Performance	Degree of overall success of the organisation in terms of customer and financial performance in comparison with key competitors as assessed by the employee-reported items	7 items
Customer performance	Degree of overall success of the organisation in terms of customer satisfaction, retention and creation as compared with key competitors	3 items
Financial performance	Degree of overall success of the organisation in terms of return on investment, market share, net profit, and economic value added	4 items

4.4.2.1 Organizational Culture

The measurement instrument for organizational culture is Organizational Culture Index (OCI) originally developed by Wallach (1983). This instrument measures three major cultural dimensions as bureaucracy, innovation, and support. This instrument is (Yahyagil, 2004) especially preferred for this study -on purpose- simply it creates the cultural profile of an organization based on perceptual descriptions of the members of organization. The instrument has a well-known 4-point Likert scale that includes 24 items ranging from "does not describe my organization" to "describe my organization most of the time". It is, in fact, a 24 item adjective trait questionnaire ranging from 0 to 3.

4.4.2.2 Organizational Structure

Questions for the evaluation concerning the organizational structure are adopted from the research conducted by Lee & Lee (2007). Originally the scale has five items measuring centralization. However, as some of the items had exactly the same contents with similar wording in the original scale, the items with the best Turkish wording were selected on the basis of expert opinion. In other words, the Turkish version of the scale did not include redundant items and centralization of organizational structure is measured by three items to be answered on a five-point Likert scale ranging from '1= strongly disagree' to '5= strongly agree'. Lee and Lee (2007) showed that the measure exhibits high reliability (Cronbach alpha=.91).

4.4.2.3 Information Technology Support

The level of Information Technology support is assessed by six items adopted from the research conducted by Zaim, Tatoğlu, Zaim (2007). Respondents were asked about the accessibility,

adequacy, convenience and relevance of technological infrastructure provided by the organization using a five-point Likert scale ranging from ‘1= strongly disagree’ to ‘5= strongly agree’.

The scale exhibited a highly satisfactory level of reliability of 0.86 (Zaim, Tatoğlu, Zaim, 2007).

4.4.2.4 KM Processes

The knowledge management processes survey questionnaire is devised by Zaim, Tatoğlu, Zaim (2007). Respondents were asked to indicate how much they agree on each of the 30 items measuring various aspects of KM processes including knowledge generation and development; knowledge codification and storage; knowledge transfer and sharing; and knowledge utilization based on a five-point Likert scale ranging from ‘1=strongly disagree’ to ‘5= strongly agree’.

The factor and reliability analyses that were performed for the study (Zaim, Tatoğlu, Zaim, 2007) indicated that the survey questionnaire was both valid and reliable (Cronbach alpha=.79).

4.4.2.5 KM performance

The questions that are used for the measurement of KM performance are developed based on the work of Lesser & Storck (2001). The instrument measures the four aspects of KM performance: (1) decreased learning curve of new employees, (2) reduced rework and prevention of “re-invention of the wheel”, (3) more rapid response to customer needs and inquiries, (4) spawning of new ideas for products and services as defined by Lesser & Storck (2001). For each aspect, three statements (4×3=12 items in total) are formulated, and respondents were asked to indicate how much they agree with these 12 items based on a five-point Likert-type scale ranging from ‘1=strongly disagree’ to ‘5= strongly agree’. The reliability is assessed by Cronbach’s Alpha and found to be highly satisfactory (0.91)

4.4.2.6 Organizational Performance

In this study, organizational performance is measured by the use of employee reported items from two perspectives: customer and financial performance in comparison to key competitors. This measurement instrument is developed by Lee and Lee (2007). Specifically, Lee and Lee (2007) developed three items to measure customer performance and four items to measure financial performance as compared to key competitors.

In total, the questionnaire is composed of 7 items based on a five-point Likert type scale ranging from '1= strongly disagree' to '5= strongly agree'. The scale exhibited a highly satisfactory level of reliability of 0.87 (Lee and Lee, 2007).

4.5 Demographic Variables

There are seven demographic variables, namely age, gender, education, total work experience, the length of time spent with the company, the sector of the company, and the current job title.

4.6 Definition of Variables

In Table 36 in Appendix 5, the abbreviation of each item and their numbers as variables used in the study are presented. In the follow-up Table 37 in Appendix 5, the type of measurement scales of these variables is exhibited. It should be noted that before starting the analysis, all the ordinal variables were transformed into nominal variables in order to ease the research process.

4.7 Data Collection

In five companies which are used for the pilot study, a hard copy of the survey, in other words, a traditional pen and paper form of collecting data was used. A total of 80 survey had been

distributed and 72 of them returned which signifies a response rate of 0,90 %. 4 of these responses were removed from the research statistics because of their incomplete answers to some critical questions. In total 68 responses were included in the pilot study, which have all answers completed to each question in the survey.

9 companies are used for the major study in total, both a hard and a soft copy of the survey were used. A total of 110 soft copy of the survey were e-mailed to respondents, while a total of 250 hard copies have been distributed in person. 89 responses were received from respondents who have been reached via email, and 132 responses were received in hard copy. % 61,3 response rate in total was obtained. However, 4 out of 89 soft copy data and 7 out of 132 hard copy data had to be left out due to inappropriate survey filling. In total, 210 data were obtained which have all answers completed to each questions in the main study.

4.8 Data Analysis

In this section, methods used for analyzing the data are introduced.

4.8.1 Descriptive Statistics of the Study

In order to understand the basic features of the data, descriptive statistics is used. Mean values of all interval and ordinal scaled variables are calculated in order to understand the cultural profile of the organizations based on perceptual descriptions of the members working for those organizations, general view of organizational structure, the perceived level of information technology support, knowledge management processes, knowledge management performance and perceived level of organizational performance as compared to competitors. Mean values for

all the variables are presented in Chapter 5 in order to define the average sample profile and general ideas about the study concepts.

4.8.2 Inferential Statistics of the Study

Inferential statistics help researchers understand the relations between variables. Some of the methods used according to each hypothesis are introduced below.

Linear regression analysis is used for the following hypothesis;

Hypothesis 1(H1): There is a positive relationship between de-centralization and the knowledge management processes.

Linear regression analysis is used for the following hypothesis;

Hypothesis2 (H2): There is a significant relationship between the concepts of organizational culture and KM processes.

Regression analysis is used for the following two hypotheses;

Hypothesis2A (H2A): The sub-dimensions of trust, collaboration, and openness (supportive culture dimensions) are going to explain the majority of the variance in Knowledge Sharing & Distribution (KS&D)

Hypothesis2B (H2B): The sub-dimensions of risk-taking, stimulating and challenging climate properties (innovative culture dimensions) will be the most significantly contributing conceptual dimensions that explain a higher level of variance in Knowledge Generation and Development (KG&D).

Linear regression analysis is used for the following hypothesis;

Hypothesis3 (H3): There is a significant positive relationship between IT support and KM processes.

Linear regression analysis is used for the following hypothesis;

Hypothesis4 (H4): There is a significant positive relationship between KM processes and KM performance.

Baron and Kenny's (1986) three-step mediation analysis is used for the following five hypotheses. First, the mediator is regressed on the independent variable; second dependent variable is regressed on the independent variable; and third, dependent variable is regressed on both the independent variable and the mediator. The results of three regressions are then assessed in order to determine whether or not the proposed mediator mediates the proposed relationship. In order to prove the proposed mediation; the first regression should indicate a significant relationship between the independent variable and the mediator; the second regression should indicate a significant relationship between the independent variable and the dependent variable, and finally in the third regression, the effect of the independent variable on the dependent variable should decrease as compared to the second one. If these conditions are satisfied, a partial mediation can be asserted. Full mediation holds only if the relationship between the independent variable and the independent variable becomes insignificant (Baron & Kenny, 1986).

Hypothesis4A (H4A): The relationship between de-centralization and KM performance is mediated by "KM processes"

Hypothesis4B1 (H4B1): The relationship between bureaucratic organizational culture and KM performance is mediated by "KM processes"

Hypothesis 4B2 (H4B2): The relationship between innovative organizational culture and KM performance is mediated by "KM processes"

Hypothesis 4B3 (H4B3): The relationship between supportive organizational culture and KM performance is mediated by "KM processes"

Hypothesis 4C (H4C): The relationship between IT support and KM performance is mediated by "KM processes"

Linear regression analysis is used for the following hypothesis;

Hypothesis5 (H5): There is a significant relationship between KM processes and organizational performance (OP)

Regression analysis is used for the following six hypotheses;

Hypothesis5A (H5A): The relationship between de-centralization and organizational performance is mediated by "KM processes"

Hypothesis5B1 (H5B1): The relationship between bureaucratic organizational culture and organizational performance is mediated by "KM processes"

Hypothesis5B2 (H5B2): The relationship between innovative organizational culture and organizational performance is mediated by "KM processes"

Hypothesis5B3 (H5B3): The relationship between supportive organizational culture and organizational performance is mediated by "KM processes"

Hypothesis 5C (H5C): The relationship between the IT support and organizational performance is mediated by "KM processes"

Hypothesis 5D (H5D): Among the KM processes, KU&E is the one that explains most of the variance in organizational performance.

Linear regression analysis is used for the following hypothesis;

Hypothesis6 (H6): There is a significant relationship between KM performance and organizational performance.

Chi-Square test is also used in order to explore the relations between the demographical variables.

4.8.3 Pilot study

The pilot study might be considered as a kind of feasibility study which is a small- scale version, conducted before for the main research as a preparation (Polit, Back & Hungler, 2001). Prior the research, during October, 2001, the survey instrument is pilot tested on 62 employees working at various hierarchical levels from five different organizations involved in KM efforts. At the end of November, 2011, SPSS 16.0 was used for the analysis of the pilot study. Both factor analysis and reliability analysis have been performed in order to check the validity and reliability of the scales used in the actual study.

In total, 24 items are included in the factor analysis for organizational culture. Factor analysis is repeated two times. In the first factor analysis three items "Ordered", "Results-oriented", and "Pressurized" are extracted from the study because of their low factor loading. In the second factor analysis one item "solid" is found not enough to form or exists in a factor and extracted from the study. In total, four items left out after the factor analysis. The factors were the exact representation of the original scale except item Creative. It existed in supportive culture dimension instead of being in innovative type of culture dimension which is totally acceptable. For example, similar result exists in Yahyagil's (2004) and Genç's (2010) studies, items related to innovation dimension or organizational climate resides in supportive type plot of organizational culture. Because the items belonging to the same dimensions originally are generally grouped under the same factor, the composition of the items in each factor seemed to be quite satisfactory as can be observed in Appendix 6 Items in Factor 1 represent Supportive type of organizational culture and items in Factor 2 represent Bureaucratic type of culture and finally Factor 3 represent Innovative type of organizational culture. At the end, organizational culture is confirmed to have three factors and accepted to have 20 items for our data set and the explanatory power of those three factors explaining the measure of organizational culture is found to be 77,54 %. Kaiser-Meyer-Olkin is found to be 0.839 and Bartlett's test was significant. Furthermore, internal consistencies are found to be high enough (all are over 0.70) to continue with further analyses.

Factor analyses done for "information technology support", and "organizational structure" give one-component solutions as they are in the literature. Furthermore, their high and significant KMO and Cronbach's alpha results did not require any items to be extracted from the study for further analysis. Appendix 6 illustrates this fact.

Factor analyses done for “knowledge management processes” give four-component solutions as they are in the literature. After factor analysis only one item “R&D activities are quite satisfactory in our company” excluded from the study because of its low factor loading. KMO is found to be 0.771 and Bartlett’s test was significant. Furthermore, internal consistencies are found to be high enough (all are over 0.70) to continue with further analyses. Four factors, as they exist in the original scale are found. The factors are the exact representation of the original scale. Items in Factor 1 represent “knowledge generation and development”, items in Factor 2 represent “knowledge use and evaluation”, items in Factor 3 represent “knowledge coding and storage” and finally Factor 4 represent “knowledge sharing and development” and they explain 85.16% of the total variance in KM processes. Appendix 6 illustrates this fact.

Factor analysis done for “knowledge management performance” give three-component solutions as it is suggested in the literature, and high and significant KMO and Cronbach’s alpha results did not require any items to be extracted from the study for further analysis. The results were satisfactory. KMO is found to be 89.9% and Bartlett’s test was significant. Three factors were found and they are found to explain 67.88% of the total variance in KM performance. The composition of items in each factor is identical to the originally thought composition of items, so each factor can be labeled with its’ original name as defined by Lesser & Storck (2001). Appendix 6 illustrates this fact.

In total, seven items are included in the factor analysis for perceived organizational performance. The results were satisfactory. KMO is found to be 89.9%, Bartlett’s test was significant and internal consistencies were found to be high enough (all are over 0.70) to continue with further analyses. Two factors, as they exist in the original scale are found with Eigen-values in excess of

unity (>1) of which were interpretable. The factors were explaining 67.88% of the total variance in organizational performance. The composition of items in each factor was same with the original composition of items, so each factor can be labeled with its' original name. Appendix 6 illustrates this fact.

After a detailed analysis of the outcomes of the pilot study, the number of items used for the main study reduced to 77 from 82. In total, the number of questions in the main questionnaire has become 84 together with 7 questions requesting demographic information namely age, gender, education, total work experience, the length of time spent with the company, the sector of the company, and the current job title. An overview of research variables & measurement instruments used in the main study is presented at the Appendix 7.

KMO and reliability results of each scale are presented in Table 4 and Table 5 below and the profile of respondents in the pilot study is shown in table 6.

Table 3 KMO Results of the Study Concepts in the Pilot Study

CONCEPTS	KMO	SIGNIFICANCY
ORGANIZATIONAL CULTURE	0,839	Sign.
INFORMATION TECHNOLOGY SUPPORT	0,793	Sign.
ORGANIZATIONAL STRUCTURE	0,738	Sign.
KNOWLEDGE MANAGEMENT PROCESSES	0,771	Sign.

KNOWLEDGE MANAGEMENT PERFORMANCE	0,779	Sign.
ORGANIZATIONAL PERFORMANCE	0,835	Sign.

Table 4 Reliability Results of the Study Concepts in the Pilot Study

CONCEPTS	Cronbach's Alpha	SIGNIFICANCY
ORGANIZATIONAL CULTURE	0,877	Sign.
INFORMATION TECHNOLOGY SUPPORT	0,935	Sign.
ORGANIZATIONAL STRUCTURE	0,738	Sign.
KNOWLEDGE MANAGEMENT PROCESSES	0,985	Sign.
KNOWLEDGE MANAGEMENT PERFORMANCE	0,849	Sign.
ORGANIZATIONAL PERFORMANCE	0,930	Sign.

Table 5 Frequencies of the Demographic Variables in the Pilot Study

VARIABLES	FREQUENCY	PERCENTAGE
GENDER		
Male	45	66,2
Female	23	33,8
AGE		
<25	2	2,9
25-30	28	41,2
36-45	33	48,5
>45	5	7,4
EDUCATION		
Bachelor's Degree	53	77,9
Master / PhD Degree	15	22,1
SECTOR		
IT	13	19,1
Service	22	32,4
Production	27	39,7

Finance	6	8,8
JOB TITLE		
General Manager	1	1,5
Manager	21	30,9
Middle manager	27	39,7
Specialist	9	13,2
Other	10	14,7
WORK EXPERIENCE AT THE CURRENT COMPANY		
1-2 year	8	11,8
3-5 year	23	33,8
6-9 year	27	39,7
>10 year	10	14,7
TOTAL WORK EXPERIENCE		
1-2 year	4	5,9
3-5 year	13	19,1

6-9 year	25	36,8
>10 year	26	38,2

5. RESEARCH FINDINGS

5.1 Respondents' Profile

The first analysis with the data was done to find out the profile of the respondents. Table 7 presents these results.

Table 6 Frequencies of the Demographic Variables (n=210)

Variables	Frequency	Percentage	Variables	Frequency	Percentage
GENDER			JOB TITLE		
Male	136	64,8	General Manager	6	2,9
Female	74	35,2	Manager	63	30
AGE			Middle Manager	82	39
< 25	7	3,3	Specialist	28	13,3
25-30	82	39	Others	31	14,8
36-45	101	48,1	WORK EXPERIENCE AT THE CURRENT COMPANY		
>45	20	9,5	1-2 year	24	11,4
EDUCATION			3-5 year	67	31,9

Bachelor's degree	164	78,1	6-9 year	82	39
Master/PhD degree	46	21,9	>10 year	37	17,6
SECTOR			TOTAL WORK EXPERIENCE		
IT	41	19,5	1-2 year	11	5,2
Service	67	31,9	3-5 year	42	20
Production	81	38,6	6-9 year	69	32,9
Finance	21	10	>10 year	88	41,9

As can be seen on the Table 6, the male to female ratio of in this study can be stated as 2: 1 (136 male, 74 female). Majority of the employees have been found to have at least a bachelor's degree and the ratio of employees having a bachelor's degree to Master / PhD degree was approximately 1:4 (78,1 % Bachelor's degree vs 21.9% Master / PhD degree). 101 respondents were between the age of 36 and 45 (48,1 %). In conformity with the average age of respondents, majority of the employees had at least 6-9 years of experience (74.8 %). Out of four categories of total work experience, three have very similar results. 42 respondents have been working between 3-5 years (%20), 69 people between 6-9 years (32,9) and 88 people over 10 years (41.9) showing a high seniority profile. The companies where the majority of respondents are working were either in the production (38,6%) or service sector (31,9%) and 56,6% of people have been working in the

same company over 5 years. Finally, most of the respondents (39%) were working as middle managers. According to these results, a typical respondent of this study can be defined as;

- a male with a bachelor's degree,

- aged between 36-45

-work as a middle manager either in a production or a service sector

-has been working in the same company over 5 years

-has at least a 10-years of total work experience

5.2 Relations between the Demographic Variables

In order to find out whether there is any relation between the nominal-scaled variables, Chi Square test is applied. It should be noted that in this study only the ones which gave significant results are mentioned.

According to Chi Square test, the gender of respondents is found to be significantly related to the sector the person is working for, total work experience and the person's experience at the current company. According to these findings, there are more female respondents (31,1%) working in the IT sector than males (13,2%), whereas male respondents (41,9%) are higher in numbers in the service sector (13,5%). Likewise, there are more male respondents (13,2%) working in the finance sector than female respondents (4%), whereas there are more female respondents (51,3%) working in the production sector than male respondents (31,6). Also in our study, compared to female respondents (35,1%), male respondents (45,6%) have more than 10 years of work experience, whereas there are more females (44,5%) who have been working between 6 and 9

years than males (26.4%). Furthermore, female respondents are found to have more work experience in their current company than male respondents. Compared to 68,8% of female respondents, 49,9% of male respondents have been working in their current company at leasy over 5 years.

5.3 Mean values of the Study Constructs

In the Table 7 below, the mean values of each study concept and dimensions of each variable are presented.

Table 7 Mean Value of each Study Concept

CONSTRUCT	MEAN VALUE
Organizational Culture	3,02
Bureaucratic	3,26
Innovative	3,30
Supportive	3,24
Organizational Structure	3,12
IT Support	3,50
KM Processes	3,32
K. Gen. & Dev.(KG&D)	3,51
K. Codi. & Stor. (KC&S)	3,39
K. Sharing & Dist.(KS&D)	3,09
K. Use & Eva. (KU&E)	3,51
KM performance	3,25
Decreasing the learning curve of new employees	3,49
Reducing rework & preventing "re-invention of the "wheel"	3,56
Responding more rapidly to customer needs and inquiries	3,50
Spawning of new ideas for products and services	2,47
Organizational Performance	3,55
Customer performance	3,68
Financial performance	3,42

5.4 Reliability of the Measurement Instruments

Hair et al. (2006) define reliability as “an assessment of the degree of consistency between multiple measurements of a variable” (p.137). One of the measures of reliability is internal consistency which judges the reliability of the instrument by estimating how well the items that measure the same construct yield similar results. To this end, Cronbach‘s alpha, a highly regarded method to assess the reliability, is used in this study in order to find out what extent each item of the scale relate to all other items and to the total test. The minimum level of acceptability for Cronbach‘s Alpha which is defined to be 0.70 in the literature (Hair et al. 2006, p.137) is used in the study. The reliability estimates of each scale are calculated and presented below in Table 9.

Table 8 Reliability Estimates for the Measurement Scales

CONSTRUCT	CRONBACH'S ALPHA
Organizational Culture	,880
Bureaucratic	,924
Innovative	,931
Supportive	,941
Organizational Structure	,928
IT Support	,931
KM Processes	,984
K. Gen. & Dev.(KG&D)	,964
K. Codi & Stor. (KC&S)	,957
K. Sharing & Dist.(KS&D)	,962
K. Use & Eva. (KU&E)	,962
KM performance	,852
Decreasing the learning curve of new employees	,908
Reducing rework & preventing "re-invention of the "wheel"	,865
Responding more rapidly to customer needs and inquiries	,938
Spawning of new ideas for products and services	,855
Organizational Performance	,929
Customer performance	,896
Financial performance	,958

As Table 8 illustrates, all the reliability scores of the study constructs are found above 0.70 and mostly above 0.90. This means that the items of each construct are interrelated.

