Enterprise 2.0 Technologies for Knowledge Management: A Study of Cultural, Organizational & Technological Factors

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Abstract

In the new business world, organizational knowledge is considered to be a key factor for profitability attainment. This is true within any industry. It is a vital enabler of superior business accomplishments and developments. Managing such valuable knowledge enables organizations to gain a competitive advantage and advance in the process of wealth creation. As organizations worldwide become increasingly aware of the benefits that can be achieved by engaging in effective knowledge management practices, the need arises for additional research in order to identify and ascertain the effects of cultural differences among the operating environments of different firms, and to find out how these differences translate into varying uses of technologies and knowledge management practices in firms; that is the main objective of this research. To reach this goal, the study utilizes an exploratory research design to collect and analyze quantitative data from employees of various organizations in different countries and industries. We do this in order to explore the determinants of effective knowledge management from cultural, organizational, and technological perspectives. Specifically, the study will examine the country of Saudi Arabia and compare it to other countries.

Quantitative data for an empirical investigation was collected through a web-based survey questionnaire sent to employees of various organizations within different national contexts and industrial settings. Drawing upon previously validated studies and several new hypotheses, this study presents a theoretical model that integrates different sociological and technological factors that influence employees' behavior when using Enterprise 2.0 technologies for knowledge management. Sociological determinants include: power distance, long term-orientation, knowledge management environment, and personal and organizational behavior. The technological determinants include: Enterprise 2.0 tools, richness, sophistication, ease of use, usefulness and behavioral intention of really using these tools.

The quantitative investigation reflects the testing of significant theoretical constructs and relational propositions from the theoretical model. Exploratory factor analysis and structural equation modeling techniques were used to estimate a structural

relationship model among the sociological and technological determinants of the intentions of use of Enterprise 2.0.

The key findings from this study emphasize the role of technology perceptions including: perceived ease of use, perceived usefulness, richness, sophistication of adoption, the use of Enterprise 2.0 technologies in the workplace, as well as the knowledge management environment of the organization. Furthermore, the results highlight the impact of factors pertaining to knowledge management, such as personal and organizational information on the use of Enterprise 2.0 tools. This study also found that divergences among countries with different cultural settings might affect the knowledge management environment and the use of Enterprise 2.0 in organizations; further investigation is needed in this area.

Based on these findings, the study offers theoretical implications and suggestions for future research. This research provides guidelines for practices, processes, and technologies related to knowledge management. It also gives specific recommendations, for companies operating in various cultural contexts, on how to give priority to the context and the environment in which the knowledge is being exchanged as well as how to enhance the technological infrastructures that offer a behavioral incentive to use Enterprise 2.0 technologies for knowledge management.

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Chapter 1: Introduction

In the world of business, knowledge is considered a key factor of profitability, and the most powerful asset within an industry (He & Wei, 2009). It is also a key driver of development, value creation, and competitiveness. In particular, organizational knowledge is a critical resource for global success (Marquardt & Kearsley, 1999). Such knowledge plays an important role in developing organizational performance (Al-Ghassani et al., 2004).

Managing organizational knowledge is fundamental to the prosperity of a business, leading to superior accomplishments (Riege, 2005) and creating future opportunities. This can be achieved when organizations harness innovation and creativity by incorporating knowledge about employee experience and relations into business-specific processes (Velev& Zlateva, 2012). Moreover, knowledge management can be attained by providing talented employees with access to premium knowledge resources (Vedullapalli, 2012), as well as using the organization's collective intelligence and creative capabilities to increase innovation (He & Wei, 2009).

On a global level, organizations worldwide are becoming increasingly aware of the benefits that can be achieved by engaging in effective knowledge management practices. Despite this, many researchers seek to further investigate and operationalize the best determinants of effective knowledge management, by comparing different cultural contexts with various industrial settings (Kim & Lee, 2006; Detlor et al., 2006; Parise, 2009; Alhamoudi, 2010; Rabhi, 2011; Velev& Zlateva, 2012).