5.5 Factor Analysis

The purpose of the factor analysis is to find out the sets of variables that are highly interrelated, known as factors (Hair et al. 2006). Factor analysis is generally carried out to examine the relationship between the judgmentally developed content categories and the empirically derived constructs' (Gable, 1986, p.87) or to figure out whether with different sets of data, the same constructs derived in the previous studies can be derived too. Therefore, in this study, factor analysis is done to find out how many different dimensions the respondents perceive in the constructs and whether they perceive them the same as in the original data with which the scale was developed and also to see whether the derived constructs in this study confirms the existence of theoretically developed content categories. At the beginning of each factor test, the measure of sampling adequacy is calculated in order to see if the data is appropriate to apply the factor analysis to (Sipahi, Yurtkoru, Çinko, 2006). Statistics that can represent this adequacy are Keiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity. KMO shows that the data used in the analysis is a homogenous collection of variables and that there are correlations between variables. The lower limit for KMO that is generally agreed upon is 0.50 (Hair et al., 2006). Bartlett's test on the other hand gives the statistical significance of the inter-correlation between variable and the upper limit for the value of p in Social Sciences that is generally agreed upon is 0.05. KMO and Bartlett's tests in this study are found to be satisfactory for all six constructs in the study and tables for each factor analysis for the studied concepts are exhibited in the following sections.

5.5.1 Factor & Reliability Analysis for Organizational Culture

Table 10 presents the results of the factor analysis for Organizational Culture. In total, only 20 items are included in the analysis since 4 items have been eliminated after the pilot study. As can be seen on table 1, the factors are the exact representation of the original scale, because the items belonging to the same dimensions originally are grouped under the same factor. Items in Factor 1 represent Supportive type of organizational culture and items in Factor 2 represent Bureaucratic type of culture and finally Factor 3 represent Innovative type of organizational culture.

Table 9 Composition of the items of OC

Factor 1 (supportive)	Factor 2 (bureaucratic)	Factor 3 (innovative)
q13	q3	q15
q5	q9	q16
q7	q11	q19
q18	q4	q1
q8	q20	q6
q2	q17	q10
q12		
q14		

After the factor analysis, organizational culture is confirmed to have three factors and accepted to have 20 items for our data set. The explanatory power of those three factors explaining the measure of organizational culture is found to be 75, 74 %. Kaiser-Meyer-Olkin test for organizational culture is found to be 0.890. Bartlett's test is also found significant which confirms the statistical significance of the correlations between variables. Before using factors in further analysis, their reliabilities, in other words their internal consistencies, need to be tested. Table 11 below presents the item loadings, explained variance of each factor and the internal consistencies.

Internal consistencies are found to be high enough (all are over 0.70) to continue with further analyses.

Table 10 The Factor Analysis Results of Organizational Culture

Factor	Variable	Item Statements	Item	% of Variance	Cronbach's Alpha
1 (supportive)	q13	Equitable	,850	31,604	,941
	q5	Relationship-oriented	,816		
	q7	Encouraging	,813		
	q18	Trusting	,773		
	q2	Collaborative	,770		
	q8	Sociable	,757		
	q14	Safe	,740		
	q12	Personal-freedom	,694		
2 (bureaucratic)	q11	Regulated	,885	24,168	,924
	q3	Hierarchical	,881		
	q9	Structured	,876		
	q4	Procedural	,838		
	q20	Power-oriented	,779		
	q17	Cautious	,777		
3 (innovative)	q15	Challenging	,841	19,974	,931
	q16	Enterprising	,784		
	q19	Driving	,775		
	q6	Creative	,659		
	q1	Risk-taking	,636		
	q10	Stimulating	,528		
			Total	75,746	,880
			Kaiser-Meyer-Olkin Measure		,890
			Bartlett's Test of	Approx. Chi-	4515,661
				df	190
				Sig.	,000

5.5.2 Factor & Reliability Analysis for Information Technology Support and Organizational Structure

Factor analyses done for “organizational structure”, and “information technology support” give one-component solutions as they are in the literature. Furthermore, their high and significant KMO and Cronbach’s alpha results did not require any items to be extracted from the study for further analyses. Table 11 and Table 12 present these results.

Table 11 The Factor Analysis Results of Organizational Structure

Factor	Variable	Item Statements	Item	% of Variance	Cronbach's Alpha
1 (centralization)	q21	Our company members can take action without a supervisor (R)	,959	87,545	,928
	q23	Our company members can make decisions without approval (R)	,926		
	q22	Our company members are encouraged to make their own decisions (R)	,922		
			Total	87,545	,928
			Kaiser-Meyer-Olkin Measure		,732
			Bartlett's Test of Sphericity	Approx. Chi-	520,488
				df	3
				Sig.	,000

Table 12 The Factor Analysis Results of Information Technology Support

Factor	Variable	Item Statements	Item	% of Variance	Cronbach's
1 (Information Technology Support)	Q29	In our company, information technologies are up-to-date and fast	,951	75,966	,931
	Q27	In our company, necessary investments are made for information technologies	,918		
	Q25	In our company, information technology is adequate and suitable to our needs	,900		
	Q28	In our company, knowledge management systems are user friendly	,882		
	Q24	In our company, databases are adequate	,881		
	Q26	In our company, systems such as internet, intranet, e-mail, teleconference, and video-conference are adequate	,667		
			Total	75,966	,931
			Kaiser-Meyer-Olkin		,822
			Bartlett's Test of Spherici	Approx. Chi-	1275,194
				df	15
				Sig.	,000

5.5.3 Factor & Reliability Analysis for KM Processes

Table 14 presents the results of the factor analysis of KM processes. KMO and Barlett's test results are found to be satisfactory, which means that the data used in the analysis is homogeneous collection of variables and there are significant correlations among at least some variables. These results illustrate that it is appropriate to apply factor analysis on the data. In total, 29 items are included in the analysis after the refinement made in the pilot test. Four factors, as they exist in the original scale are found (see table 13). The factors are the exact representation of the original scale. Items in Factor 1 represent "knowledge generation and development", items in Factor 2 represent "knowledge use and evaluation", items in Factor 3 represent "knowledge coding and storage" and finally Factor 4 represent "knowledge sharing and development" and they explain 82,643% of the total variance in KM processes.

Table 13 Composition of the items of KM processes

Factor1 Knowledge Codification and Storage (KC&S)	Factor 2 Knowledge Generation and Development (KG&D)	Factor 3 Knowledge Use and Evaluation (KU&E)	Factor 4 Knowledge Sharing and Distribution (KS&D)
q39 q40 q45 q42 q38 q44 q41 q43	q33 q35 q34 q36 q31 q37 q32 q30	q52 q54 q51 q57 q55 q53 q56 q58	q47 q48 q49 q46 q50

Before using factors in further analysis, their reliabilities, in other words their internal consistencies, need to be tested. Table 14 below presents these results.

Table 14 The Factor Analysis Results of KM Processes

Factor	Variable	Item Statements	Item	% of Var	Cronbach's Alpha
1 KC&S	Q39	In our company, information regarding our suppliers and competitors is regularly updated and stored	,756	22,438	,957
	Q40	In our company, we have a system to store information regarding products, services, and markets	,750		
	Q42	In our company, information regarding our customers is regularly updated	,742		
	Q45	In our company, we can access information fast and easy	,725		
	Q38	In our company, work-related information is regularly codified, filed and stored	,721		
	Q41	In our company we have a data collecting and storage system for our employees	,667		
	Q44	In our company, all the work done by the employees is described and registered	,653		
	Q43	In our company, members register all the information regarding their work	,577		
2 KG&D	Q35	In our company, brainstorming is done for improving existing products and services	,763	22,342	,964
	Q34	In our company suggestion system is successfully implemented	,751		
	Q33	In our company, innovative ideas are encouraged	,,750		
	Q31	In our company, we can follow the current progresses in our field and obtain new and up-to-date information	,717		
	Q37	In our company, there is a systematic effort for knowledge generation and development	,703		
	Q36	In our company employees contribute to knowledge creation process actively	,702		
	Q32	In our company, effort is made to hire talented people	,693		
	Q30	In our company, continuous learning is encouraged	,588		
3	Q52	In our company, we can make right and effective decisions	,758	19,695	,962

KU&E	Q51	In our company, I can use my knowledge and experience effectively	,742		
	Q54	In our company, we have management style appropriate for knowledge use and application	,726		
	Q57	In our company, we reflect our knowledge to our customers	,693		
	Q55	In our company, information learned from trainings is applied in a short time	,676		
	Q53	In our company, existing knowledge potential can be used towards organizational goals effectively and efficiently	,662		
	Q58	In our company, there is a system that learn continuously and applies it	,571		
	Q56	In our company, we reflect our knowledge to our products/ services and work processes	,550		
4 KS&D	Q47	In our company, official systems and applications for knowledge-sharing that help us share our knowledge and experience with new members are adequate	,806	18,168	,962
	Q48	In our company, non-official systems and applications for knowledge-sharing that help us share our knowledge and experience with new members are adequate	,784		
	Q49	In our company, coordination meetings held for knowledge sharing purposes with other departments are adequate	,761		
	Q50	In our company, coordinated workshops and trainings held with other corporations (from business or academic world) for knowledge-sharing purposes are adequate	,693		
	Q46	In our company, we try to share information with our colleagues	,676		
			Total	82,643	,984
			Kaiser-Meyer-Olkin		,905
			Bartlett's Test of	Approx.	9860,009
				df	406
				Sig.	,000

5.5.4 Factor & Reliability Analysis for KM performance

Table 16 presents the results of the factor analysis of KM performance. Nine items are included in the analysis, and none of the items are left out after the factor analysis. The results were satisfactory. KMO is found to be 89.9% and Bartlett's test was significant. Three factors were found and they are found to explain 67.88% of the total variance in KM performance. The composition of items in each factor is identical to the originally thought composition of items (see table 15), so each factor can be labeled with its' original name as defined by Lesser & Storck (2001).

Table 15 Composition of the items of KM processes

Factor 1 (more rapid response to customer needs and inquiries)	Factor 2 (decreased learning curve of new employees)	Factor 3 (spawning of new ideas for products and services)	Factor 4 (reduced rework and prevention of 're-invention of the wheel')
q67	q60	q70	q63
q66	q59	q68	q62
q65	q61	q69	q64

Items in Factor 1 represent "more rapid response to customer needs and inquiries", items in Factor 2 represent "decreased learning curve of new employees", items in Factor 3 represent "reduced rework and prevention of 're-invention of the wheel' and finally items in Factor 4 represent "spawning of new ideas for products and services".

Table 16 The Factor Analysis Results of KM performance

Factor	Variable	Item Statements	Item	% of	Cronbach'
1 (more rapid response to customer needs and inquiries)	Q67	In our company, there is an effective knowledge management system in place that helps employees track down needs and wants of customers	,913	22,703	,938
	Q66	In our company, there is an effective knowledge management system in place that makes employees more responsive to customer problems	,874		
	Q65	In our company, there is an effective knowledge management system in place that provides fast and effective solutions to customer problems	,848		
2 (decreased learning curve of new employees)	Q60	In our company, there is an effective knowledge management in place that makes handover process easier for employees	,907	21,974	,908
	Q59	In our company, there is an effective knowledge management system that helps new employees adapt to and start their job quickly	,879		
	Q61	In our company, there is an effective knowledge management system that supports a good insight in the general practices of the company	,777		
3 (spawning of new ideas for products and services)	Q70	In our company, there is an effective knowledge management system in place that provides a safe environment for frequent testing of new ideas	,906	20,040	,855
	Q68	In our company, there is an effective knowledge management system that provides frequent experiments with new products and/or services	,887		
	Q69	In our company, there is an effective knowledge management system in place that provides frequent experiments with new markets	,845		

4 (reduced rework & prevention of 're-invention of the wheel')	Q63	In our company, we observe the similar mistakes frequently (R)	,908	19,415	,865
	Q62	In our company, we encounter repetitions of similar work frequently (R)	,883		
	Q64	In our company, there is an effective knowledge management system in place that makes it easier for employees to find artifacts and the individuals who developed them	,711		
			Total	84,132	,929
			Kaiser-Meyer-Olkin		,784
			Bartlett's Test of Sphericity	Approx.	1981,655
				df	66
				Sig.	,000

5.5.5 Factor & Reliability Analysis for Organizational Performance

Table 18 presents the results of the factor analysis of organizational performance. In total, seven items are included in the analysis. The results were satisfactory. KMO is found to be 0,838 and Bartlett's test was significant. As can be seen on table 17, two factors, as they exist in the original scale are found. The factors were explaining 87, 32% of the total variance in organizational performance. The composition of items in each factor was same with the original composition of items (see table 17), so each factor can be labeled with its' original name. Table 18 illustrates this fact.

Table 17 Composition of the items of Organizational Performance

Factor 1 (financial performance)	Factor 2 (customer performance)
Q75 Q76 Q77 Q74	Q72 Q71 Q73

Table 18 The Factor Analysis Results of Organizational Performance

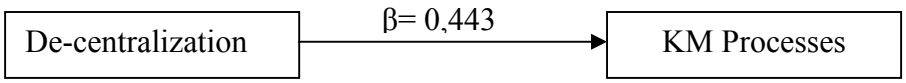
Factor	Variable	Item Statements	Item	% of Variance	Cronbach's Alpha
1 (financial performance)	Q75	Compared with key competitors, our company has a greater market share	,949	50,223	,958
	Q76	Compared with key competitors, our company has a greater net profit.	,924		
	Q77	Compared with key competitors, our company has a greater economic value added	,894		
	Q74	Compared with key competitors, our company has a greater return on investment	,806		
2 (customer performance)	Q71	Compared with key competitors, our company has greater improvement of customer satisfaction	,885	37,097	,896
	Q72	Compared with key competitors, our company has more creation of new customers.	,876		
	Q73	Compared with key competitors, our company has more retention of current customers	,815		
			Total	87,320	,929
			Kaiser-Meyer-Olkin Measure		,838
			Bartlett's Test of Sphericity	Approx. Chi-Square	1619,001
				df	21
				Sig.	,000

5.6 Hypothesis Testing

5.6.1 Hypothesis 1 (H1)

H1: There is a significant positive relationship between de-centralization and the knowledge management processes.

Figure 6 Relationship between de-centralization and KM Processes

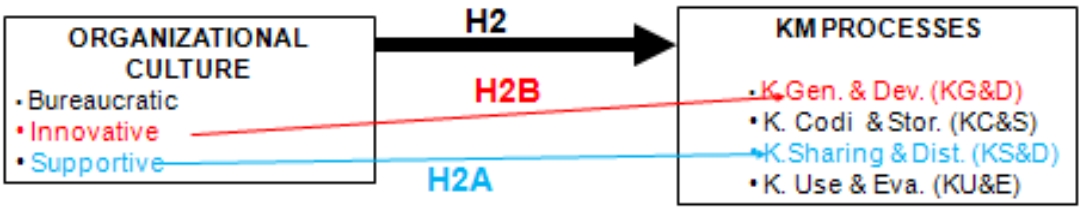


In order to find the relationship between de-centralization and knowledge management processes, the regression analysis is used. Regression analysis results show that there is a significant, positive, and somewhat moderate relationship (β=0,443; p=0, 00) between "de-centralization" and "knowledge management processes" and the total explained variance is 19,6 %. Thus, H1 is supported.

5.6.2 Hypothesis 2 (H2)

H2: There is a significant relationship between the concepts of organizational culture and knowledge management processes

Figure 7 Relationship between organizational culture and KM Processes



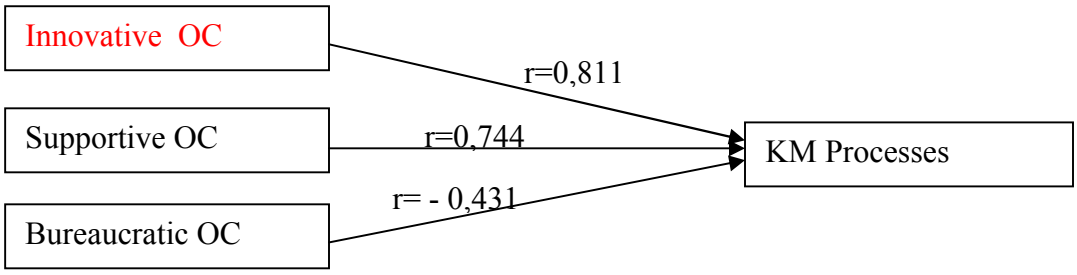
In order to find the relationship between the types of organizational culture and knowledge management processes, the Pearson correlation analysis is used. Pearson analysis results show that there is a significant and positive (Sipahi, Yurtkoru, Çinko, 2006) relation (r=0,774; p=0,00) and (r= 0,811; p=0,00) between supportive and innovative type of organizational culture and the knowledge management processes respectively whereas there is a significant, and negative (Sipahi, Yurtkoru, Çinko, 2006) relationship (r= - 0,431; p=0,00) between bureaucratic type of organizational culture and the knowledge management processes. Furthermore, all three factors of organizational culture explain 70,1% of variance in knowledge management processes. Thus, H2 is accepted.

In order to examine in detail which of the organizational culture factors explain the knowledge management processes the most, further regression analysis is done after the items which are left out after the factor analysis are extracted. Table 19 below illustrates the results.

Table 19 Multiple regression of the Organizational Culture Factors on Knowledge management Processes

Independent Variable:	Dependent Variable:		
Factor	r	β	t
Innovative	,811	,508	7,003**
Supportive	,744	,302	4,422**
Bureaucratic	-,431	-,151	-3,362**
F	142,555**		
R^2	,701		
Adjusted R^2	,697		
* significant at .05			

Figure 8 Relationship between innovative supportive and bureaucratic organizational culture and KM Processes



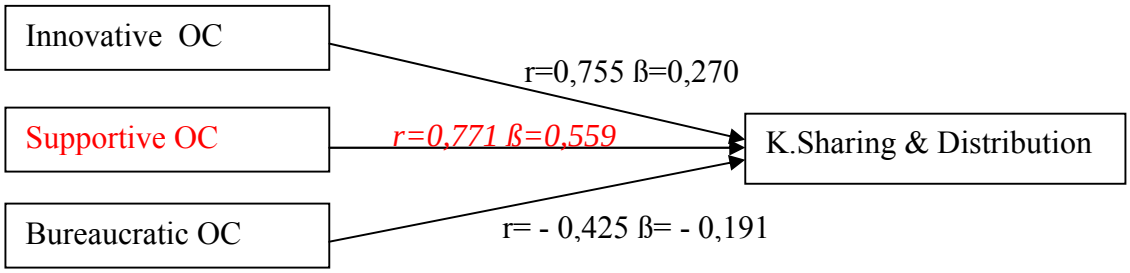
First, significant F ratios showed that all the independent variables innovative, supportive, and bureaucratic types of organizational culture are suitable to predict the dependent variable and they all make significant contributions to the model. As can be seen above, ß coefficients indicate that innovative and supportive organizational cultures have stronger, with "knowledge management processes" as compared to bureaucratic organizational culture. Hence, all factors of organizational culture have significant relations ($p<0.01$) with the dependent variable "knowledge management processes", which means they all can predict it. Among these three, innovative organizational culture has the biggest explanation power. It accounts for 65,7 % of variance in the dependent variable when included in the model alone. Supportive and bureaucratic organizational cultures make an 2,6 % and 1,9 % explanation on "knowledge management processes" respectively. When the items of innovative organizational culture are examined closely with an additional regression analysis, three items out of six in this factor are found to have significant relations with the dependent variable and high explanation powers. These are; "(q1) Risk-taking" "(q16) enterprising", and "(q15) challenging" and their explanation powers are 0,598, 0,075, and 0,012 respectively. Six items in supportive organizational culture also present significant results in their relation to knowledge management processes". These are: "(q2) collaborative", "(q18)

trusting", "(q12) personal freedom" , "(q8) sociable ", "(q7) encouraging", and "(q13) equitable" with explanation powers of 0,510, 0,067, 0,011, 0,013, 0,013 and 0,013 respectively. Finally, bureaucratic organizational culture results in three significant items which are "(q4) procedural", "(q20) power-oriented", and "(q17) cautious" and their explanation powers are found to be 0,219, 0,035, and 0,038 respectively.

5.6.3 Hypothesis 2A (H2A)

H2A: The sub-dimensions of trust, collaboration, and openness (supportive culture dimensions) are going to explain the majority of the variance in knowledge sharing and distribution (KS&D).

Figure 9 Relationship between innovative supportive and bureaucratic organizational culture and Knowledge Sharing & Distribution



Multiple regression analysis is used to test this hypothesis. Hair et al. (2006) define the objective of regression analysis as "to predict a single dependent variable from the knowledge of one or more independent variables" (p. 177). The test is repeated 2 times in order to have more details on the relationships. First, a regression test is done between innovative, supportive, and bureaucratic types of organizational culture and "knowledge sharing and distribution" to see which of these factors are more effective to predict the dependent variable. Second, items of these

significant factor(s) are analyzed through a regression analysis to find out the specific items that have impacts on "knowledge sharing and distribution". Table 20 below illustrates the results.

Table 20 Multiple regression of the Organizational Culture Factors on Knowledge sharing & distribution (KS&D)

Independent Variable:	Dependent Variable:		
Factor	r	β	t
Supportive	,771	,509	7,166**
Innovative	,755	,270	3,573**
Bureaucratic	-,425	-,191	-4,097**
F	127,046**		
R^2	,594		
Adjusted R^2	,592		
* significant at .05			

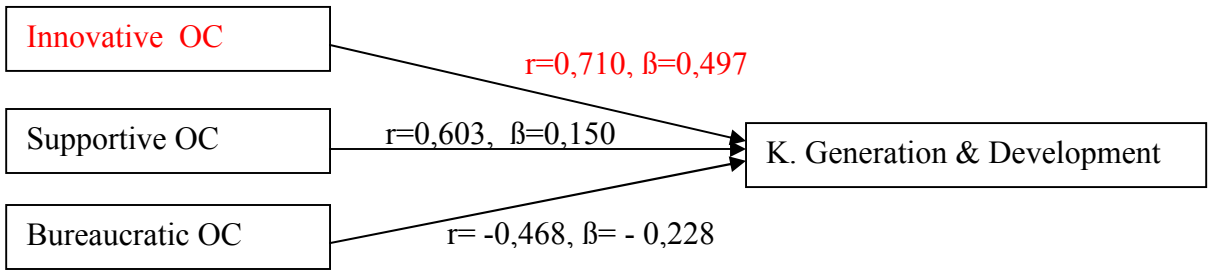
As can be seen above, p coefficients indicate that supportive, innovative, and bureaucratic type of organizational cultures have significant correlations with "knowledge sharing and distribution" meaning that they all are suitable to predict the dependent variable (knowledge sharing and distribution) and they all make significant contributions to the model. Pearson correlation coefficients indicate that supportive and innovative organizational cultures have a strong and positive correlation with knowledge sharing and distribution while bureaucratic organizational cultures have negative and somewhat moderate relationship with the dependent variable. Supportive organizational culture accounts for 59,4% of variance in "knowledge sharing and distribution", when included in the model alone. When bureaucratic type of organizational

culture are taken to the model, it accounts for an extra 6 %, and when innovative organizational culture is added to the model it accounts for extra 2,3 % of the variance in "knowledge sharing and distribution". So, supportive organizational culture is found to have a higher explanation power than supportive organizational cultures. ß values also show that supportive organizational culture explain majority of variance in "knowledge sharing and distribution". Thus, H2A is accepted.

5.6.4 Hypothesis 2B (H2B)

H2B: The sub-dimensions of risk-taking, stimulating and challenging climate properties (innovative culture dimensions) will be the most significantly contributing conceptual dimensions that explain a higher level of variance in knowledge generation and development (KG&D).

Figure 10 Relationship between innovative supportive and bureaucratic organizational culture and Knowledge Generation & Development



The procedure followed for H2A is also followed for this hypothesis by taking "knowledge generation and development" as the independent variable. The regression test is repeated 2 times. First, a regression test is done between factors of organizational culture and "knowledge generation and development" to see which of these factors explain the dependent variable most.

Further multiple regression analysis is done to find out the specific items of these significant factor(s) that have impacts on "knowledge generation and development". Table 32 below illustrates the results.

Table 21 Multiple regression of the Organizational Culture Factors on "knowledge generation and development (KG&D)"

Independent Variable:	Dependent Variable:		
Factor	r	β	t
Innovative	,710	,497	5,588**
Supportive	,603	,150	1,791
Bureaucratic	-,468	-,228	-4,143**
F	74,292**		
R^2	,550		
Adjusted R^2	,543		
* significant at .05			

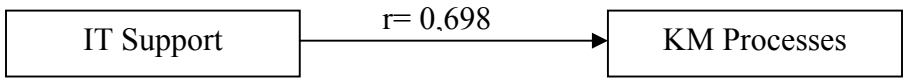
F ratios are significant only for innovative and bureaucratic factors of organizational culture, which illustrates that supportive organizational culture is not suitable to predict the dependent variable "knowledge generation and development". Innovative type of organizational culture accounts for 50,5 % of variance in "knowledge generation and development", when included in the model alone. When the bureaucratic type of organizational culture is taken to the model, it accounts for an extra 3,8 % of the variance in "knowledge generation and development", which is considered to be low (Sipahi, Yurtkoru, Çinko, 2006). So, innovative organizational culture is found to have a higher explanation power than the bureaucratic type of organizational culture.

The other findings also support this result. ß values also show that innovative type of organizational culture is a better predictor than bureaucratic type of organizational culture. The obtained results can be considered as true due to the difference between adjusted R^2 and R^2 which is found to be 0,7%. Thus, based on all these findings, H2B is accepted.

5.6.5 Hypothesis 3 (H3)

H3: There is a significant positive relationship between information technology support and knowledge management processes.

Figure 11 Relationship between IT Support and KM Processes

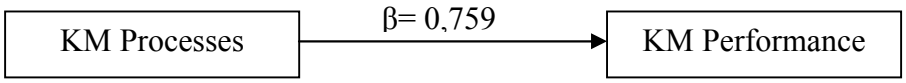


In order to find the relationship between information technology support and knowledge management processes, linear regression analysis is used. Results show that there is a significant, positive, and strong relation (β= 0,698; p=0, 00) between "information technology support" and "knowledge management processes" and "information technology support" is found to explain 48,7 % of the variance in "knowledge management processes", which is considered to be high. Thus, H3 is supported.

5.6.6 Hypothesis 4 (H4)

H4: There is a significant positive relationship between knowledge management processes and knowledge management performance.

Figure 12 Relationship between KM Processes and KM Performance



Regression analysis results show that there is a significant, positive, and strong relation (β=,759; p=0,00) between "KM processes" and KM performance and the total explained variance is 57,6%, which is considered to be high. Thus, H4 is supported.

5.6.7 Hypothesis 4A (H4A)

H4A: The relationship between de-centralization and knowledge management performance is mediated by "knowledge management processes"

Multiple Regression Analysis is done to explore this hypothesis. The explanation power of "de-centralization" on "KM processes", and then on "KM performance" is analyzed. As the last step, the explanatory power of "de-centralization" and "KM processes" together on "KM performance" is examined. Table 22 shows the results for each regression test.

Figure 13 The Mediating Effect of KM Processes on the Relationship between de-centralization and KM Performance

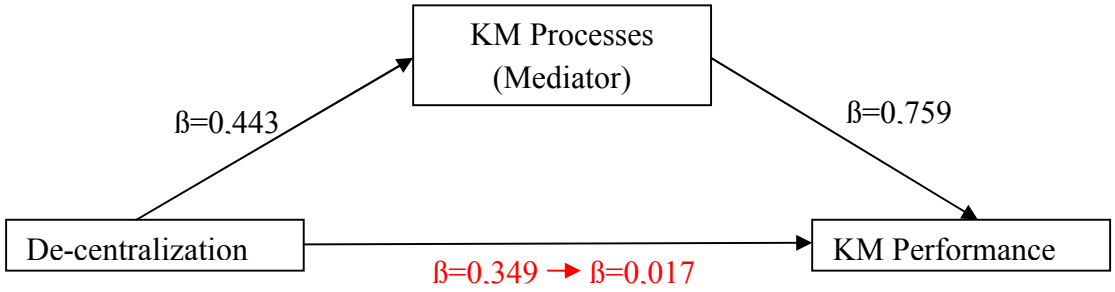


Table 22 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "de-centralization" and "KM Performance"

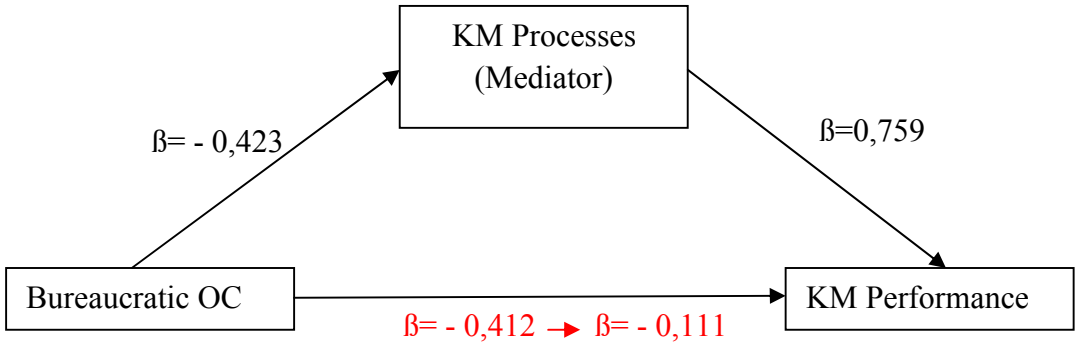
	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	de-centralization				,196
	de-centralization		,443	7,123	,000	
2	KM Performance	de-centralization				,122
	de-centralization		,349	5,378	,000	
3	KM Performance	de-centralization				,576
	de-centralization		,017	,327	,744	
	KM Processes		,752	14,901	,000	

As can be seen on the table 22, de-centralization can explain 19,6 % of "KM processes". They have a positive and significant relationship (ß= 0,443, t= 7,123, p<, 01). De-centralization also has a positive, significant, but weaker relationship with KM performance (ß=, 349, t= 5,378, p<, 01). When KM performance was regressed on both de-centralization and "KM processes", the beta coefficient of de-centralization went down from, 349 to, 017 in the third regression analysis compared to the second. Furthermore, it became insignificant. This illustrates that de-centralization does not have any effect on KM performance when "KM processes" is controlled. Therefore, "KM processes" has a full mediating role between de-centralization and KM performance. Thus, H4A is accepted.

5.6.8 Hypothesis 4B1 (H4B1)

H4B1: The relationship between the "bureaucratic organizational culture" and "knowledge management performance" is mediated by "knowledge management processes"

Figure 14 The Mediating Effect of KM Processes on the Relationship between Bureaucratic Organizational Culture and KM Performance



The procedure followed for H4A is also followed for this hypothesis. Table below shows the results of three step regression analysis in order to test whether KM processes mediates the relationship between bureaucratic organization culture and KM performance. Step one investigates the relationship between bureaucratic organizational culture and KM processes. As can be seen on the table 23, bureaucratic organizational culture can explain 17, 9 % of "KM processes". They have a negative, significant, and somewhat moderate relationship (ß= -, 423, t= -6.332, p< 0.01). Second step examines the relationship between bureaucratic organizational culture and KM performance. It shows that bureaucratic organizational culture also has a negative and significant relationship with KM performance (ß= -, 412, t= -6,332, p< 0.01). The last step analyzes the relationship between bureaucratic organizational culture and KM performance while controlling KM processes. Based on the multiple regression analysis results, when KM performance was regressed on both bureaucratic organizational culture and "KM processes", the beta coefficient of bureaucratic organizational culture decreases from ß= -,412 to

ß= -,111 in the third regression analysis compared to the second. Furthermore, it became insignificant. Therefore, the necessary conditions for supporting the full mediation were adequately met. "KM processes" has a full mediating role on the relationship between bureaucratic organizational culture and KM performance. Thus, Hypothesis 4B is supported.

Table 23 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "Bureaucratic Culture" and "KM Performance"

	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	Bureaucratic C.				,179
	Bureaucratic culture		-,423	-6,332	,000	
2	KM Performance	Bureaucratic C.				,170
	Bureaucratic culture		-,412	-6,139	,000	
3	KM Performance	Bureaucratic C. KM Processes				,586
	Bureaucratic culture		-,111	-2,118	,056	
	KM Processes		,712	13,571	,000	

5.6.9 Hypothesis 4B2 (H4B2)

Hypothesis 4B2 (H4B2): The relationship between "innovative organizational culture" and "knowledge management performance" is mediated by "knowledge management processes"

Figure 15 The Mediating Effect of KM Processes on the Relationship between Innovative Organizational Culture and KM Performance

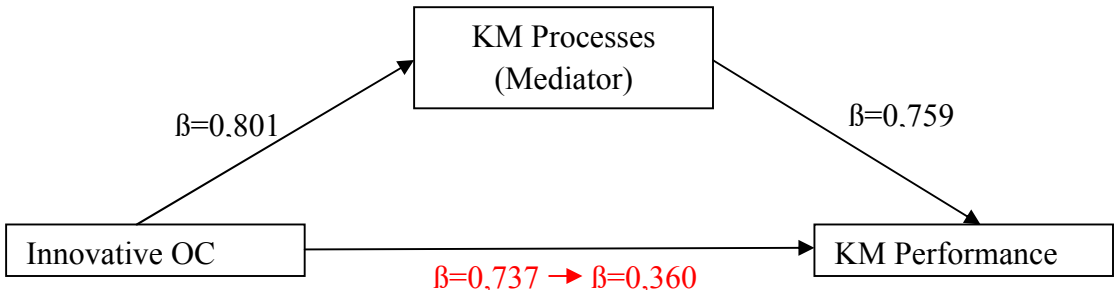


Table 24 below shows the results of Multiple Regression test between "innovative organizational culture" and "KM performance" relationship as mediated by "KM processes".

Table 24 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "Innovative Culture" and "KM Performance"

	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	Innovative C.				,641
	Innovative culture		,801	18,129	,000	
2	KM Performance	Innovative C.				,543
	Innovative culture		,737	14,790	,000	
3	KM Performance	Innovative C. KM Processes				,623

Innovative culture	,360	4,750	,000
KM Processes	,471	6,212	,000

As can be seen on the table 24, innovative organizational culture can explain 64, 1 % of "KM processes". They have a positive, significant, and strong relationship (ß=, 801, t= 18,129, p< 0,01). Innovative organizational culture also has a positive, and significant relationship with KM performance (ß=, 737, t= 14,790, p< 0, 01). When KM performance was regressed on both innovative organizational culture and "KM processes", the beta coefficient of innovative organizational culture went down from, 737 to, 360 in the third regression analysis compared to the second. However, it was still significant. This illustrates that "KM processes" has a partial mediating role on the relationship between innovative organizational culture and KM performance. Therefore, Hypothesis 4B2 is accepted.

5.6.10 Hypothesis 4B3 (H4B3)

Hypothesis 4B3 (H4B3): The relationship between "supportive organizational culture" and "knowledge management performance" is mediated by "knowledge management processes"

Figure 16 The Mediating Effect of KM Processes on the Relationship between Supportive Organizational Culture and KM Performance

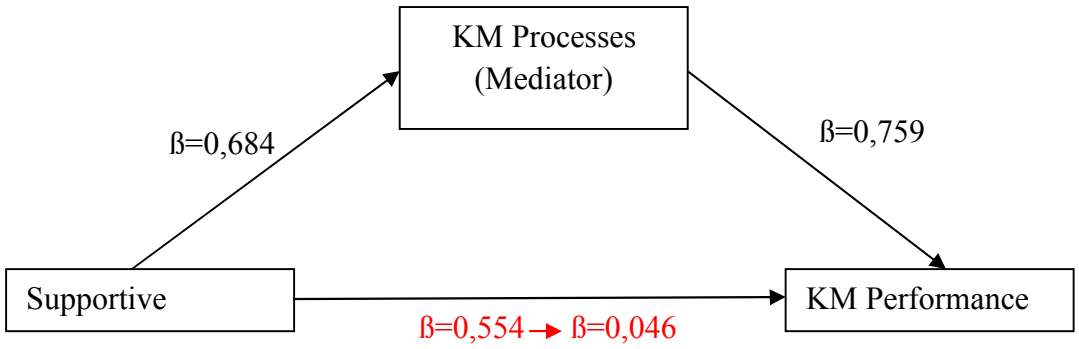


Table 25 below shows the results of three step regression analyses in order to test whether KM processes mediates the relationship between "supportive culture" and "KM Performance".

Table 25 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "Supportive Culture" and "KM Performance"

	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	Supportive C.				,468
	Supportive culture		,684	13,535	,000	
2	KM Performance	Supportive C.				,296
	Supportive culture		,544	9,352	,000	
3	KM Performance	Supportive C. KM Processes				,577
	Supportive culture		,046	,746	,456	
	KM Processes		,727	11,739	,000	

Step one investigates the relationship between "supportive culture" and "KM processes". As can be seen on the table 25, supportive organizational culture can explain 46,8 % of "KM processes" and it is significantly and positively related to KM processes (ß= ,684, t= 13,535, p< 0.01). Second step examines the relationship between supportive culture and and KM Performance. It shows that supportive organizational culture also has a positive, and significant relationship with KM performance (ß=, 544, t= 9,352, p< 0.01). The last step analyzes the relationship between supportive culture and KM performance, while controlling KM Processes. When KM performance was regressed on both supportive organizational culture and "KM processes", the beta coefficient of supportive organizational culture decreases from ß=, 544 to ß=, 046 in the third regression analysis compared to the second. Furthermore, it became insignificant. This

illustrates that "KM processes" has a full mediating role on the relationship between supportive organizational culture and KM performance. Therefore, Hypothesis 4B3 is accepted.

5.6.11 Hypothesis 4C (H4C)

H4C: The relationship between the information technology support and knowledge management performance is mediated by "knowledge management processes"

The same procedure of the previous hypothesis is followed for H4C by taking "information technology support" as the independent variable. The Table 26 shows the results of multiple regression test.

Figure 17 The Mediating Effect of KM Processes on the Relationship between IT Support and KM Performance

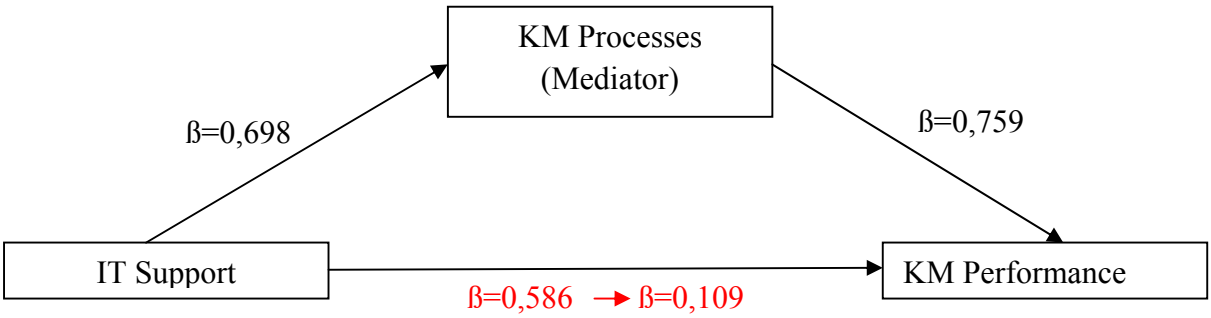


Table 26 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "Information Technology Support" and "KM Performance"

	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	IT Support				,487
	IT Support		,698	14,038	,000	
2	KM Performance	IT Support				,343
	IT Support		,586	10,417	.000	

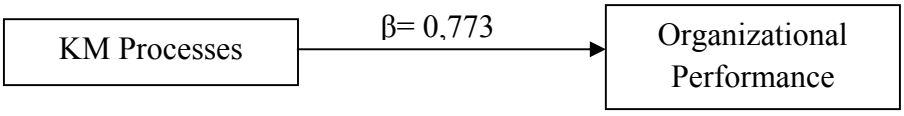
3	KM Performance	IT Support KM Processes				,582
	IT Support		,109	1,742	,083	
	KM Processes		,683	10,894	,000	

As can be seen on the table 26, "information technology support" can explain 48,7 % of "KM processes". They have a positive, significant, and strong relationship (ß= .698, t= 14,038, p< 0.01). "Information technology support" also has a positive, significant but a weaker relationship with KM performance (ß=, 586, t= 10,417, p< 0.01). When KM performance was regressed on both "information technology support" and "KM processes", the beta coefficient of "information technology support" went down from, 586 to, 109 in the third regression analysis compared to the second. Furthermore, it became insignificant (p=, 083). This illustrates "Information technology support" does not have any effect on KM performance when "KM processes" is controlled. Therefore, "KM processes" has a full mediating role on the relationship between "information technology support" and KM performance. Thus, H4C is accepted.

5.6.12 Hypothesis 5(H5)

H5: There is a significant relationship between knowledge management processes and organizational performance.

Figure 18 Relationship between KM Processes and Organizational Performance

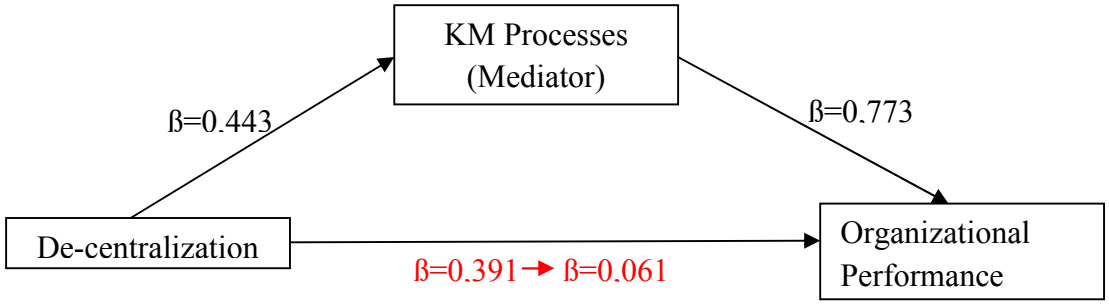


Regression analysis results show that there is a significant, positive, and strong relation (β=,773; p=,00) between "KM processes" and organizational performance and the total explained variance is 59,7%, which is considered to be high. Thus, H5 is supported.

5.6.13 Hypothesis 5A (H5A)

H5A: The relationship between de-centralization and organizational performance is mediated by "knowledge management processes"

Figure 19 The Mediating Effect of KM Processes on the Relationship between de-centralization and Organizational Performance



Multiple Regression Analysis is done to explore this hypothesis. The explanation power of "organizational structure" on "KM processes", and then on "organizational performance "" is analyzed. As the last step, the explanatory power of "de-centralization" and "KM processes" together on "organizational performance" is examined. Table shows the results for each regression test.