Accordingly, the purpose of this study is to gain a better understanding of the cultural, organizational and technological factors affecting knowledge management behavior across multiple industries. Specifically, organizations operating in Saudi Arabia will be compared to those in other countries. The research aims to investigate the interaction between the factors that affect the use of enterprise social computing (Enterprise 2.0), national cultural traits, and the context of organizational knowledge management, and their effect on the knowledge-sharing practices of people and groups within organizations.

It is currently perceived that the adoption of Enterprise 2.0 technologies is necessary in knowledge-based organizations in order to generate business empowerment and vital business opportunities (Antonova & Nikolov, 2011). The research presented will further explore how Enterprise 2.0 technologies can be embraced as an efficient way to manage the knowledge resources of an organization and make knowledge assets accessible and reusable on an organization-wide level.

The results and findings from this research are expected to elucidate sociological and technological factors that positively influence knowledge management practices in organizations. At a macro-level, these findings can provide guidelines for improving performance in key result areas of knowledge management such as innovation, research and development, and the technology transfer capacities of various economies. Specifically, the key result areas studied are those of the country of Saudi Arabia, where the implementation of knowledge-managing initiatives is in the early stages of development (Al-Hussain, 2012). At a micro-level, an understanding of these findings is expected to yield both practical and theoretical implications, which will help ascertain

best practices for knowledge management at the organizational level with specific recommendations for researchers and companies operating in Saudi Arabia.

The upcoming sections of this chapter provide further background on the research study by stating the research rationale, highlighting the objectives of conducting this study, and finally presenting the structure of the thesis to provide an overview of the chapters within.

1.1 Research Rationale

This section highlights the background that shapes the research program undertaken by the researcher for her master's thesis. It provides an overview of the current context of knowledge management and relates it to the rationale of conducting this research study.

Workers all around the world are starting to understand that withholding information is a sign of weakness, a shift from the past when information gave workers more value (Kelloway & Barling, 2000; Green, 2010). Nowadays, the retention of information shows the worker's unwillingness to share and contribute for the sake of the organization's overall benefit (Webster et. al., 2008). Today, information is available to everyone simply by conducting a quick Internet search. Therefore, current and future effective workers leverage the value of knowledge, sharing it with each other as well as seeking new ways to make information more available, sharable, and accessible to other workers (Green, 2010). That, in many ways, emphasizes the vital role of the knowledge management initiative within organizations. Accordingly, the notion of the new economy has emerged worldwide, characterized as a knowledge-based economy, which is defined by the department of trade and industry (2011) as the economy "in which the generation

and exploitation of knowledge has come to play a dominant role in the creation of wealth."

Correspondingly, the core theme of this research study concerns the processes underlying knowledge management, including: creating, storing, retrieving, transferring, and applying knowledge. Allee (1997) defines knowledge management as "managing the corporation's knowledge through a systematically and organizationally specified process for acquiring, organizing, sustaining, applying, sharing and renewing both the tacit and explicit knowledge of employees to enhance organizational performance and create value." Within the realm of knowledge management, information technology (IT), represented by Enterprise 2.0 technologies in this research, is considered to be a "fundamental building block" that supports and coordinates knowledge management (Alavi & Leidner, 2001; Yeh, Lai, & Ho, 2006). These technologies are being introduced and used as an effective driving force to facilitate the application of the best practices of knowledge management, focusing on knowledge sharing. These tools will serve as an engine to foster the growth of knowledge management by overcoming the numerous barriers and obstacles that have not yet been resolved by any other method (Wagner et al., 2003).

There have been many initiatives undertaken in order to apply knowledge management best practices worldwide, pioneered by developed countries. However, despite such initiatives, a full integration of the process in shifting the world of business from the old economy to the new knowledge-based economy has not yet been achieved (Al-Qahtani, 2009; Antonova & Nikolov, 2011). There are many countries that still remain in the old economy era, according to the most recent knowledge economy index

rankings of the World Bank (World Bank, 2009). Among these countries is Saudi Arabia, the primary country examined in this research. The knowledge management practices in Saudi Arabia are immature and need time and effort to reach the standards of the efficient knowledge management practices applied in knowledge-based economies (Schulte & Al-Fehaid, 2004; Khursani et, al., 2011; Al-Hussain, 2012).