Table 27 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "de-centralization" and "Organizational Performance"

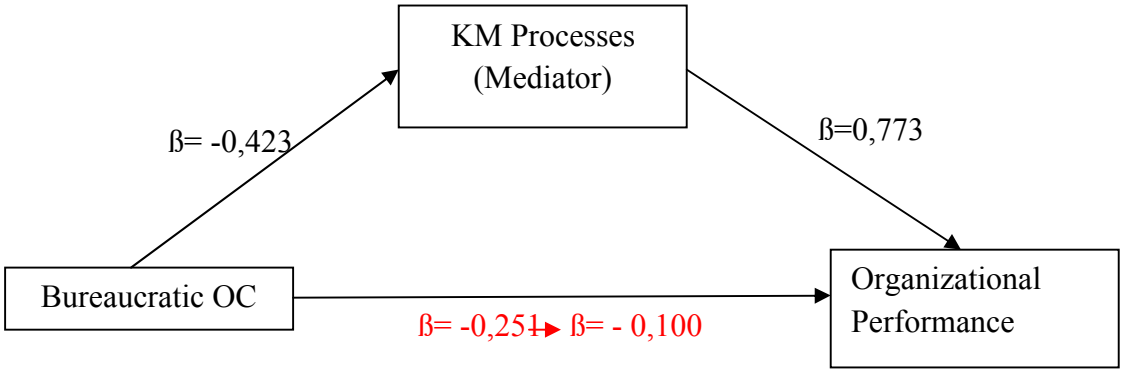
	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	de-centralization				,196
	de-centralization		,443	7,123	.000	
2	Organizational Performance	de-centralization				,153
	de-centralization		,391	6,134	,000	
3	Organizational Performance	de-centralization KM Processes				,600
	de-centralization		,061	1,248	,214	
	KM Processes		,746	15,215	,000	

As can be seen on the table 27, de-centralization can explain 19, 6 % of "KM processes". They have a positive and significant relationship (ß=, 443, t= 7,123, p< 0.01). De-centralization also has a positive, and significant relationship with organizational performance (ß=, 391, t= 6,134, p< 0.01). When organizational performance was regressed on both de-centralization and "KM processes", the beta coefficient of de-centralization went down from ß=, 391 to ß=, 061 in the third regression analysis compared to the second. Furthermore, it became insignificant. This illustrates that de-centralization does not have any effect on organizational performance when "KM processes" is controlled. Therefore, "KM processes" has a full mediating role on de-centralization and KM performance. Thus, H5A is accepted.

5.6.14 Hypothesis 5B1 (H5B1)

H5B1: The relationship between bureaucratic organizational culture and organizational performance is mediated by "knowledge management processes"

Figure 20 The Mediating Effect of KM Processes on the Relationship between bureaucratic Organizational Culture and Organizational Performance



The procedure followed for H5A is also followed for this hypothesis by taking bureaucratic organizational culture as independent variable. Table 28 below shows the results of Multiple Regression test between "bureaucratic organizational culture" and "organizational performance" relationship as mediated by "KM processes".

Table 28 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "Bureaucratic Culture" and "Organizational Performance"

	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	Bureaucratic C.				,174
	Bureaucratic culture		-,423	-6,332	,000	
2	Organizational Performance	Bureaucratic C.				,063

	Bureaucratic culture		-,251	-3,512	,001	
3	Organizational Performance	Bureaucratic C. KM Processes				,628
	Bureaucratic culture		-,100	2,012	,046	
	KM Processes		,829	16,661	,000	

As can be seen on the table 28, bureaucratic organizational culture can explain 17, 4% of "KM processes". They have a negative, significant, and somewhat moderate relationship (ß= -, 423, t= -6,332, p< 0.01). Bureaucratic organizational culture also has a negative, and significant but weaker relationship with KM performance (ß= -, 251, t= -3,512, p< 0.01). When organizational performance was regressed on both bureaucratic organizational culture and "KM processes", the beta coefficient of bureaucratic organizational culture went down from -, 251 to -, 100 in the third regression analysis compared to the second. However, it was still significant (p=, 046). Therefore, "KM processes" has a partial mediating role on the relationship between bureaucratic organizational culture and organizational performance.

5.6.15 Hypothesis 5B2 (H5B2)

H5B2: The relationship between innovative organizational culture and organizational performance is mediated by "KM processes"

Table 29 below shows the results of three step regression analyses in order to test whether KM Processes mediates the relationship between "innovative culture" and "Organizational Performance".

Figure 21 The Mediating Effect of KM Processes on the Relationship between innovative Organizational Culture and Organizational Performance

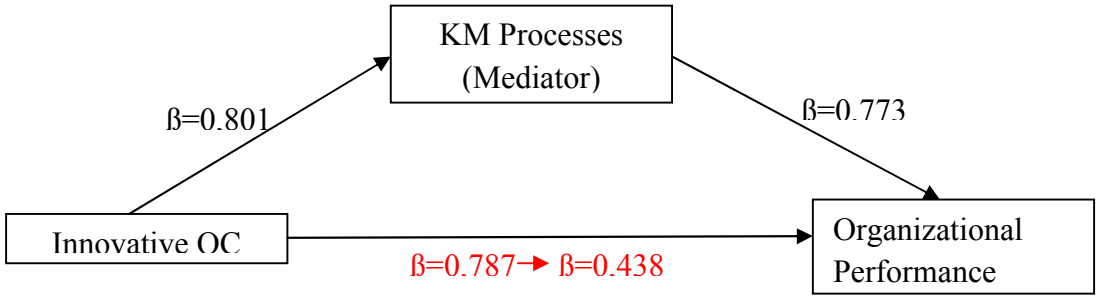


Table 29 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "Innovative Culture" and "Organizational Performance"

	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	Innovative C.				,641
	Innovative culture		,801	18,129	,000	
2	Organizational Performance	Innovative C.				,619
	Innovative culture		,787	17,278	,000	
3	Organizational Performance	Innovative C. KM Processes				,688
	Innovative culture		,438	6,353	,000	
	KM Processes		,436	6,353	,000	

Step one investigates the relationship between "innovative culture" and "KM processes". As can be seen on the table 29, innovative organizational culture can explain 64, 1 % of "KM processes", and it is significantly and positively related to KM processes (ß= .801, t= 18,129, p< 0.01). Second step examines the relationship between innovative culture and organizational performance. It shows that innovative organizational culture also has a positive, and significant

relationship with organizational performance (ß=, 787, t=17,278, p< 0.01). The last step analyzes the relationship between innovative culture and organizational performance, while controlling KM Processes. When organizational performance was regressed on both supportive organizational culture and "KM processes", the beta coefficient of innovative organizational culture decreases from ß=, 787 to ß=, 438 in the third regression analysis compared to the second. However, it was still significant. This illustrates that "KM processes" has a partial mediating role on the relationship between innovative organizational culture and organizational performance. Therefore, Hypothesis 5B2 is accepted.

5.6.16 Hypothesis 5B3 (H5B3)

H5B3: The relationship between supportive organizational culture and organizational performance is mediated by "KM processes"

Table 30 below shows the results of Multiple Regression of "supportive organizational culture" and "organizational performance" as mediated by "KM processes".

Figure 22 The Mediating Effect of KM Processes on the Relationship between Supportive Organizational Culture and Organizational Performance

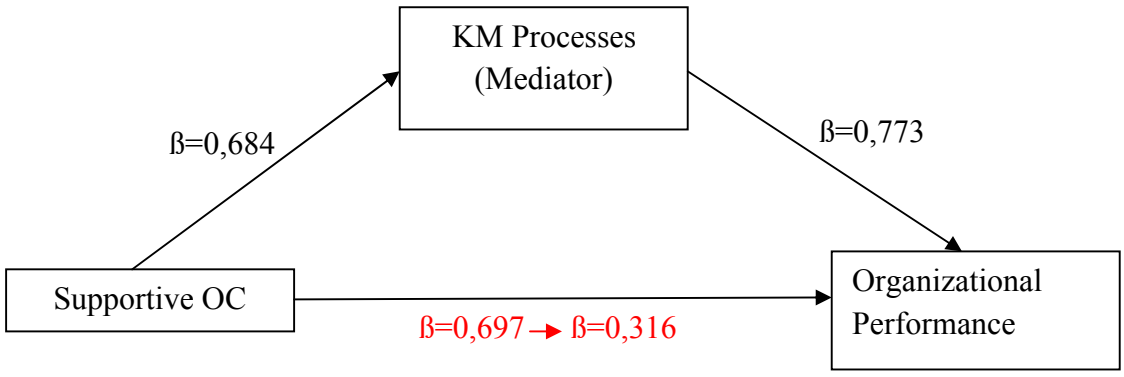


Table 30 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "Supportive Culture" and "Organizational Performance"

	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	Supportive C.				,468
	Supportive culture		,684	13,535	,000	
2	Organizational Performance	Supportive C.				,486
	Supportive culture		,697	14,016	,000	
3	Organizational Performance	Supportive C. KM Processes				,650
	Supportive culture		,316	5,609	,000	
	KM Processes		,556	9,873	,000	

As can be seen on the table 30, supportive organizational culture can explain 0,468 % of "KM processes". They have a positive, significant, and strong relationship (ß= .684, t= 13,535, p< 0.01). Supportive organizational culture also has a positive, and significant relationship with organizational performance (ß=, 697, t= 14,016, p< 0.01). When organizational performance was regressed on both supportive organizational culture and "KM processes", the beta coefficient of supportive organizational culture went down from, 697 to, 316 in the third regression analysis compared to the second. However, it was still significant. This illustrates that "KM processes" has a partial mediating role on the relationship between supportive organizational culture and organizational performance. Therefore, Hypothesis 5B3 is accepted.

5.6.17 Hypothesis 5C (H5C)

H5C: The relationship between information technology support and organizational performance is mediated by "KM processes"

The same procedure of the previous hypothesis is followed for H5C by taking "information technology support" as the independent variable. The table 32 shows the results of multiple regression test.

Figure 23 The Mediating Effect of KM Processes on the Relationship between IT Support and Organizational Performance

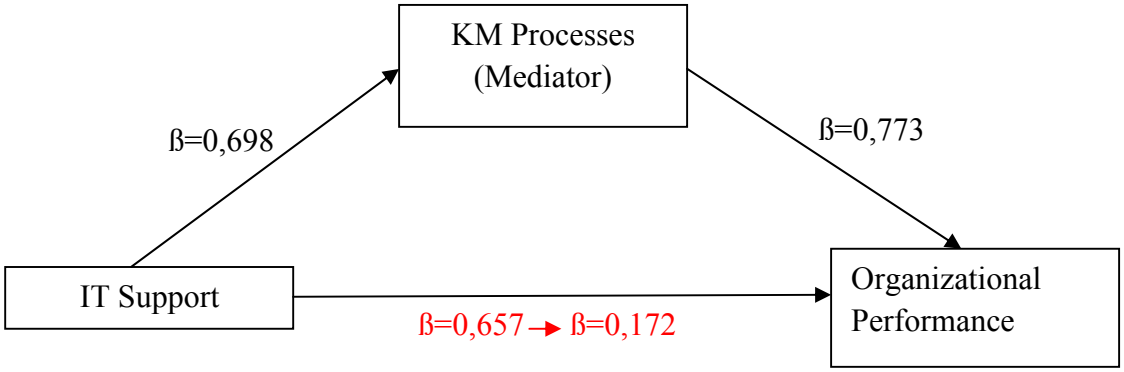


Table 31 Regression Results to Test the Mediating Role of "KM Processes" on the Relationship between "Information Technology Support" and "Organizational Performance"

	D.V.	I.V.	ß	t	p	R^2
1	KM Processes	IT Support				,487
	IT Support		,698	14,038	,000	
2	Organizational Performance	IT Support				,394
	IT Support		,657	11,621	,000	
3	Organizational Performance	IT Support KM Processes				,612

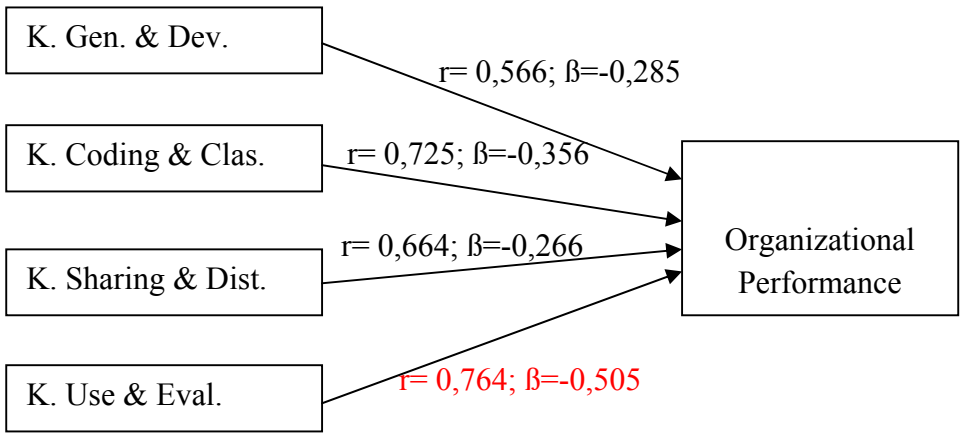
IT Support	,172	2,851	,005
KM Processes	,653	10,810	,000

As can be seen on the table 31, "information technology support" can explain 48,7 % of "KM processes". They have a positive, significant, and strong relationship (ß= .698, t= 14,038, p< 0.01). "Information technology support" also has a positive, and significant relationship with organizational performance (ß=, 657, t= 11,621, p< 0.01). When organizational performance was regressed on both "information technology support" and "KM processes", the beta coefficient of "information technology support" went down from, 657 to, 172 in the third regression analysis compared to the second. However, it was still significant. This illustrates that "KM processes" has a partial mediating role on the relationship between "information technology support" and organizational performance. Thus, H5C is accepted.

5.6.18 Hypothesis 5D (H5D)

H5D: Among the knowledge management processes, knowledge use and evaluation is the one that explains most of the variance in organizational performance.

Figure 24 Relationship between KM Processes and Organizational Performance



Multiple regression analysis is used to test this hypothesis. The test is repeated 2 times in order to have more details on the relationships. First, a regression test (stepwise method) is done between the types of KM Processes and "organizational performance" to see which of the KMP factors are more effective to predict the dependent variable. Second, items of these significant factor(s) are analyzed through a regression analysis to find out the specific items that have impacts dependent variable. Table 32 below illustrates the results.

Table 32 Multiple regression of "Knowledge Management Processes" factors on "organizational performance"

Independent Variable: KM Processes	**Dependent Variable: Organizational Performance**		
Factors	r	ß	t
K. Use & Eva.	,764	,505	6,825**
K. Coding & Stor.	,725	,356	4,851**
K. Shar. & Dist.	,664	,266	3,970**
K. Gen. & Dev.	,566	-,285	-3,876**
F	99,431**		
R^2	,660		
Adjusted R^2	,653		
* significant at .05 ** significant at .01			

As can be seen above, p coefficients indicate that apart from knowledge sharing and distribution, all the factors of KM processes have significant relations with the dependent variable "organizational performance", which means they all can predict the "organizational performance". Among these four KM processes, knowledge use and evaluation have the biggest explanation power. It accounts for 58, 4% of variance in the dependent variable when included in

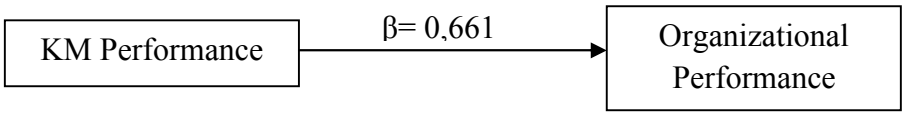
the model alone. Knowledge coding & storage, knowledge generation & development, and knowledge sharing & distribution make additional 3,9 %, 2,5 %, and 1,2 % explanation on the dependent variable. Thus, H5D is accepted.

Another regression analysis is done to find out which of the items in "knowledge use and evaluation" explain the dependent variable more. 5 out of 8 items are found to be significantly explaining the dependent variable. The one with the highest explanation power is "(q57)" and its R^2 value is 66.1 %. The other four variables are; "(q51)", "(q56)", "(q52)", and "(q53)"and they make an additional 9.1%, 2.2%, 2.4% and 0.9% explanation on the dependent variable respectively. When the items of "knowledge coding and storage" are examined closely with an additional multiple regression analysis, 4 out of 8 items are found to have significant relationship with the dependent variable. The one with the highest explanation power is "(q39)"and its R^2 value is 64.1 %. The other three variables are; "(q41)", "(q42)" and "(q40)", and they make an additional 6.6%, 3.2% and 1% explanation on the dependent variable respectively. When the items of "knowledge generation and development" are examined closely with an additional multiple regression analysis, 4 out of 8 items are found to have significant relationship with the dependent variable. The one with the highest explanation power is "(q31)"and its R^2 value is 38.9%. The other variables are; "(q30)", "(q36)", and "(q37)", and they make additional 6.4 %, 2.1%, 1.2% explanation on the dependent variable respectively. When the items of "knowledge sharing and distribution" are examined closely with an additional multiple regression analysis, only one out of five items is found to have significant relationship with the dependent variable. Its explanation power is found to be R^2=61.3%.

5.6.19 Hypothesis 6 (H6)

H6: There is a significant relationship between KM performance and organizational performance

Figure 25 Relationship between KM Performance and Organizational Performance



Regression analysis results show that there is a significant, positive, and strong relation (β=,661; p=,00) between "KM performance" and organizational performance and the total explained variance is 43,6%, which is considered to be high. Thus, H6 is supported.

The results are found after the data is analyzed with SPSS 16.0. Below is a brief summary of the hypotheses that are supported or rejected after the data analyses.

Table 33 A Summary of the key findings in this study

Hypothesis	Accepted/ Rejected
Hypothesis 1(H1): There is a positive relationship between de-centralization and the knowledge management processes	**Accepted**
Hypothesis 2(H2): There is a significant relationship between the concepts of organizational culture and KM processes	**Accepted**
Hypothesis2A (H2A): The sub-dimensions of trust, collaboration, and openness (supportive culture dimensions) are going to explain the majority of the variance in Knowledge Sharing & Distribution (KS&D)	**Accepted**
Hypothesis2B (H2B): The sub-dimensions of risk-taking, stimulating and challenging climate properties (innovative culture dimensions) will be the most significantly contributing conceptual dimensions that explain a higher level of variance in Knowledge Generation and Development (KG&D)	**Accepted**
Hypothesis3 (H3): There is a significant positive relationship between IT support and KM processes	**Accepted**
Hypothesis4 (H4): There is a significant positive relationship between KM processes and KM performance	**Accepted**
Hypothesis4A (H4A): The relationship between de-centralization and KM performance is mediated by "KM processes"	**Accepted**
Hypothesis4B1(H4B1): The relationship between bureaucratic organizational culture and KM performance is mediated by "KM processes"	**Accepted**
Hypothesis 4B2(H4B2): The relationship between innovative organizational culture and KM performance is mediated by "KM processes"	**Partially Accepted**
Hypothesis 4B3 (H4B3): The relationship between supportive organizational culture and KM performance is mediated by "KM processes"	**Accepted**
Hypothesis 4C (H4C): The relationship between IT support and KM performance is mediated by "KM processes"	**Accepted**
Hypothesis5 (H5): There is a significant relationship between KM processes and organizational performance (OP)	**Accepted**
Hypothesis5A (H5A): The relationship between de-centralization and organizational performance is mediated by "KM processes"	**Accepted**
Hypothesis5B1 (H5B1): The relationship between bureaucratic organizational culture and organizational performance is mediated by "KM processes"	**Partially Accepted**
Hypothesis5B2 (H5B2): The relationship between innovative organizational culture and organizational performance is mediated by "KM processes"	**Partially Accepted**
Hypothesis5B3 (H5B3): The relationship between supportive organizational culture and organizational performance is mediated by "KM processes"	**Partially Accepted**
Hypothesis 5C (H5C): The relationship between the IT support and organizational performance is mediated by "KM processes"	**Partially Accepted**
Hypothesis 5D (H5D): Among the KM processes, KU&E is the one that explains most of the variance in organizational performance	**Accepted**
Hypothesis6 (H6): There is a significant relationship between KM performance and organizational performance	**Accepted**

5.7 The Relation between the Demographic Variables and Study Concepts

There are seven demographic variables in this study as exhibited on table 36. The relationship between each of these variables and the study concepts are analyzed by applying either t-test or ANOVA tests. This means that for each demographic variable, six different analyses are done since there are six independent variables (organizational structure, organizational culture, information technology support, knowledge management processes, knowledge management performance, and organizational performance).

The main idea behind these analyses is to find out whether different groups of the same demographic variable have different relations with the independent variables. T-test is performed to understand whether there is a significant difference between the means of two independent samples for a single dependent variable, whereas ANOVA is performed to find out whether there is a significant difference between the means of more than two independent samples for a single dependent variable (Hair et al., 2006). Therefore, apart from the variable "gender", all the demographic variables which consist of more than two groups e.g. age, education, total work experience, the length of time spent with the company, the sector of the company, and the current job title, the ANOVA test is used. No relations were found to be significant in ANOVA and t-tests.

6. DISCUSSION

In the last chapter, the research findings of the study will be evaluated and discussed around the research questions and purpose of the study. The outcomes of the data analysis of this study and the studies in the related literature will be compared. Furthermore, the importance of the study and its contribution to the existing literature will be discussed. Finally, limitations of this research and suggestions for future research will be presented.

6.1 Summary of the Research Findings and Purposes of the Study

In general terms, this study aims to investigate the relationship between the key organizational drivers of knowledge management (including the organizational culture, organizational structure and IT support), KM processes, KM performance and organizational performance. More specifically,

- The study first analyzes the influence of key organizational drivers of KM (including the organizational culture, organizational structure and information technology support) on the KM processes of knowledge generation and development; knowledge codification and storage; knowledge transfer and sharing; and knowledge utilization. The results showed that all three organizational factors have a strong and significant relationship with KM processes.
- Second, the study tries to examine the mediating role of KM processes on the relationship between the key organizational drivers of organizational structure, organizational culture, and IT support on one hand and the KM performance on the other. The findings showed that

- the relationship between organizational structure and KM performance is fully mediated by the processes of KM.
- the relationship between bureaucratic organizational culture and KM performance is fully mediated by the processes of KM.
- the relationship between innovative organizational culture and KM performance is partially mediated by the processes of KM.
- the relationship between supportive organizational culture and KM performance is fully mediated by the processes of KM.
- the relationship between IT support and KM performance is fully mediated by the processes of KM.

- Third, the study investigates the mediating effect of KM processes on the relationship between the key organizational drivers of organizational structure, organizational culture, and IT support on one hand and the organizational performance on the other. The findings revealed that
  - KM processes fully mediates the relationship between organizational structure, and organizational performance.
  - KM processes partially mediates the relationship between organizational culture, and organizational performance.
  - KM processes partially mediates the relationship between IT support, and organizational performance.
- Forth, it aims to explore how important the KM performance is for an improved organizational performance. The results showed that a very high percent of the variance in

organizational performance (R^2=43, 6%) can be explained by the difference in KM performance.

6.2 Research Questions and Findings

In this section, each research question defined at the beginning of the study will be evaluated by referring to the research findings.

6.2.1 Relationship between Organizational Structure (OS) and Knowledge Management (KM) Processes

The first research question explores whether organizational structure has an influence on KM processes. Regression analysis results for de-centralization and KM processes revealed that de-centralization has a strong and positive relationship with KM processes (β=0,443; p=0, 00). This results support the study of Lee & Lee (2007) who reported a significant relationship (β=.214, p=.000) between de-centralization and KM processes.

6.2.2 Relationship between Organizational Culture (OC) and Knowledge Management (KM) Processes

The second research question explored in this study is the influence of the organizational cultures on KM processes. Correlation coefficients for each organizational culture and for KM processes revealed that all organizational cultures in question have relations with KM processes. However, their level of influence and directions differ. Although the correlation coefficients- especially between innovative and supportive cultures- are very close to each other, innovative culture is found to have the biggest influence on KM processes for our data set (r=.811), compared to supportive (r=,774) and bureaucratic culture (r= -0,431). It is also important to note that while

both innovative and supportive cultures have a positive influence on KM processes; bureaucratic culture has a negative influence on KM processes. The fact that organizational cultures which are not bureaucratic have a positive influence on KM processes supports the study of Çakar, Yıldız, & Dur (2010) who had reported a positive and significant relationship (r=.581, r = .469, r =.511, and r=.463) between non-bureaucratic cultures and the processes of knowledge management. Possible explanation for this relationship might be the fact that bureaucratic cultures which are mainly based on a high level of conformity and a culture which avoids conflicts might hinder all the knowledge management processes that require open confrontation, and a culture that values challenge.

Further multiple regression analyses done for H2A and H2B, exhibit which type of organizational cultures affect Knowledge Sharing & Distribution, and Knowledge Generation & Development the most. First, the results of the regression analyses revealed that the sub-dimensions of trust, collaboration, and openness (supportive culture dimensions) explain the majority of variance in knowledge sharing & distribution. Possible explanation for this relationship as pointed out by De Long & Fahey (2000), and Ruppel & Harrigton (2001) might be the fact that an organizational culture that discourages open communication creates a context that prevents knowledge sharing, on the other hand when people trust one another and work with colleagues who are trustworthy and supportive, they become more generous in sharing their experiences and knowledge. This finding is also supported by the studies of Jarvenpaa & Staples (2000), Ciganek, Mao, Srite, (2010) and Stenmark, (2000) who have stated that in supportive organizational cultures where people feel free to share their ideas, trust each other, and welcome the newcomers and one another, employees tend to share their knowledge more spontously and frequently. Furthermore, people will be less likely to hide information from one another and engaged in defensive

behaviors that prevent knowledge sharing in those cultures. Second, as it was expected risk-taking, stimulating and challenging climate properties of innovative organizational cultures are found to be a better predictor of variance in knowledge generation and development. As it is pointed out by Miller & Friesen (1982), a possible explanation for this might be the fact that organizations having conservative attitudes toward innovation and its associated risks tend to engage in innovation only when they are seriously threatened by their competition or by changing consumer preferences. In contrast, organizations which are risk-oriented, fostering a stimulating and challenging environment (Hofstede et al., 1990) actively support KG &D for the continuity and prosperity of the organization (Ciganek, 2010).

6.2.3 Relationship between Information Technology Support (ITS) and Knowledge Management (KM) Processes

Whether or not a significant relationship exists between information technology support and KM processes is another research question this study explores. The analysis done for H3 clarifies this relationship. Linear regression analysis done for the relationship between information technology support and knowledge management processes show that there is a significant, strong and positive relation (β=, 698; p=, 00) between "information technology support" and "knowledge management processes". This finding is also confirms the study of Lee & Lee (2007) who found a significant relation (r=.379, p=.000) between "information technology support" and "knowledge management processes".

6.2.4 Relationship between the key organizational drivers of knowledge management and Knowledge Management Performance: Mediating Role of "Knowledge Management (KM) Processes"

One of the main research questions of this study is to find an answer to whether or not the key organizational drivers of knowledge management namely; organizational structure, organizational culture, and information technology support has an influence on knowledge management performance and if it is through knowledge management processes. Thus, it explores whether "KM processes" has a mediating role between the key organizational drivers of knowledge management and Knowledge Management Performance. The analysis done for H4, H4A, H4B1, H4B2, H4B3, and H4C examine these relationships.

First, it is found out that there is a significant, positive, and strong relation (r=, 759; p=0, 00) between "KM processes" and KM performance.

Second, the mediation role of "knowledge management processes" between organizational structure and organizational performance is explored. The results of multiple regression analysis illustrated that "KM processes" has a full mediating role between de-centralization and KM performance. Thus, de-centralization facilitates KM processes, which in turn increases KM performance. The possible explanation for this, as it has been explained in chapter 3 before, might be the fact that because a de-centralized organizational structure encourages flexibility and responsiveness by creating a climate where employees participate in knowledge management processes more spontaneously and frequently (Quink, 2008; Hopper, 1990), it thus increases KM performance. Thus KM processes fully mediates this relationship which shows that the only condition for a de-centralized organizational structure to create an increased KM performance is

to build activated KM processes. It seems that a de-centralized organizational structure increases KM performance only when KM processes are activated in the organization. According to these results, KM processes serve as a critical explanatory variable in the relationship between a de-centralized organizational structure and KM performance.

Third, when the mediation role of "knowledge management processes" between organizational culture (bureaucratic, innovative and supportive organizational culture respectively) and KM performance was explored in H4B1, H4B2, H4B3, it has been found that innovative organizational cultures were directly related to KM performance, and KM processes partially mediates this relationship while supportive and bureaucratic types of organizational culture were only indirectly related to KM performance through the KM processes. Thus, KM processes were not the only explanatory variables between the innovative organizational culture and KM performance. There might be many other factors affecting this relation. Finally, when the mediation role of "knowledge management processes" between information technology support, and organizational performance is explored in H4C, it has been found that KM processes has a full mediating role between information technology support and KM performance. According to these findings, KM processes serve as critical explanatory variables in the relationship between information technology support and KM performance. In other words, information technology support does not have a direct effect on KM performance when KM processes are controlled.

6.2.5 Relationship between the key organizational drivers of Knowledge Management and Organizational Performance: Mediating Role of "Knowledge Management (KM) Processes"

Our study also tries to make a contribution to the literature by showing organizational structure, organizational culture, and information technology support has an influence on organizational performance through knowledge management processes. Thus, it explores whether "KM processes" has a mediating role between organizational structure, organizational culture, and information technology support and organizational performance. The analysis done for H5, H5A, H5B1, H5B2, H5B3, and H5C examine these relationships.

First, it is found out that there is a significant, positive, and strong relation (r=0,773; p=0, 00) between "KM processes" and organizational performance. This finding also confirms the studies of Lee & Lee (2007) and Zaim, Tatoğlu, & Zaim (2007) who found a significant relationship between KM processes and organizational performance.

Second, the mediation role of "knowledge management processes" between organizational structure and organizational performance is explored. The results of multiple regression analysis illustrated that "KM processes" has a full mediating role between de-centralization and organizational performance. Thus, de-centralization facilitates KM processes, which in turn increases organizational performance. The possible explanation for this, as it has been explained in chapter 3 before, might be the fact that a de-centralized organizational structure create a climate where employees engage in knowledge management processes more spontaneously and frequently (Hopper, 1990), which in turn leads to increased organizational performance both from customer and financial perspective According to these results, KM processes serves as a

critical explanatory variable in the relationship between a de-centralized organizational structure and organizational performance.

Third, when the mediation role of "knowledge management processes" between organizational culture (bureaucratic, innovative and supportive organizational culture respectively) and organizational performance is explored in H5B1, H5B2, H5B3, it has been found that all types of organizational cultures were directly related to organizational performance and KM processes partially mediates these relations. Thus, KM processes were not the only explanatory variables between the types of organizational culture and organizational performance which suggests that there might be many other factors affecting those relations.

Finally, when the mediation role of "knowledge management processes" between information technology support, and organizational performance is explored in H5C, it has been found that KM processes has a partial mediating role between information technology support and organizational performance. According to these findings, information technology support was directly related to organizational performance and KM processes partially mediates this relation. In other words, KM processes were not the only explanatory variables between information technology support and organizational performance which suggests that there might be many other factors affecting this relation.

6.2.6 Relationship between Knowledge Management Performance and Organizational Performance (OP)

According to analysis, there is a significant, positive, and strong relation (r=, 661; p=, 00) between "KM performance" and organizational performance and the total variance explained is 43, 6%. The finding also confirms the study of Hasan and Al-Hawari (2003) who found a

positive relationship between an efficient and effective application of KM and organizational performance.

6.3 Limitations and Suggestions for Future Research

First, one of the difficulties encountered in the study was during the data collection process. Getting approval from the management of organizations was incredibly difficult and full of red-tape. Besides, many potential companies contacted about the study were unwilling and reluctant to get involved in the study even though their confidentiality was ensured. Therefore, the number of the people participated in the study was limited and a very few criteria applied for the sampling. The only necessary condition for inclusion in the dataset was "working in an organization implementing knowledge management for more than 1 year". This situation caused to have a heterogeneous sample group of companies from different sizes and sectors. Therefore, our results cannot be generalized to a single industry setting or to companies at a specific size. Thus, to increase the generalizability of research results, the study can be replicated in a specific sector or on firms at a specific size and profitability.

Second, this study presents only a snapshot research. A longitudinal study could be more helpful in order to better explain relationships between the proposed constructs.

Third, due to the time limitations this study utilizes only a quantitative research technique which restricted our possible explanations for tested hypothesis only to previous studies. It is possible to conduct a research which supports the quantitative data with qualitative data in order to enrich the possible explanations for research findings.

Forth, it should be noted that some measures still have room for further refinement. More specifically, organizational structure measure can be enhanced to include more dimensions such as formalization. Organizational performance measure can be enhanced to obtain more objective results. The use of employee self-reported scales to determine organizational performance can be supported with other measures that can be obtained from customers or stock market. Furthermore, information technology was measured only from IT support perspective; however, another information technology factor such as IT usage has also a potential to affect knowledge management processes. Therefore, the actual use of information technology can also be measured to increase the explanation power of the research results.

Fifth, more mediating variables should be considered for future research such as improvement of business processes, improvement of knowledge worker capability, organizational commitment, trust in leader, organizational identification, or organizational creativity in order to enrich explanations made for research results and to better understand and evaluate the research findings.

Sixth, while there is a considerable assent in the related literature on the likely impacts of organizational structure, organizational culture and organizational IT Support on KM performance and organizational performance, it may not be claimed that these are the only factors that determine the performance of KM and organization. Instead, there are several other factors that may have impact on KM performance and organizational performance, which is beyond the scope of this research.

Finally, the results are restricted only to the companies operating in Turkey. The generalizability from a Turkish setting to other countries might be problematic.

6.4 Implications for Managers

With its findings, the study contributed to Turkish business literature by providing a solid ground for the future KM implementations in Turkey. This study provides an understanding of organizational enablers that can directly and indirectly affect KM implementation performance in companies located in Turkey. The findings showed us that organizational factors are very important for a successful implementation on KM, and in turn for an improved organizational performance, therefore, executives and KM managers should consider how organizational factors contribute or hinder a successful KM before they spend billions of dollars in the pursuit of KM strategy.

To sum up, the findings of this study can lead the way as a guide for the companies in Turkey planning to implement KM. According to the results of this study, Turkish companies planning for KM can pretest their KM capability to see whether the prospective KM initiatives will result in successful performance outcomes.

The study is also important for the Turkish literature in organizational behavior, since, to researcher's knowledge, no Turkish studies have explored KM performance and organizational performance relationship yet. The adaptations of KM performance and organizational performance scales used in this dissertation were also the first attempt by a Turkish researcher.

Since KM implementations are radical organizational change practices that require the contribution of all parties involved in an organization, all levels of management, directly or indirectly may benefit from the findings of this study. The following paragraphs present how these findings of this dissertation can be beneficial to managers from different levels.

This study serves as an important diagnostic tool to be used in all of the phases of KM implementation.

In the preparation phase, leaders can measure the readiness level of their organizations for a KM implementation, and direct their focus and effort to create an appropriate organizational culture that can meet the requirements for a successful KM implementation. According to the findings of this study, supportive and innovative cultures are found to be better for more activated knowledge management processes by providing safe environments for knowledge-sharing and open dialogue. Therefore, it is better for KM managers to understand the prevailing culture of the organization before they start implementing KM initiatives. If the organizational culture is not a non-bureaucratic culture, then it is better to put off the KM initiative plans until the organization is ready for such a radical change. Furthermore, the research findings also proved that the de-centralized structures are better organizational structures for more activated KM processes, and a strong IT support is fundamental to a high KM performance. Therefore, it would be wiser for KM managers to re-structure their organization if the organization is not de-centralized, and to make sure that a well-versed IT support is provided for all the employees throughout the organization.

In the implementation phase, by measuring the KM performance continuously, leaders can identify the key failures and successes that affect the success of implementation timely and lead the process accordingly. It is important to note that pinpointing the success points as well as the deficiencies is important for the proper functioning of the system.

In the evaluation phase, leaders can measure how KM performance contributes to the competitiveness of their organizations. These steps ensure the key stockholders about the merits of the knowledge management system by specifically showing how KM implementation

contributes the competitiveness of the organization, thus ensuring the ongoing investments on KM.

In sum, for managers, it is important to know precisely what leads to a successful KM, and also what cultural, structural and technical challenges may prevent an organization from being successful so that they can re-assess and re-structure their cultures, structures, information and technologies from the lenses of knowledge management.

7. CONCLUSION

In the era of knowledge economies, it became very difficult and costly to manage information and keep up-to-date. Even in the process of writing this dissertation, ongoing progresses (e.g. cloud systems) in the field of information technologies prove to KM managers how alert they should be in the face of these fast-paced changes. It is evident that companies need high performance applications that enable themselves to be fast and efficient while storing and re-storing their data but also they need competent employees who are able to get maximum performance out of these systems, all of which requires appropriate organizational culture and structure with a proper IT support. In other words, companies need smart knowledge management systems, knowledge management systems users and managers in order to survive in such a volatile knowledge-intensive environment.

This study, therefore, investigated the key organizational enablers that affect the knowledge management performance and organizational performance through the knowledge management processes as measured by the activities in knowledge generation and development, knowledge codification and storage, knowledge sharing and distribution, and knowledge use and evaluation. Organizational structure, organizational culture and organizational IT Support has been proposed as the key organizational enablers. Organizational structure has been measured as the degree of centralization in the organization; organizational culture has been measured as using three stereotypical organizational profiles: bureaucratic, innovative, and supportive; and IT support has been measured by the accessibility, adequacy, convenience and the relevance of technological infrastructure provided by the organization. In addition, KM performance is measured based on the four immediate KM outcomes of (1) decreased learning curve of new employees, (2) reduced rework and prevention of "re-invention of the wheel", (3) more rapid response to customer needs

and inquiries, and (4) spawning of new ideas for new products and services. Finally, the organizational performance measured as the degree of overall success in the organization in terms of customer and financial performance in comparison to the key competitors as it is perceived by the employees.

Data analysis was done using SPSS. Firstly, the results illustrated that "de-centralization" and "information technology support" have a significant, positive, and strong relationships with "KM processes". As it was explained in Chapter 3, organizational hierarchy, with its different and several layers might make it harder to build on, diffuse, co-ordinate and control knowledge, since the knowledge may be distorted or even get lost as it travels through the mentioned layers, and consequently making decentralized organizational structures more appropriate for effective knowledge management processes. Likewise, because IT enables collection, storage, and exchange of knowledge at a great speed (Lee & Lee, 2007; Robert, 2000) and allows for inteelctual resources of the organization to be utilized timely where needed (Quinck, 2008), it naturally and automatically leads to activated knowledge management processes. Second, supportive and innovative type of organizational cultures are found to be positively and significantly related to KM processes. In contrast, bureaucratic organizational culture has been found to be significantly and negatively related to KM processes. As it was proposed in Chapter 3, in an environment where people trust to one another and feel comfortable to take risks, or in an environment that is characterized as being supportive, stimulating and challenging, knowledge management processes will be less problematic and more activated (Ciganek et al, 2010). On the other hand, in bureaucratic cultures that are characterized as being highly conservative, cautious and power-oriented, people will tend to have defensive attitudes that may inhibit or hurt knowledge management processes. Third, the research findings also indicated that the sub-

dimensions of risk-taking, stimulating and challenging climate properties (innovative culture dimensions) are the most significantly contributing conceptual dimensions that explain a higher level of variance both in knowledge generation & development (KG&D). It might be because of the fact that only the organizations which are risk-oriented, fostering a stimulating and challenging environment (Hofstede et al., 1990) actively support KG &D for the survival and growth of the organization (Ciganek, 2010). Furthermore, trust, collaboration, and openness (supportive culture dimensions) are found to explain the majority of variance in knowledge sharing & distribution (KS&D). A possible reason for this might be the fact that knowledge-sharing is only possible in the organizations whose employees do not feel vulnerable by the lost of the ownership or the control of the knowledge. There is no doubt that knowledge sharing is only possible when people trust each other. In organizations where distrust is prevalent, people are more likely to hide or hoard their knowledge as being generous in knowledge sharing can only create a disadvantage.

Forth, research findings also showed that the relationships of organizational structure, organizational IT support, and the types of organizational culture (except innovative culture) with KM performance is fully mediated by KM processes, while the relationship between innovative organizational culture and KM performance are partially mediated by KM processes. These results indicate that KM processes serve as a very critical explanatory variable in the relationship between organizational structure, organizational IT support, and the types of organizational culture (except innovative culture); while there might be many other factors affecting the relationship between innovative organizational culture and KM performance. For example, one factor that might mediate the relationship between innovative organizational culture and KM performance can be the "individual accountability" as it is linked to both innovative

organizational culture and KM performance. It can be assumed that in innovative organizational cultures, when members feel that they are individually responsible for the consequences, it is more likely that the incidences of social loafing will decrease, and employees will strive to do their best in order to avoid the consequences of being held accountable for poor work. They will be much more careful not to repeat the same mistakes, they will be more alert to learn from their own and other's mistakes, they will be more innovative, and more responsive to customer needs and wants. Furthermore, the new employees will try to learn much faster when they feel personally accountable for the task in interest. All of these, in turn, will result in better KM performance.

Fifth, research findings also proved that the relationship between organizational structure and organizational performance is fully mediated by KM processes. In other words, organizational structure does not have a direct effect on organizational performance when KM processes are controlled, which indicates how important the KM processes are as explanatory variables in the relationship between organizational structure and organizational performance. On the other hand, it has been observed that both relationships between organizational culture & organizational performance, and organizational IT support & organizational performance are only partially mediated by KM processes, meaning that there might be many other factors affecting those relationships other than the KM processes. For example, one factor that might mediate the relationship between organizational IT support and KM performance can be the "positive symbolic capital" as it is linked to both information technology support and KM performance. It can be assumed that just the presence of information technology support may help create a positive image about the company which in turn affects the employees' perceptions about the company performance positively. Future research can aim at finding more mediators in these

relationships such as improvement of business process or knowledge worker capability, psychological empowerment and organizational commitment.

Sixth, among the knowledge management processes, knowledge use and evaluation is the one that explains most of the variance in organizational performance, because organizational performance often relies more on the ability to utilize knowledge in the organization and throw it into useful combinations rather than the knowledge itself (Alavi & Leidner, 2001).. As it was explained in Chapter 3, producing creative ideas does not always result in knowledge utilization or create a customer value, and while knowledge generation, storage, and sharing do not necessarily induce an increase in organizational performance; knowledge use and application does.

Finally, research findings also showed that there is significant, strong and positive correlation between KM performance and organizational performance. First, as it was explained in Chapter 3, in an era where customers values more on the responsiveness of the organizations (Lesser & Storck, 2001), more rapid responses to customer needs and inquiries has become one of the most important priorities to achieve higher levels of organizational performance especially from customer perspective. Second, since we are living in an age where addressing customer issues is the most important pre-condition for competitive differentiation (Lesser & Storck, 2001), the ability to change and adapt to shifting market conditions, and decreasing the learning curve of new employees have become vital for a better organizational performance.