The economy of Saudi Arabia has a pressing need for a practical approach to manage the knowledge assets and capabilities efficiently (Al-Qahtani, 2009). Ultimately, the economy is missing appropriate guidance to enable it to evolve from the oil and industrial economy to the global knowledge economy (Schulte & Al-Fehaid, 2004). Saudi Arabia is seriously lacking the main driving forces of the knowledge-based economy (Alhamoudi, 2010), including the lack of a supporting cultural environment (Magd & Hamza, 2012). The lack of a supportive atmosphere leads to insufficient ways of generating, capturing, exchanging, and transferring knowledge (Wagner et al., 2003). Furthermore, many organizations in Saudi Arabia lack the infrastructure and the appropriate technologies for promoting the best practices for knowledge management, which are considered to be the driving forces of the new economy (OECD, 1996; Rabhi, 2011). The lack of these fundamental forces results in the economy resisting many types of adoptions and changes, thereby hampering the main efforts to improve both their current position in general and that of the different sectors in particular (Al-Adaileh & Al-Atawi , 2011).

1.2 Research Objectives

This research study aims to contribute to the existing literature on knowledge management in an international context, examining the country of Saudi Arabia in

particular and comparing it to other countries. Its main focus is to explore and validate the interactions among the sociological and technological factors that affect the use of Enterprise 2.0 technologies for knowledge management. Toward this aim, this study investigates the relationships among various factors such as espoused cultural values, perceptions of technology, corporate knowledge management practices, and organizational and personal information behaviors. Furthermore, this study explores the use of Enterprise 2.0 technologies to facilitate various knowledge management processes and practices within the organization.

To achieve the main objective of the research study, a theoretical model with various constructs and their interrelationships has been formulated to develop an understanding of the interaction between sociological and technological factors that contribute to effective knowledge management processes and other practices in organizations. Specifically, the theoretical model of this study considers five constructs, related to cognitive and behavioral factors. These constructs will be used as a basis for investigation, namely: i) national cultural traits, ii) Enterprise 2.0 technology attributes, iii) knowledge management environment, iv) personal and organizational information behaviors, and v) Enterprise 2.0 intentions of use.

1.2.1 Conceptual Framework

To operationalize the study of sociological and technological factors affecting the use of Enterprise 2.0 technologies for knowledge management, a theoretical model has been formulated to test and validate the desired objective (see Figure 1-1). This framework has been articulated based on five key theoretical works: Hofstede's National Culture Dimensions (NCD), Davis and Bagozzi's Technology Acceptance Model

(TAM), Daft and Lengel's Media Richness Theory (MRT), DeLone and McLean's Information System (IS) Success Model, and Detlor et al.'s Knowledge management Context model (KMC).

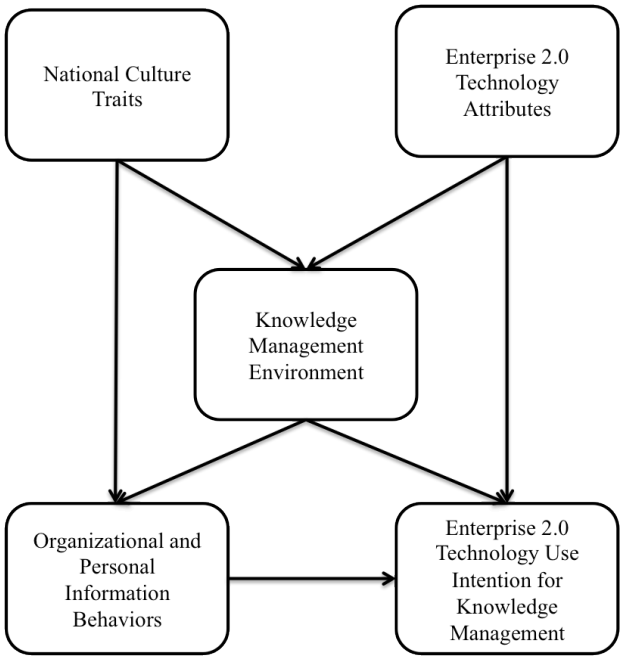

Figure 1-1: Study's Conceptual Framework

1.2.1.1 Conceptual Framework Components

The major components of the conceptual framework are summarized in Table 1-1.