Third, in era where there is no tolerance to any kind of waste (money or time), prevention of re-work is the most important precondition to an improved organizational performance, specifically from financial perspective.

Finally, in an era where only constant is known to be the “change” itself, “spawning of new ideas for new products and service” is the heart of an improved organizational performance.

8. REFERENCES

Abou-Zeid, E.S. (2002). A Knowledge Management Reference Model. *Journal of Knowledge Management.* 6(5): 486-499

Adler, P. (2001). Market, Hierarchy and Trust: The Knowledge Economy and the Future Capitalism. *Organisation Science*, 12(2), 215-234.

Ahn, J.-H. and Chang, S.G. (2002). Valuation of knowledge: a business performance-oriented methodology. *Proceedings of the 35th Hawaii International Conference on System Sciences, HICSS35, IEEE Computer Society.* Los Alamitos, CA.

Al-Alawi, A. I., Al-Marzooqi, N.Y. & Mohammed, Y.F. (2007). Organizational Culture and Knowledge sharing: Critical Success Factors. *Journal of Knowledge Management.* 11(2): 22-42.

Alanen, A. & Godenhjelm, P. (2006). Business Relations as Social Capital of an Enterprise. *Social Capital in Finland: Statistical Review.* Retrieved from www.stat.fi

Alavi, M. & Leidner, D. E. (2001). Review: knowledge management and knowledge management systems: conceptual foundations and research issues. *MIS Quarterly.* 25(1): 107-136

Alavi, M., Kayworth, T. R., & Leidner, E. L., (2006). An empirical examination of the influence of organizational culture on knowledge management practices. *Journal of Management Information System. 22(3)*: 191-224.

Anantatmula, V.S. (2007). Linking KM effectiveness attributes to organizational performance. *The Journal of Information and Knowledge Management Systems.* 37(2): 133-149

Arora, R. (2002). Implementing KM-A Balanced Scorecard Approach. *Journal of Knowledge Management.* 6(3):240-249

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psycho-logical research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology.* 51: 1173-1182.

Bender, S. & Fish, A. (2000). The transfer of knowledge and the retention of expertise: the continuing need for global assignment. *Journal of Knowledge Management.* 4(2): 125-137

Bhatt, G. (2001). Knowledge management in organizations: examining the interaction between technologies, techniques and people. *Journal of Knowledge Management*. (5) 1: 68-75.

Bierly, P., & Chakrabarti, A., (1996). Generic knowledge strategies in the U.S. pharmaceutical industry. *Strategic Management Journal*. *17* (Winter issue): 123-135.

Blake R.R., & Mouton, J.S. (1985). The Managerial Grid III: Gulf Publishing Company.

Borghoff, U. M., & Pareschi, R. (1997). Information Technology for Knowledge Management. Journal of Universal Computer Science. 3 (8): 835:842.

Byounggu, C. (2002). *Knowledge Management Enablers, Processes, and Organizational Performance: An Integration and Empirical Examination.* (Doctoral Dissertation). Korea Advanced Institute of Science and Technology, Seoul, Korea.

Camerer, C. & Vepsalainen, A., (1988). The economic efficiency of corporate culture. *Strategic Management Journal, 9*, 115-126.

Cameron, K.S., & Quinn, R. E. (1999). Diagnosing and Changing Organizational Culture, OD Series: Addison-Wesley

Carlsson, S.A. (2003).Knowledge Managing and Knowledge Management systems in Inter-organizational Networks. *Knowledge and Process Management*. 10(3):194-206

Ciganek, A.P., Mao, E., Srite, M. (2008). Organizational culture for Knowledge Management systems: A study of Corporate Users. *International Journal of Knowledge Management*. 4(1): 1-16.

Claycomb, C., Droge, C. & Germain, R. (2002). Applied product quality knowledge and performance. *International Journal of Quality & Reliability Management*. 19(6): 649-71

Cooke, R. A., & Rousseau, D. M. (1988). Behavioral norms and expectations: A quantitative approach to the assessment of organizational culture. *Group & Organization studies*. 13(3): 245-273

Cross, R. & Sproull, L. (2004). More Than an Answer: Information Relationships for Actionable Knowledge. *Organization Science*. 15(4): 446-462

Crossan, M. M., Lane, H. W., & White, R.E. (1999). An organizational learning framework: From intuition to institution. *Academy of Management Review*. 24(3): 522-537

Cuel, R., Bouquet, P., & Bonifacio, M. (2006). Distributed Knowledge Management. In D.G. Schwartz (Ed), Encyclopedia of Knowledge Management, Hershey, PA: Idea Group Reference

Çakar, N.D., Yıldız, S, & Dur., S. (2010). The Relationship Between Knowledge Management and Organizational Effectiveness: The Effects Of Organizational Culture and Structure. *Ege Academic Review*. 10 (1): 71-93

D'Aveni, R. A. (1999). Strategic Supremacy through Disruption and Dominance. *MIT Sloan Management Review*. 40(3): 127-135

Darr, E.D., Argote, L., & Epple, D. (1995). The Acquisition, Transfer and Depreciation of Knowledge in Service Organizations: Productivity in Franchises. *Management Science.* 41(11):1750-1783

Davenport, T. & Prusak, L. (1998). Working Knowledge: How organizations Manage What They Know. Harvard Business School Press, Boston, MA.

Davenport, T. (1999). *Knowledge management and the broader firm: strategy, advantage, and performance*. In Liebowitz, J. (Ed.). Knowledge Management Handbook. CRC Press: Boca Raton, FL. 1-11

Davidson, P. & Griffin, R.W. (2006). Management, 3rd Australasian edition. Milton: John Wiley & Sons Australia

De Long, D. W., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *Academy of Management Executive*. 14(4): 113-127

Demarest, M. Understanding knowledge management. *Long Range Planning*. *30*, 3 (1997): 374-384

Denison, D. R. & Neale, Wm. (1996). Denison organizational culture survey. Ann Arbor, MI

Denison, D.R. (1990). Corporate Culture and Organizational Effectiveness. New York: John Wiley and Sons

Denison, D.R., Janovics J., Young, J., Cho, H. J. (2006). *Diagnosing Organizational Cultures: Validating a Model and Method.* Working paper, International Institute for Management Development, Lausanne, Switzerland.

Devi, R. S.; Chong, S. C. & Lin, B. (2007). Organizational culture and KM processes from the perspective of an institution of higher learning. *International Journal of Management in Education*. 1 (1): 57-79.

Dixon, N.M. (2000). Common Knowledge: How Companies Thrive by Sharing What They Know? Boston, MA: Harvard Business School Press.

Eisenhardt, K. M., & Santos, F. M. (2002). Knowledge-based view: A new theory of strategy? In A. Pettigrew, H. Thomas, & R. Whittington (Eds.). Handbook of Strategy and Management. 1st ed.: 139-164. London, UK: Sage.

Eisenhardt, K., & Santos, F.M. 2002. Knowledge-based view: a new theory of strategy? In A.Pettigrew, T. Howard, & R. Whittington (Eds.). Handbook of Strategy and Management. 139-164. London: Sage Publications.

Eppler, M.J., and Sukowski, O. (2000). Managing team knowledge: core processes, tools and enabling factors. *European Management Journal. 18*(3): 334-341

Ernst & Young (1998). *Consulting Methodology for Knowledge Management*. Earnst & Young Management Consulting.

Gable, R. K. (1986). *Instrument development in the affective domain.* Boston: Kluwer-Nijoff.

Galbraith, C.S. & Merill, G.B. (1991). The Effect of Compensation Program and Structure on SBU Competitive Strategy: A Study of Technoloy-intensive firms. *Strategic Management Journal*. 12(5), 353-370.

Garud, R. and Kumaraswamy, A. (2005). Vicious and virtuous circles in the management of knowledge: the case of Infosys technologies. *MIS Quarterly*. 29(1): 9-33

Genç, M. Ö. (2010). *The Influence of Organizational Culture, Leader-Member Exchange (LMX) and Employees' Attitudes toward Change on Information Systems Implementation in Turkey.* (Doctoral dissertation). İstanbul: Yeditepe University

Goh, S.C. (2002). Managing Effective Knowledge Transfer: an integrative framework and some practice implications. *Journal of Knowledge Management*. 6(1):23-30

Gold, A.H., Malthotra, A., & Segars, A.H. (2001). Knowledge Management: An organizational capabilities perspective. *Journal of Management Information Systems*. 18(1): 185-214

Gottshcalk, P. (2000). Strategic Knowledge Networks: The Case of IT Support For Eurojuris Law Frims in Norway. *International Review of Law Computers & Technology*. 14(1):115-129

Grant, R.M. (1996). Toward a knowledge-based Theory of the Firm. *Strategic Management Journal*. 17(winter special issue): 109-122

Gray, J.H. & Densten, I. L. (2005). Towards an Integrative Model of Organizational Culture and Knowledge Management. *International Journal of Organisational Behaviour.* 9(2): 594-603.

Griffth University School of Management & BML Consulting. (2002). *Knowledge Management Research Report.* Retrieved from http://www.knowledgepoint.com.au/knowledge_management/Articles/KM-India-2002.pdf.

Gulati, R. & Gargiulo, M. (1999). Where Do Interorganizational Networks Come From? *The American Journal of Sociology*. 104(5): 1439-1492

Gupta, A.K., & Govindarajan, V. (2000). Knowledge management's social dimension: lesson from Nucor Steel. *MIT Sloan Management Review.* 42(1):71-80

Hair J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (2006). *Multivariate Data Analysis* (Sixth Edition). Upper Saddle River, NJ: Prentice-Hall, Inc.

Hamel, G. (2000) *Leading the Revolution*. Harvard Business School Press: Boston.

Hansen, M.T., Nohria, N., & Tierney, T. (1999). What's your strategy for managing knowledge? *Harvard Businesss Review*. 77(2):106-116

Hasan, H. & Al-Hawari, M. (2003). Managing styles and performance: a knowledge space framework. *Journal of Knowledge Management.* 7(4): 15-28

Hedlund, G. (1994). A Model of Knowledge Management and the N-form corporation. *Strategic Management Journal*. 15 (Special issue) 73-90.

Helloid, D & Simonin, B. (1994). Organizational learning and a firm's core competence. In: Hamel, G. & Heene, A. (Eds). Competence-based competition. Chichester: John Wiley & Sons

Hibbard, J. (1997). Knowing what we know. Information week, October 20.

Hofstede, G. (1991). Cultures and organizations: Software of the mind. New York: McGraw-Hill

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations.* Beverly Hills, CA: Sage Publications.

Hofstede, G., Neuijen, B., Ohavy, D.D., & Sanders, G. (1990). Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative Science Quarterly*. 35(2): 286-316

Holsapple, C. W., & Joshi, K.D. (2001). Organizational knowledge resources. *Decision Support Systems,* 31: 39-54.

Hong, J. (1999). Structuring for Organizational Learning. *The Learning Organization*. 6 (4): 173-185.

Hopper, M. D. (1990). Rattling SABRE-new ways to compete on information. *Harvard Business Review* (May-June): 118-125

Ichijo, K., Von Krogh, G., & Nonaka, I. (1998). Knowledge enablers. In: von Krough, G., Roos, J., Kleine, D. (Eds), Knowing in companies. Thousand Oaks, CA: Sage

Janz, B. D., & Prasarnphanich, P. (2003). Understanding the Antecedents of Effective Knowledge Management: The Importance of a Knowledge-Centered Culture. *Decision Sciences.* 34(2): 351-384.

Jarvenpaa, S.L., & Staples, D.S. (2000). The use of collaborative electronic media for information sharing: an exploratory study of determinants. *Strategic Information Systems*. *9:* 129-154

Johns, G.R. (2007). Organizational theory, design, and change. Upper Saddle River, NJ: Pearson Prentice Hall.

Kankanhalli, A. & Tan, B.C.Y. (2004). A review of metrics for knowledge management systems and knowledge management initiatives. *Proceedings of the 37th Hawaii International Conference on System Sciences, HICSS37, IEEE Computer Society*. Los Alamitos, CA.

Kankanhalli, A. and Tan, B.C.Y. (2004). "A review of metrics for knowledge management and knowledge management Initiatives. *Proceedings of the 37th Hawaii International Conference on System Sciences*

Kaplan, R.S. & Norton, D.P. (1996). The Balanced Scorecard: Translating strategy into action. Boston, MA: Harvard Business School

King, W.R. (2006). Knowledge Sharing. In: D.G. Schwartz (Ed), Encyclopedia of Knowledge Management. Hersley, PA: Idea Group Reference

Kogut, B. & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*. 3 (3): 383-397.

Kongpichayanond, P. (2009). Knowledge Management for sustained Competitive Advantage in Mergers and Acquisitions. *Advances in Developing Human Resources*. 11(3): 375-387.

KPMG Consulting. (2000). *Knowledge Management Research Report*. Retrieved from http://www.providersedge.com/docs/km_articles/KPMG_KM_Research_Report_2000.pdf

Kraaijenbrink, J. & Wijnhoven, F. (2006). External Knowledge Integration. In: D.G. Schwartz (Ed), Encylopedia of Knowledge Management. Hersley, PA: Idea Group Reference

Lawson, S. (2003). *Examining the relationship between organizational culture and knowledge management*. (Doctoral dissertation). Nova Southeastern University

Leal, W.L.M. & Baeta, A.M.C. (2006). The Contribution of Communities of Practice in an innovative enterprise. *Journal of Technology Management and Innovation. 1*(4): 22-29.

Lee, H. & Choi, B., (2003). Knowledge enablers, processes and organizational performance: An integrated view and empirical examination. *Journal of Management Information Systems, 20(1)*, 179-228.

Lee, Y. & Lee, S. (2007). Capabilities, Processes, and Performance of Knowledge Management: A Structural Approach. *Human Factors & Ergonomics in Manufacturing*. 17(1):21-41

Lehr, J.K. & Rice, R.E. (2002). Organizational Measures as a form of Knowledge Management: A Multitheoreticac, Communication-based Exploration. *Journal of the American Society for Information Science and Technology*. 53(12): 1060-1073

Lesser, E.L., & Storck, J. (2001). Communities of Practice and Organizational Performance. *IBM Systems Journal*. 40(4): 831-841

Lin, H. (2007). A stage model of knowledge management: an empirical investigation of process and effectiveness. *Journal of Information Science*. 20(10): 1-17

Lubit, R. (2001). Tacit knowledge and knowledge management: the keys to sustainable competitive advantage. *Organizational Dynamic: 29* (4): 164-178

Lueg, C. (2001). Information, Knowledge and Networked Minds. *Journal of Knowledge Management.* 5(2):151-159

Lytras, M., Pouloudi, A., & Poulymenakaou, A. (2002). Knowledge Management Convergence – Expanding Leraning Frontiers. *Journal of Knowledge Management*. 6(1):40-51

Maier, R.& Hadrich, T. (2006). Centralized versus peer-to-peer knowledge management systems. *Knowledge and Process Management.* 13 (1): 47-61

Malhotra, Y. (2000). Knowledge Management for e-business Performance: Advancing Information Strategy to "Internet Time". *Information Strategy: The Executive's Journal*. 16(4): 5-16

Malhotra, Y. (2005). Integrating knowledge management technologies in organizational business processes: getting real time enterprises to deliver real business performance. *Journal of Knowledge Management*. 9(1): 7-28

Meijden, M.v.d (2009). *Performance Measuring in Communities of Practice* (Master Thesis). Utrecht University. Utrecht.

Millen, D.R. & Fontaine, M. A. (2003). Improving Inidividual and Organizational Performance through communities of Practice. *Proceedings of the 2003 International ACM SIGGROUP conference on supporting group work*. Sundial Redort / Sanibel Island, Florida, USA,: 205-211.

Miller, D., & Friesen, P.H. (1982). Innovation in conservative and entrepreneurial firms: two modes of strategic momentum. *Strategic Management Journal*. 3: 1-25

Mueller-Prothmann, T. (2006). Knowledge communities, Communities of Practice, and Knowledge Networks. Encyclopedia of Communities of Practice in Information and Knowledge Management: Hersley, PA: Idea Group Reference.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review. (23)* 2: 242-266.

Nahm, A.Y., Vonderembse, M.A., & Koufteros, X.A. (2004). The Impact of Organizational culture on time-based manufacturing and performance. *Decision Sciences.* 35(4):579-607

Ndlela, L.T., & Toit, A.S.A. (2001). Establishing a knowledge management programme for competitive advantage in an enterprise. *International Journal of Information Management.* 21: 151-165

Nelson, K.M., & Cooprider, J.G. (1996). The contribution of shared knowledge to IS group performance. *MIS Quarterly*, *20*(4): 409-429.

Nemati, H. (2002) . Global Knowledge Management: Exploring a Framework for Research. *Journal of Global Information Technology Management*. 5 (3): 1-11

Nemati, H. & Barko, C. (2002). Key factors for achieving organizational data-mining success. *Industrial Management and Data Systems*.103(4):282-292

Nevis, E.; Anthony, D.; & Gould, J. (1995). Understanding organizations as learning systems. *Sloan Management Review* (winter). 73-85

Nickerson, J. & Zenger, T. (2004). A knowledge-based Theory of the Firm: The Problem-Solving Perspective. *Organization Science*. 15(6): 617-632

Nonaka, I. & Konno, N. (1998). The concept of 'Ba': Building a foundation for knowledge creation. *California Management Review*. 40(3):40-54

Nonaka, I. & Takeuchi, H. (1995). Knowledge-creating Company: How Japanese Companies Create the Dynamics of Innovation. Oxford University Press, NewYork, NY

O'Dell, C., & Grayson, C. (1998). If Only We Knew What We Know: Identification And Transfer Of Internal Best Practices. *California Management Review*. 40(3): 154-174

Ordaz, C., Allez, M., Alcazar, F., Fernandez, P.M. & Cabrera, R. (2004). Internal diversification strategies and the process of knowledge creation. Journal of Knowledge Management. 8 (1): 77-93.

Pettigrew, A.M. (1990). On studying organizational culture. *Administrative Science Quarterly*, 570-581.

Polit, D.F., Beck, C.T. & Hungler, B.P. (2001). *Essentials of Nursing Research: Methods, Appraisal and Utilization*, 5th Ed., Philadelphia: Lippincott Williams & Wilkins.

Priestley, J. L. (2006). Knowledge Transfer within Interorganizational Networks. In: D. G. Schwartz (Ed). *Encylopedia of Knowledge Management*. Hersley, PA: Idea Group Reference

Quinck, U. (2008). *An Exploration of Knowledge Management and Intellectual Capital in a Non-profit Organization Context* (Master Thesis). The Queensland University of Technology. Queensland.

Quink, (2008). An Exploration of Knowledge Management and Intellectual Capital in a Nonprofit Organization Context. (Master Thesis). The Queensland University of Technology

Quinn, J.B., Anderson, P. & Finkelstein, S. (1996). Manageing Professional Intellect: Making the most of the best. *Harvaed Business Review*. 74(2): 71-81.

Quinn, R.E. and Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a Competing Values Approach to organizational analysis. *Management Science.* 29(3):363-377

Raven, A., & Prasser, S.G. (1996). Information technology support for the creation and transfer of tacit knowledge in organizations. In R. Ramsower (ed.) *Association for Information Systems 1996 Americas Conference.*

Ribiere, V. (2001). *Assessing KM Initiative Successes as a Function of Organizational Culture* (Doctoral dissertation). The George Washington University. Washington DC

Riggins, F. J., & Rhee, H. (1999). Developing the learning network using extranets. *International Journal of Electronic Commerce*. 4(1): 65-83.

Roberts, J. (2000). From Know-how to show-how? Questioning the role of information and communication technologies in knowledge transfer. *Technology Analysis & Strategic Management. 12*(4): 429-443.

Robertson, M., Swan, J., & Newell, S. (1996). The Role of Networks in The Diffusion of Technological Innovation. *Journal of Management Studies.* 33(3): 335-361.

Robertson, S. (2002). A Tale of Knowledge-Sharing Systems. *Journal of Knowledge Management.* 6(3):295-308

Roger, E. (1983). *Diffusion of Innovations.* (3rd Ed.). New York: The Free Press.

Ruggles, R. (1998). The state of the Notion: Knowledge Management in Practice. *California Management Review*. 40(3):80-89

Ruppel, C.P. & Harrigton, S.J. (2001). Sharing knowledge through intranets: A study of organizational culture and intranet implementation. *IEEE Transactions on Professional Communication*. 44(1): 37-52

Saeed, T., Basit, T., Anis-Ul-Haque, M., Mushtaq, A. H., Anwar, C. U. (2010). Proceedings from ABBS Annual Conference. *Knowledge Management Practices: Role Of Organizational Culture*. Las Vegas.

Sashkin, M. (1984).Organizational beliefs questionnaire: Pillars of excellence. *Organization design and Development*. M.L.R. Limited:Carmarthen

Schein, E. H., (1992). *Organizational culture and leadership* (2nd ed.). Jossey-Bass

Scott, J.E. (2000). Facilitating interorganizational learning with information technology. *Journal of Management Information Systems*. *17*(2): 81-113

Seemann P., Stucky, D. & Guthrie, E. (1999). Building Intangible Assets: A Strategic Framework for Investing in Intellectual Capital, Second International Conference on the Practical Applications of Knowledge Management. 21-23 April.

Shani, A., Sena, J. & Olin, T. (2003), Knowledge management and new product development: a study of two companies. *European Journal of Innovation Management.* 6(3): 137-49

Simon, H.A. (1991). Bounded rationality and organizational learning. *Organization Science*. 2(1): 125-134.

Simonin, B. (1997). The importance of collaborative know-how: an empirical test of the learning organization. *Academy of Management Journal*. 40 (5): 509-533

Sipahi, B., Yurtkoru, E. S., Çinko, M. (2006). *Sosyal Bilimlerde SPSS'le Veri Analizi*. 1st Edition. Beta Publications

Soo, C., Devinney, T., Midgley, D., & Deering, A. (2002). Knowledge management: Philosophy, processes and pitfalls. *California Management Review***.** 44(4):129-150

Stein, E.W. & Zwass, V. (1995). Actualizing Organizational Memory with Information Systems**.** *Information Systems Research.* 6(2):85-117

Stenmark, D. (2000). Leveraging tacit organization knowledge. *Journal of Management Information Systems.* 17(3):9-24.

Stonehouse, G.H. & Pemberton, J.D. (1999). Learning and knowledge management in the intelligent organisation. *Participation and empowerment.* 7(5), 131-144

Sveiby, K.E. & Simons, R. (2002). Collaborative climate and effectiveness of knowledge work – an empirical study. *Journal of Knowledge Management*. 6(5): 420-33

Swan, J., Newell, S., & Robertson, M. (2000). The diffusion, design, and social shaping of production management information systems in Europe. *Information Technology and People.* 13(1): 27-45

Syed-Ikhsan, S.O.S. & Rowland, F. (2004). Knowledge management in a public organization: a study on the relationship between organizational elements and the performance of knowledge transfer. *Journal of Knowledge Management.* 8(2): 95-111

Szulanski, G. (1996). Exploring internal Stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal*. 17: 27-43

Tarim, M. (2003). Measuring service quality through SERVQUAL in healthcare sector. *Iktisat Fakultesi Mecmuasi*. 52 (2): 17-28

Teece, D. (1998). Capturing value from knowledge assets: the new economy, markets for know-how and intangible assets. *California Management Review*. 40(3): 55-79

Thakor, A.V., Cameron, K., DeGraff, J., & Quinn, R.E. (2006). *Competing values leadership: creating value in organizations*. Cheltenham, UK; Nortampton, MA: Edward Elgar Publishing Limited

Toften, K. &Olsen, S. (2003). Export market information use, organizational knowledge and firm performance. *International Marketing Review*. 20 (1): 95-110

Turban, E. & Aronson, J.E. (2001), Decision Support Systems and Intelligent Systems, 6th ed.,Prentice-Hall, Englewood Cliffs, NJ

Tywoniak, S.A. (2007). Knowledge in Four Deformation Dimensions. *Organisation.* 14(1): 53-76

Volberda, H. W. (1998). *Building the flexible firm: How to remain competitive*. Oxford, UK: Oxford University Press.

Walczak, S. (2005). Organizational Knowledge Management Structure. The Learning Organization. 12(4): 330-339

Wallach, E. (1983). Individuals and organizations: The cultural match. *Training and Development Journal*. 2: 28-36

Wickramasinghe, N. & Von Lubitz, D. (2007). Knowledge-based enterprise: Theories and fundamentals. Hershey, PA: Idea Group Reference

Wickramasinghe, N. 82006). Knowledge Creation. In: D.G. Schwartz (Ed), Encyclopedia of Knowledge Management, Hersley, PA: Idea Group Reference

Wiig, K. (1993). Kmowledge Management Foundations. Texas: Schema Press.

Wilhelmij, P. and Schmidt, R. (2000). Where does knowledge management add value? *Journal of Intellectual Capital*. 1(4): 366-80

Xing, P., Jun, W. & Lu, L. (2007). Knowledge Sharing Model based on Concept Clustering. *Systems Engineering - Theory & Practice. 27*(2): 126-132.

Yahyagil, M.Y. (2004). An empirical investigation: The Validity and reliability of The Turkish version of Denison's organizational culture questionnaire. *The Journal of the Institute of Managerial Economics.* The University of Istanbul.

Yu, S., Kim,Y., & Kim, M. (2007). Do we know what really drives Knowledge Management Performance? *Journal of Knowledge Management,* 11(6):39-53

Zaim, H. (2006). Knowledge Management Implementation in İzgaz. *Journal of Economic & Social Research,* 8(2): 1-25

Zaim,H., Tatoğlu, E., Zaim, H. (2007). Performance of Knowledge Management practices: A Causal Analysis. *Journal of Knowledge Management.* 11(6):54-67

Zaman S., (2007). *Innovation and Organizational culture*. (Unpublished M. Phil Thesis). Quaid-I-Azam University, NIP, Islamabad, Pakistan

9. APPENDICES

Appendix 1 Overview about KM drivers identified for effective KM

Researcher	KM Drivers
Baldanza & Stankosky (2001)	• Leadership • Organizational Structure • Technology • Learning
Becerra-Fernandez & Sabherwal (2001)	• Task (process vs content orientation) (focused or broad domain)
Bennet & Gabriel (1999)	• Structure • Culture • Size • Environment • KM method
Bierly & Chakrabarti (1995)	• KM Strategy
Bock & Kim (2002)	• Expected rewards • Expected associations • Expected contributions • IT Usage
Choi (2000)	• Employee training • Employee involvement and empowerment • Teamwork • Top-management leadership and commitment • Organizational constraints • Information systems infrastructure
Davenport & Prusak (1998)	• Technology • Electronic repositories of knowledge • Training, culture and leadership • Knowledge infrastructure
Demarest (1997)	• Culture infrastructure • Operational infrastructure • Technical infrastructure
Gold et al. (2001)	• Technology infrastructure • Structural infrastructure • Cultural infrastructure
Lee & Kim (2001b)	• Reward • IT service quality • Top management support
Lee & Lee (2007)	• People • Organizational Culture • Organizational Structure • IT Support

Liebowitz (1999)	• Support from senior leadership • Chief Knowledge Officer • Knowledge repositories • KM systems and tools (Technology) • Incentives to motivate people to share knowledge • Supportive Culture
Probst (1998)	• Top management support • Organizational Structure
Simonin (1997)	• Collaborative experience • Collaborative know-how
Spek & Spijervet (1997)	• Organization and personnel • IT • Management • Culture and Motivation
Szulanski (1996)	• Characteristics of the knowledge transferred (content) • Characteristics of the source and the recipient • Context
Trussler (1998)	• Appropriate infrastructure • Leadership and strategic management commitment • Creating motivation to share • Culture • Technology • Training and Learning
Wiig (1995)	• Task/Process • People • Structure • Power
Wijnhoven (1998)	• Individual • Culture • Transformation • Structure • Ecology • External archives • System
Zaim et al. (2007)	• Organizational Culture • Organizational Structure • Technology • Intellectual Capital

Appendix 2 Overview about the different approaches to label KM processes

Researcher	KM Processes
DeLong (1997)	• Capture • Transfer • Use
Demarest (1997)	• Construction • Embodiment • Dissemination • Use
Gold, Malhotra & Segars (2001)	• Acquisition • Conversion • Application • Protection
Grant (2005)	• Generation • Application
Leonard (1995)	• Acquire • Collaborate • Integrate • Experiment
Little (1998)	• Acquisition and creation • Saving • Dissemination • Use
Nevis et al (1995)	• Acquisition • Dissemination • Utilization
Nonaka & Takeuchi (1995) Nonaka & Teece (2001)	• Creation • Transmission • utilisation
Pan & Scarbrough (1998)	• Generation • Processing • Storage • Dissemination • Use/reuse

Ruggles (1998)	• Generate • Access (from external sources) • Facilitate (through culture and incentive) • Present (in documents, databases and software) • Embedded (in processes, products, and/or services) • Use (in decision making) • Transfer (into other parts of the organization) • Measure (the value of knowledge assets)
Skyrme & Aidon (1998) Spender (1996)	• Create • Transfer • Use
Spek and Spijervet (1997)	• Developing • Distributing • Combining • Holding
Teece (1998)	• Create • Transfer • Assemble • Integrate • Exploit
Walsh & Ungson (1991)	• Acquisition • Retention • Retrieval
Wiig (1995)	• Creation • Manifestation • Use • Transfer
Wijnhoven (1998)	• Acquisition • Retention • Search • Maintenance • Dissemination

Appendix 3 The Sample of the e-mail sent to the companies to collect data (in Turkish)

Merhaba ……Bey/Hanım,

Ben Yeditepe Üniversitesi İşletme Bölümü Yönetim Anabilim Dalı'nda doktora öğrencisiyim. Şu anda doktora tezim için veri toplama aşamasında bulunmaktayım. Tez konum; "Örgüt kültürü, örgüt yapısı ve örgütteki bilişim sistemleri desteği ile bilgi yönetimi süreçleri, bilgi yönetimi performansı ve örgüt performansı arasındaki ilişkinin incelenmesi" olarak belirlenmiştir.

Araştırmanın örneklemi, bilgi yönetimi sistemini uygulayan şirketlerde çalışanlardır. Şirketiniz bilgi yönetimini uygulayan şirketlerden biri olduğu için çalışanlarınıza şirketinizde uygulanan bilgi yönetimi ile ilgili bir anket uygulamak istiyoruz. Anket toplam 84 sorudan oluşmaktadır ve ortalama cevaplama süresi 20 dakikayı aşmamaktadır. Bu çalışma, çalışanların, kurumlarını genel iş-görme prensipleri, örgüt kültürleri ve bilgi yönetimi açısından nasıl değerlendirdiklerini öğrenmek için ***akademik amaçlı*** olarak yapılmaktadır. Çalışmanın sonuçları Yeditepe Üniversitesi öğretim elemanları tarafından gizlilik anlayışıyla değerlendirilecektir, ve çalışmanın sonunda hiçbir şirket tek olarak değerlendirilmeyecektir. Söz konusu anketi şirketinizde uygulayabilmek için izninizi istiyorum. Ayırdığınız vakit için şimdiden çok teşekkür ediyorum.

Saygılarımla,

B. Çağla Garipağaoğlu

Yeditepe Üniversitesi

İktisadi ve İdari Bilimler Fakültesi

İşletme Bölümü

Yönetim Anabilim Dalı

Appendix 4 The Survey Questionnaire (in Turkish)

BİLGİ YÖNETİMİ ANKETİ 2011

Bu çalışma, çalışanların, kurumlarını genel iş-görme prensipleri, örgüt kültürleri ve bilgi yönetimi açısından nasıl değerlendirdiklerini öğrenmek için ***akademik amaçlı*** olarak yapılmaktadır. Bu çalışmanın sonuçları Yeditepe Üniversitesi öğretim elamanları tarafından *gizlilik anlayışıyla* değerlendirilecektir.

Lütfen aşağıda yer alan sorulara içtenlikle cevap veriniz.

B. Çağla Tılı

Katkı ve ilginiz için teşekkür ederiz.

Kuruluşunuz Ana Faaliyet Alanı: .....

Bu iş yerindeki göreviniz: genel müdür ☐ müdür ☐ orta kademe yöneticisi ☐ uzman ☐ Diğer. ☐

Bu iş yerindeki çalışma süreniz: 1-2 yıl ☐ 3-5 yıl ☐ 6-9 yıl ☐ 10+ ☐

Toplam iş yaşam deneyiminiz : 1-2 yıl ☐ 3-5 yıl ☐ 6-9 yıl ☐ 10+ ☐

Yaşınız: <25 ☐ 25-35 ☐ 36-45 ☐ >45 ☐

Cinsiyetiniz: Erkek ☐ Kadın ☐

Eğitim Durumunuz: ilk-ortaokul ☐ lise ☐ üniversite ☐ yükseklisans/doktora ☐

Sorular 5'li ölçek üzerinden hazırlanmıştır. Bu ölçeklerde 1 ile "kesinlikle katılmıyorum" , 2 ile "katılmıyorum", 3 ile "tarafsızım" 4 ile "katılıyorum" ve 5 ile ise "kesinlikle katılıyorum" ifade edilmektedir. Bu değerlendirmede doğru veya yanlış bir cevap bulunmamaktadır. Lütfen, yalnız çalıştığınız **bu işyerinin** kendine **has özelliklerini** göz önüne alarak, işletme yapısı ve iş görme süreçleri bakımından, aşağıda belirtilen her bir ifadeye ne ölçüde katıldığınızı ilgili seçeneği bir çember içine alarak işaretleyiniz.

soru 1	İş faaliyetlerinde risk alabilen	1	2	3	4	5
soru 2	Tüm çalışanların iş birliği yaptığı	1	2	3	4	5
soru 3	Hiyerarşik bir yapısı olan	1	2	3	4	5
soru 4	Formalitelere önem veren	1	2	3	4	5
soru 5	İş süreçlerini çalışanlarına önem vererek sonuçlandırmak isteyen	1	2	3	4	5
soru 6	Yaratıcılığa ve yenilikçiliğe değer veren	1	2	3	4	5
soru 7	Çalışanlarını işlerinde başarılı olmaları için cesaretlendiren	1	2	3	4	5
soru 8	Çalışanları ile sosyal ilişkiler kuran	1	2	3	4	5
soru 9	Yapısal (bürokratik) yönü fazla olan bir kurumdur	1	2	3	4	5
soru 10	İş yaşamına canlılık ve heyecan katan	1	2	3	4	5
soru 11	Kuralcı bir yapısı olan	1	2	3	4	5
soru 12	Çalışanlarına bireysel özgürlük veren	1	2	3	4	5
soru 13	Çalışanlarına adil davranan	1	2	3	4	5
soru 14	Çalışanları için güven veren	1	2	3	4	5
soru 15	İş faaliyetlerinde mücadeleci ve atak olan	1	2	3	4	5
soru 16	Girişimci niteliğe sahip olan	1	2	3	4	5
soru 17	İş faaliyetlerinde ihtiyatlı davranan	1	2	3	4	5
soru 18	Çalışanlarına güvenen	1	2	3	4	5
soru 19	İş faaliyetlerinde atılımcı ve cesur davranan	1	2	3	4	5
soru 20	Otoriter bir işletme yapısı olan bir kurumdur	1	2	3	4	5
	KURUMUMUZDA ÇALIŞANLAR,					
soru 21	Üstlerine danışmadan da harekete geçebilirler.	1	2	3	4	5
soru 22	Kendi insiyatiflerini kullanabilmeleri için yüreklendirilirler.	1	2	3	4	5
soru 23	Üstlerinden onay almadan da karar verebilirler.	1	2	3	4	5
	KURUMUMUZDA,					
soru 24	Veri tabanları yeterlidir	1	2	3	4	5
soru 25	Bilişim alt yapısı bilgi yönetimi için yeterli ve ihtiyaçlarımıza uygundur	1	2	3	4	5
soru 26	İnternet, intranet, e-posta, telekonferans, video konfransı vb sistemleri yeterlidir.	1	2	3	4	5
soru 27	Bilişim teknolojilerine gerekli yatırımlar yapılmaktadır	1	2	3	4	5
soru 28	Bilgi yönetimi sistemleri (bilgi saklamaya ve kullanmaya yönelik yazılımlar, veri tabanları, portallar vs.) kullanıcı dostudur (kolay kullanılabilen)	1	2	3	4	5
soru 29	Bilişim teknolojileri yeni (güncel) ve hızlıdır	1	2	3	4	5

	KURUMUMUZDA,					
soru 30	Tüm çalışanlar sürekli öğrenme konusunda teşvik edilir	1	2	3	4	5
soru 31	İşimizle ilgili meydana gelen gelişmeleri takip edebiliyor, yeni ve güncel bilgileri elde edebiliyoruz.	1	2	3	4	5
soru 32	Yetenekli insanların kuruma çekilmesi için çaba gösteriliyor	1	2	3	4	5
soru 33	Yenilikçi düşünce teşvik edilmekte ve yeni fikirler desteklenmektedir	1	2	3	4	5
soru 34	Öneri sistemi başarıyla uygulanmaktadır	1	2	3	4	5
soru 35	Mevcut ürün ve hizmetlerin iyileştirilmesine yönelik beyin fırtınaları yapılmaktadır	1	2	3	4	5
soru 36	Çalışanlar kurumun bilgi üretme sürecine aktif biçimde katkıda bulunmaktadır	1	2	3	4	5
soru 37	Bilgi üretmeye ve geliştirmeye yönelik sistemli bir biçimde çaba harcanmaktadır	1	2	3	4	5
soru 38	İşimle ilgili bilgiler düzenli biçimde tasnif edilmekte, dosyalanmakta (elektronik ortamda) ve saklanmaktadır	1	2	3	4	5
soru 39	Tedarikçilerimiz ve rakiplerimizle (iş çevresi) ilgili tüm bilgiler güncel olarak saklanmaktadır	1	2	3	4	5
soru 40	Ürünler, hizmetler, ve piyasalar ile ilgili bilgilerin saklandığı bir kayıt tutma sistemimiz vardır	1	2	3	4	5
soru 41	Çalışanlarla ilgili bir veri depolama ve arşiv sistemimiz var	1	2	3	4	5
soru 42	Müşterilerle ilgili bilgiler düzenli biçimde güncellenmektedir	1	2	3	4	5
soru 43	Tüm personel yaptığı işlemlerle ilgili verileri sisteme kaydetmektedir	1	2	3	4	5
soru 44	Yaptığımız işler ve işlemler tanımlanmıştır ve kayıt altına alınmaktadır	1	2	3	4	5
soru 45	Aradığım bilgiye kolayca (hızlı) ulaşabiliyorum	1	2	3	4	5
soru 46	Mesai arkadaşlarımızla bilgi paylaşmaya özen gösteririz	1	2	3	4	5
soru 47	Sahip olduğumuz bilgi ve tecrübeleri kurumumuza yeni katılan arkadaşlara aktarabildiğimiz, bilgi paylaşımını destekleyen resmi sistemler ve uygulamalar yeterlidir	1	2	3	4	5
soru 48	Sahip olduğumuz bilgi ve tecrübeleri kurumumuza yeni katılan arkadaşlara aktarabildiğimiz, bilgi paylaşımını destekleyen gayri-resmi sistemler ve uygulamalar (enformel toplantılar, aile ziyaretleri, yemekler, piknikler vs.) yeterlidir.	1	2	3	4	5
soru 49	Diğer departmanlarla bilgi paylaşımı sağlamak için yapılan koordinasyon toplantıları yeterlidir.	1	2	3	4	5
soru 50	Diğer kurumlar (iş ve akademik çevre) ve ilgili kişilerle bilgi paylaşımını kolaylaştırmak için yapılan ortak çalışmalar ve eğitimler yeterlidir.	1	2	3	4	5
soru 51	Bilgi ve tecrübelerimi etkili biçimde kullanıyorum	1	2	3	4	5
soru 52	Doğru ve etkili karar alabiliyoruz	1	2	3	4	5
soru 53	Varolan bilgi potansiyeli organizasyonun hedefleri doğrultusunda, katma değer yaratacak biçimde (verimli ve etkili) kullanılabilmektedir	1	2	3	4	5
soru 54	Bilginin kullanılması ve hayata geçirilmesine uygun bir yönetim anlayışımız var	1	2	3	4	5
soru 55	Verilen eğitimlerde elde edilen bilgiler kısa sürede uygulanmaya başlamaktadır	1	2	3	4	5
soru 56	Bilgimizi ürün ve hizmetlerimize, iş süreçlerimize yansıtıyoruz	1	2	3	4	5

soru 57	Bilgimizi müşterimize yansıtıyoruz	1	2	3	4	5
soru 58	Sürekli öğrenen, ve öğrendiğini hayata geçiren bir sistem mevcuttur	1	2	3	4	5
soru 59	Göreve yeni başlayan çalışanların işlerine kısa sürede adapte olup başlayabilecekleri etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
soru 60	Çalışanlar için görev devir teslim surecini kolaylaştıran etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
soru 61	Çalışanlara genel işleyiş ile ilgili net bir bakış açısı sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
soru 62	Benzer çalışmaların sık sık tekrarlandığını düşünüyorum	1	2	3	4	5
soru 63	Çalışmalarımız sırasında benzer hataların sık sık tekrarlandığını düşünüyorum	1	2	3	4	5
soru 64	Çalışanların yapılmış çalışmalara ve bu çalışmalarda yer alan şahıslara kolaylıkla ulaşabilmelerini sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
soru 65	Müşteri problemlerinin hızlı ve etkili çözümünü sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
soru 66	Çalışanların müşterilere karşı duyarlı ve hızlı kılındığını etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
soru 67	Müşteri ihtiyaç ve taleplerinin takip edilip, değerlendirildiği etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
soru 68	Yeni ürün ve/veya hizmetlerin sıklıkla deneyimlenmesini sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
soru 69	Yeni pazarların sıklıkla deneyimlenmesini sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
soru 70	Yeni fikirlerin sıklıkla test edilmesini için güvenli bir ortam sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	1	2	3	4	5
	KURUMUMUZ RAKIPLERIMIZE ORANLA,					
soru 71	Müşteri memmuniyeti konusunda daha başarılıdır.	1	2	3	4	5
soru 72	Yeni müşteriler edinme konusunda daha başarılıdır.	1	2	3	4	5
soru 73	Mevcut müşteriyi elde tutabilme konusunda daha başarılıdır.	1	2	3	4	5
soru 74	Yatırımların geri dönmesi konusunda daha başarılıdır.	1	2	3	4	5
soru 75	Daha yüksek bir pazar payına sahiptir.	1	2	3	4	5
soru 76	Daha yüksek bir net kara sahiptir.	1	2	3	4	5
soru 77	Daha yüksek bir katma değer yaratmaktadır	1	2	3	4	5

Appendix 5 Variable Definitions and Measurement Scales

The Definitions of Variables

Q. No	Variable	Name	Definition of Variable
	var1	Sector	Sector
	var2	Job Title	Job Title
	var3	Work experience at the current company	Work experience at the current company
	var4	Total Work Experience	Total Work Experience
	var5	Age	Age
	var6	Gender	Gender
	var7	Education	Education
1	var8	OC1- Risk taking	Organizational Culture/Innovative
2	var9	OC2- Collaborative	Organizational Culture/Supportive
3	var10	OC3-Hierarchical	Organizational Culture/Bureaucratic
4	var11	OC4-Procedural	Organizational Culture/Bureaucratic
5	var12	OC5-Relationship-oriented	Organizational Culture/Supportive
6	var13	OC6- Creative	Organizational Culture/Innovative
7	var14	OC7- Encouraging	Organizational Culture/Supportive
8	var15	OC8- Sociable	Organizational Culture/Supportive
9	var16	OC9-Structured	Organizational Culture/Bureaucratic
10	var17	OC10- Stimulating	Organizational Culture/Innovative
11	var18	OC11- Regulated	Organizational Culture/Bureaucratic
12	var19	OC12- Personal-Freedom	Organizational Culture/Supportive
13	var20	OC13- Equitable	Organizational Culture/Supportive
14	var21	OC14- Safe	Organizational Culture/Supportive
15	var22	OC15- Challenging	Organizational Culture/Innovative
16	var23	OC16- Enterprising	Organizational Culture/Innovative
17	var24	OC17- Cautious	Organizational Culture/Bureaucratic
18	var25	OC18- Trusting	Organizational Culture/Supportive
19	var26	OC19- Driving	Organizational Culture/Innovative
20	var27	OC20- Power-oriented	Organizational Culture/Bureaucratic
21	var28	OS1- Take action without a supervisor (R)	Organizational Structure/Centralization
22	var29	OS2- Make their own decisions (R)	Organizational Structure/Centralization
23	var30	OS3- Make decisions without approval (R)	Organizational Structure/Centralization
24	var31	ITS1- Databease adequate	Information Technology Support
25	var32	ITS2- Suitable to needs	Information Technology Support
26	var33	ITS3- tele&video conferanses adequate	Information Technology Support
27	var34	ITS4- investments made	Information Technology Support
28	var35	ITS5- User friendly	Information Technology Support
29	var36	ITS6- Up-to-date	Information Technology Support
30	var37	KMP1- Continuous learning encouraged	Knowledge Management Processes / Knowledge Generation & Development

31	var38	KMP2- Up-to-data information obtained	Knowledge Management Processes / Knowledge Generation & Development
32	var39	KMP3- Talented people hired	Knowledge Management Processes / Knowledge Generation & Development
33	var40	KMP4- Innovative ideas encouraged	Knowledge Management Processes / Knowledge Generation & Development
34	var41	KMP5- Suggestion system	Knowledge Management Processes / Knowledge Generation & Development
35	var42	KMP6- Brainstorming	Knowledge Management Processes / Knowledge Generation & Development
36	var43	KMP7- Employees contribute to knowledge creation process	Knowledge Management Processes / Knowledge Generation & Development
37	var44	KMP8- Systematic effort for knowledge generation	Knowledge Management Processes / Knowledge Generation & Development
38	var45	KMP9- Work-related information codified, filed & stored	Knowledge Management Processes / Knowledge Coding & Storage
39	var46	KMP10- Information regarding suppliers and competitors updated	Knowledge Management Processes / Knowledge Coding & Storage
40	var47	KMP11- Information regarding products, services markets stored	Knowledge Management Processes / Knowledge Coding & Storage
41	var48	KMP12- Information regarding employees stored	Knowledge Management Processes / Knowledge Coding & Storage
42	var49	KMP13- Information regarding customers updated	Knowledge Management Processes / Knowledge Coding & Storage
43	var50	KMP14- All information is registered by employees	Knowledge Management Processes / Knowledge Coding & Storage
44	var51	KMP15- All the work done by employees described and registered	Knowledge Management Processes / Knowledge Coding & Storage
45	var52	KMP16- Access to information easy and fast	Knowledge Management Processes / Knowledge Coding & Storage
46	var53	KMP17- Share information with colleagues	Knowledge Management Processes / Knowledge Sharing & Distribution
47	var54	KMP18- Official systems that help sharing information with new members adequate	Knowledge Management Processes / Knowledge Sharing & Distribution
48	var55	KMP19- Non-official systems that help sharing information with new members adequate	Knowledge Management Processes / Knowledge Sharing & Distribution
49	var56	KMP20- Coordination meetings with other departments adequate	Knowledge Management Processes / Knowledge Sharing & Distribution

50	var57	KMP21- Coordination meetings with other corporations adequate	Knowledge Management Processes / Knowledge Sharing & Distribution
51	var58	KMP22- Use knowledge effectively	Knowledge Management Processes / Knowledge Use & Evaluation
52	var59	KMP23- Make right decisions	Knowledge Management Processes / Knowledge Use & Evaluation
53	var60	KMP24- Knowledge potential is used efficiently	Knowledge Management Processes / Knowledge Use & Evaluation
54	var61	KMP25- Management style appropriate for knowledge use & application	Knowledge Management Processes / Knowledge Use & Evaluation
55	var62	KMP26- Information learned applied quickly	Knowledge Management Processes / Knowledge Use & Evaluation
56	var63	KMP27- Reflect knowledge to products / services	Knowledge Management Processes / Knowledge Use & Evaluation
57	var64	KMP28- Reflect knowledge to customers	Knowledge Management Processes / Knowledge Use & Evaluation
58	var65	KMP29- There is a system that learn continuously	Knowledge Management Processes / Knowledge Use & Evaluation
59	var66	KMPERF1- New employees adaptation	Knowledge Management Performance / Decreased Learning Curve of New Employees
60	var67	KMPERF2- Easier handover process	Knowledge Management Performance / Decreased Learning Curve of New Employees
61	var68	KMPERF3- Good insight in the general practices	Knowledge Management Performance / Decreased Learning Curve of New Employees
62	var69	KMPERF4- Frequent repititions	Knowledge Management Performance / Reduced Rework & prevention of 're-invention of the wheel'
63	var70	KMPERF5- Similar mistakes	Knowledge Management Performance / Reduced Rework & prevention of 're-invention of the wheel'
64	var71	KMPERF6- Easy to find artifacts and people developing them	Knowledge Management Performance / Reduced Rework & prevention of 're-invention of the wheel'
65	var72	KMPERF7- Fast & effective solutions to customer problems	Knowledge Management Performance / More Rapid Response to Customer Needs & Inquiries
66	var73	KMPERF8- More responsive to customer problems	Knowledge Management Performance / More Rapid Response to Customer Needs & Inquiries
67	var74	KMPERF9- Employees track down the needs & wants of customers	Knowledge Management Performance / More Rapid Response to Customer Needs & Inquiries

68	var75	KMPERF10- Frequent experiments with new products/services	Knowledge Management Performance / Spawning of New Ideas for Products & Services
69	var76	KMPERF11- Frequent experiments with new markets	Knowledge Management Performance / Spawning of New Ideas for Products & Services
70	var77	KMPERF12- Safe environment for experimentation	Knowledge Management Performance / Spawning of New Ideas for Products & Services
71	var78	OP1- better in customer satisfaction	Organizational Performance / Customer Performance
72	var79	OP2- better in creation of new customers	Organizational Performance / Customer Performance
73	var80	OP3- better in retention of new customers	Organizational Performance / Customer Performance
74	var81	OP4- greater return on investment	Organizational Performance / Financial Performance
75	var82	OP5- greater market share	Organizational Performance / Financial Performance
76	var83	OP6- greater net profit	Organizational Performance / Financial Performance
77	var84	OP7- greater economic value added	Organizational Performance / Financial Performance

Measurement Scales for the Variables of the Study

NOMINAL			ORDINAL		
Var1	_	Sector	Var3	_	Work experience at the current company
Var2	_	Job Title	Var4	_	Total Work Experience
Var6	_	Gender	Var5	_	Age
Var7	_	Education			
INTERVAL					
Var8	_	OC1	Var47	_	KMP11
Var9	_	OC2	Var48	_	KMP12
Var10	_	OC3	Var49	_	KMP13
Var11	_	OC4	Var50	_	KMP14
Var12	_	OC5	Var51	_	KMP15
Var13	_	OC6	Var52	_	KMP16
Var14	_	OC7	Var53	_	KMP17
Var15	_	OC8	Var54	_	KMP18
Var16	_	OC9	Var55	_	KMP19
Var17	_	OC10	Var56	_	KMP20
Var18	_	OC11	Var57	_	KMP21
Var19	_	OC12	Var58	_	KMP22
Var20	_	OC13	Var59	_	KMP23
Var21	_	OC14	Var60	_	KMP24
Var22	_	OC15	Var61	_	KMP25
Var23	_	OC16	Var62	_	KMP26
Var24	_	OC17	Var63	_	KMP27
Var25	_	OC18	Var64	_	KMP28
Var26	_	OC19	Var65	_	KMP29
Var27	_	OC20	Var66	_	KMPERF1
Var28	_	OS1	Var67	_	KMPERF2
Var29	_	OS2	Var68	_	KMPERF3
Var30	_	OS3	Var69	_	KMPERF4
Var31	_	ITS1	Var70	_	KMPERF5
Var32	_	ITS2	Var71	_	KMPERF6
Var33	_	ITS3	Var72	_	KMPERF7
Var34	_	ITS4	Var73	_	KMPERF8
Var35	_	ITS5	Var74	_	KMPERF9
Var36	_	ITS6	Var75	_	KMPERF10
Var37	_	KMP1	Var76	_	KMPERF11
Var38	_	KMP2	Var77	_	KMPERF12
Var39	_	KMP3	Var78	_	OP1
Var40	_	KMP4	Var79	_	OP2
Var41	_	KMP5	Var80	_	OP3
Var42	_	KMP6	Var81	_	OP4

Var43	_	KMP7	Var82	_	OP5
Var44	_	KMP8	Var83	_	OP6
Var45	_	KMP9	Var84	_	OP7
Var46	_	KMP10			

Appendix6 The Factor Analysis Results for The Pilot Study

The Factor Analysis Results of Organizational Culture (for the Pilot Study)

Factor	Variable	Item Statements	Item	% of Variance	Cronbach's Alpha
1 (supportive)	q16	adil davranan	,888	35,725	,946
	q8	cesaretlendiren	,830		
	q22	güvenen	,811		
	q9	sosyal	,798		
	q2	iş birliği yapan	,790		
	q5	iş süreçlerini çalışanlarına önem vererek sonuçlandırmak isteyen	,777		
	q17	güven veren	,758		
	q15	bireysel özgürlük veren	,756		
	q7	yaratıcılığa ve yenilikçiliğe değer veren	,674		
2 (bureaucratic)	q3	hiyerarşik	,913	26,097	,933
	q10	bürokratik	,902		
	q14	kuralcı	,897		
	q4	formalitelere önem veren	,836		
	q24	otoriter	,792		
	q21	ihtiyatlı	,772		
3 (innovative)	q13	iş yaşamına canlılık ve heyecan katan	,387	15,718	,921
	q18	mücadeleci ve atak	,834		
	q23	atılımcı ve cesur	,700		
	q19	girişimci	,698		
	q1	risk alabilen	,663		
			Total	**77,540**	**,877**
			Kaiser-Meyer-Olkin Measure of		**0,839**
			Bartlett's Test of Sphericity	**Approx. Chi-**	**1584,125**
				df	**190**
				Sig.	**,000**

KMO, Bartlett's and Cronbach Alpha Results for Dependent Variables

Concepts	**KMO & Bartlett's tests**	**Cronbach's Alpha**
information technology support	0,793 & sign	0,935
organizational structure	0,738 & sign	0,948

The Factor Analysis Results of KM Processes (for the Pilot Study)

Factor	Variable	Item Statements	Item Loading	% of Var Explained	Cronbach's Alpha
1 KG&D	Q38	yenilikçi düşünce teşvik edilmekte ve yeni fikirler desteklenmektedir	,781	23,615	,969
	Q40	sorunlara alternatif çözümler üretmeye yönelik beyin fırtınaları yapılmaktadır	,764		
	Q39	öneri sistemi başarıyla uygulanmaktadır	,764		
	Q36	gelişmeleri takip edebiliyor, yeni ve güncel bilgileri elde edebiliyoruz	,708		
	Q42	bilgi üretmeye ve geliştirmeye yönelik sistemli bir çaba harcanmaktadır	,708		
	Q41	çalışanlar kurumun bilgi üretme sürecine aktif biçimde katkıda bulunmaktadır	,706		
	Q37	yetenekli insanların kuruma çekilmesi için çaba gösteriliyor	,695		
	Q35	tüm çalışanlar sürekli öğrenme konusunda teşvik ediliyor	,646		
2 KU&E	Q57	Doğru ve etkili karar alabiliyoruz	,775	21,241	,965
	Q59	Bilginin kullanılması ve hayata geçirilmesine uygun bir yönetim anlayışımız var	,765		
	Q56	Bilgi ve tecrübelerimi etkili biçimde kullanıyorum	,744		
	Q62	Bilgimizi müşterimize yansıtıyoruz	,719		
	Q60	Verilen eğitimlerde elde edilen bilgiler kısa sürede uygulanmaya başlamaktadır	,689		
	Q58	sahip olunan bilgi potansiyelini organizasyonun hedefleri doğrultusunda kullanabiliyoruz	,653		
	Q61	Bilgimizi ürün ve hizmetlerimize, iş süreçlerimize yansıtıyoruz	,563		
	Q63	Sürekli öğrenen, ve öğrendiğini hayata geçiren bir kurumuz	,562		
3 KC&S	Q44	Tedarikçilerimiz ve rakiplerimizle ilgili tüm bilgiler güncel olarak saklanmaktadır	,735	21,202	,960
	Q45	Ürünler, hizmetler ve piyasalarla ile ilgili bilgilerin saklandığı bir kayıt tutma sistemimiz vardır	,732		
	Q47	Müşteriler ile ilgili bilgiler düzenli biçimde güncellenmektedir	,710		
	Q50	Aradığım bilgiye kolayca (hızlı) ulaşabiliyorum	,692		
	Q43	İşimle ilgili bilgiler düzenli biçimde tasnif edilmekte, dosyalanmakta ve saklanmaktadır	,690		
	Q49	Yaptığımız işler ve işlemler tanımlanmıştır ve kayıt altına alınmaktadır	,647		
	Q46	Çalışanlarla ilgili bir veri depolama ve arşiv sistemimiz var	,597		
	Q48	Tüm personel yaptığı işlemlerle ilgili verileri sisteme kaydetmektedir	,522		
4 KS&D	Q52	bilgi paylaşımını destekleyen resmi sistemler ve uygulamalar yeterlidir	,817	19,105	,970
	Q53	bilgi paylaşımını destekleyen gayri-resmi sistemler ve uygulamalar yeterlidir.	,776		

	Q54	departmanlarla bilgi paylaşımı sağlamak için yapılan koordinasyon toplantıları yeterlidir.	,755		
	Q51	Mesai arkadaşlarımızla bilgi paylaşmaya özen gösteririz	,697		
	Q55	iş ve akademik çevre ile bilgi paylaşımını kolaylaştırmak için yapılan ortak çalışmalar ve eğitimler yeterlidir.	,682		
			Total	**85,164**	**,985**
			Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**,771**
			Bartlett's Test of Sphericity	**Approx. Chi-Square**	**3749,828**
				df	**406**
				Sig.	**,000**

The Factor Analysis Results of KM performance (for the Pilot Study)

Factor	Variable	Item Statements	Item Loading	% of Variance Explained	Cronbach's Alpha
1 (more rapid response to customer needs and inquiries)	q72	müşteri ihtiyaç ve taleplerinin takip edilip, değerlendirildiği etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,914	22,485	,942
	q71	çalışanların müşterilere karşı duyarlı ve hızlı kılındığını etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,871		
	q70	müşteri problemlerinin hızlı ve etkili çözümünü sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,839		
2 (decreased learning curve of new employees)	q65	çalışanlar için görev devir teslim surecini kolaylaştıran etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,891	21,759	,911
	q64	göreve yeni başlayan çalışanların işlerini kısa sürede öğrenip çalışmaya başlayabilecekleri etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,882		
	q66	çalışanlara genel işleyiş ile ilgili net bir bakış açısı sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,772		
3 (reduced rework&prevention of 're-invention of the wheel')	q68	çalışmalarımız sırasında aynı hataların sık sık tekrarlandığını düşünüyorum	,943	21,246	,905
	q67	aynı çalışmaların sık sık tekrarlandığını düşünüyorum	,879		
	q69	yapılmış çalışmalara ve bu çalışmalarda yer alan şahıslara ulaşmayı kolaylaştıran etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,765		
4 (spawning of new ideas for products and services)	q75	yeni fikirlerin sıklıkla test edilmesini için güvenli bir ortam sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,900	18,845	,818
	q73	yeni ürün ve/veya hizmetlerin sıklıkla deneyimlenmesini sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,852		
	q74	yeni pazarların sıklıkla deneyimlenmesini sağlayan etkili bir bilgi yönetim sisteminin olduğunu düşünüyorum	,797		
			Total	**84,334**	,849
			Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**,779**
			Bartlett's Test of	**Approx. Chi-Square**	**657,480**

	Sphericity	**df**	**66**
		Sig.	**,000**

The Factor Analysis Results of Perceived Organizational Performance (for the Pilot Study)

Factor	Variable	Item Statements	Item Loadings	% of Variance Explained	Cronbach's Alpha
1 (financial performance)	q80	Kurumumuz rakiplerimize oranla daha yüksek bir pazar payına sahiptir.	,957	51,670	,966
	q81	Kurumumuz rakiplerimize oranla daha yüksek bir net kara sahiptir.	,932		
	q82	Kurumumuz rakiplerimize oranla daha yüksek bir katma değer yaratmaktadır	,908		
	q79	Kurumumuz rakiplerimize oranla yatırımların geri dönmesi konusunda daha başarılıdır.	,843		
2 (customer performance)	q77	Kurumumuz rakiplerimize oranla yeni müşteriler edinme konusunda daha başarılıdır.	,899	37,357	,904
	q76	Kurumumuz rakiplerimize oranla müşteri memmuniyeti konusunda daha başarılıdır.	,891		
	q78	Kurumumuz rakiplerimize oranla mevcut müşteriyi elde tutabilme konusunda daha başarılıdır.	,821		
			Total	**89,027**	**,930**
			Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**,835**
			Bartlett's Test of Sphericity	**Approx. Chi-Square**	**556,681**
				df	**21**
				Sig.	**,000**

Appendix 7 Overview of research variables & measurement instruments used in the main study

Variables	Operational Definition	Measurement instrument
de-centralisation	The extent to which power of decision making is delegated to managers on lower levels(Davidson and Griffin, 2006)	3 items
Innovative culture	Characterised by properties like risk-taking, result oriented, creative, pressurized, stimulating, challenging, enterprising, and driving (Wallach, 1983)	6 items
Supportive culture	Characterised by properties like harmony, openness, friendship, collaboration, encouragement, sociability, personal freedom, and trust (Wallach, 1983).	8 items
Bureaucratic culture	Characterised by properties like procedural, hierarchical, structured, ordered, regulated, established, cautious, and power oriented (Wallach, 1983).	6 items
Information Technology Support	Accessibility, adequacy, convenience and relevance of technological insfrastructure provided by the organisation (Zaim et al., 2007)	6 items
KM processes	Activities of knowledge generation and development, knowledge codification and storage, knowledge sharing and distribution, and knowledge use and evaluation	29 items
Knowledge generation and development	A process that aim to originate novel and useful ideas and solutions, and convert them into actions, goods and services for a higher customer value (Abou-Seid, 2002 and Shani et al., 2003)	8 items
Knowledge codification and storage	A process that classify and store the knowledge according to its type and purpose according to the organizational objectives and priorities for the access of employees at present and in the future (Davenport and Prusak, 1998)	8 items
Knowledge sharing and distribution	The process of bringing together intellectual resources and make them available across organizational boundaries (Robertson, 2002)	5 items
Knowledge use and evaluation	The process of creating value from organization's knowledge resources so that the knowledge held by the company will be transformed to the fields of application and action (Ordaz et al., 2004)	8 items

KM performance	the extent to which the successful outcomes of knowledge management processes are realized in terms of reduced re-work,decreased learning curve of new employees, increased responsiveness to customers, and increased innovation	12 items
Reduced rework	The extent to which ‘re-invention of the wheel’, duplication and redundancy of knowledge-based activities are prevented in the organization	3 items
Decreased learning curve	The extent to which individuals can be assimilated into methods, tools, routines and activities of a new position.	3 items
Increased responsiveness to customer need and inquiries	The extent to which employess in an organisation can respond to customer needs and inquiries	3 items
Increased innovativeness	The extent to which new ideas for products/services, methods, and markets are experimented	3 items
Organisational Performance	Degree of overall success of the organisation in terms of customer and financial performance in comparison with key competitors as assessed by the employee-reported items	7 items
Customer performance	Degree of overall success of the organisation in terms of customer satisfaction, retention and creation as compared with key competitors	3 items
Financial performance	Degree of overall success of the organisation in terms of return on investment, market share, net profit, and economic value added	4 items