Table 1-1 Conceptual Framework Components

Source	Dimension	Construct	Definition
NCD	National Culture Traits	Power Distance (from small to large)	The extent to which members of an organization in a specific culture accept and expect inequality in the distribution of power (Hofstede, 1984)
NCD	National Culture Traits	Long Term Orientation (vs. short term orientation)	Long Term Orientation is associated with values perseverance and future planning. It does not have a high respect for tradition, fulfilling social obligations, and protecting one's 'face' (Hofstede, 1991).

TAM	Enterprise 2.0 Attributes	Perceived Ease of Use	Employee's expectation of the targeted system's required level of effort (Davis & Bagozzi, 1989).
TAM	Enterprise 2.0 Attributes	Perceived Usefulness	The degree of belief that using a particular system to enhance an employee job performance (Davis & Bagozzi, 1989).
MRT	Enterprise 2.0 Attributes	Enterprise 2.0 Richness	Demonstrating the richest available medium of communication to convey messages properly and ensure successful communication (Daft & Lengel, 1986).
Our Research	Enterprise 2.0 Attributes	Enterprise 2.0 Sophistication	Tools diversity and maturity to enhance the end-user's technological interaction and overall use (Ghobakhloo et al., 2011).
KMC	Knowledge Management Context	Knowledge Management Environment	Context and culture of an organization that nurtures a knowledge management initiative (Detlor et al., 2006).
KMC	Knowledge Management Context	Personal Information Behavior	Individual's own actions and practices in transferring information (Detlor et al., 2006)
KMC	Knowledge Management Context	Organizational Information Behavior	The practices that employees follow and apply for information and knowledge sharing at the organizational level (Detlor et al., 2006).
TAM & IS Success Model	Enterprise 2.0 Technology Use Intention for the Purpose of Knowledge Management	Intention of Actual Use of System	Represents the intention to continue using Enterprise 2.0 for knowledge management and the behavioral act of actually using it (Davis, 1989; Davis & Bagozzi, 1989; DeLone & McLean, 1992; DeLone & McLean, 2003).

1.3 Research Questions

1.3.1 General Research Question:

GRQ- What are the effects of national cultural traits, the organizational knowledge management context, and the use of enterprise social computing (Enterprise 2.0), on the knowledge management practices of organizations?

1.3.2 Specific (Sub-) Research Questions:

SRQ1- What are the effects of the national cultural traits of power distance and long-term orientation on the knowledge management environment of an organization?

SRQ2- What are the effects of the national cultural trait of power distance on personal information behavior?

SRQ3- What are the effects of the knowledge management environment on organizational and personal information behaviors?

SRQ4- What are the effects of the Enterprise 2.0 technology attribute of sophistication on the knowledge management environment of an organization?

SRQ5- What are the effects of the Enterprise 2.0 technology attributes of usefulness and richness on the intention to use these technologies?

SRQ6- What are the effects of the interrelations of the Enterprise 2.0 technology attributes of sophistication, richness, ease of use and usefulness?

SRQ7- What are the effects of the organizational and personal information behaviors on the intention to use Enterprise 2.0 technologies?

SRQ8 - What are the effects of the knowledge management environment on the intention to use Enterprise 2.0 technologies?

1.4 The Structure of the Thesis

This thesis manuscript consists of 5 chapters, as outlined below:

Chapter 1: *Introduction* (the current chapter) has highlighted the research rationale, has outlined the research objectives, and has introduced the conceptual research framework and questions.

Chapter 2: *Literature Review:* this chapter discusses the theoretical background that forms the basis for this research study and it examines the important concepts that are discussed. Moreover, it presents the key studies used to situate and instantiate this research study, and it identifies the main gaps in the existing literature.

Chapter 3: *Research Design & Methods:* this chapter formulates the theoretical research model and hypotheses used to instantiate the empirical research investigation in this study. Furthermore, it discusses the appropriateness of the research design for this thesis. Next, the phase of quantitative data collection and analysis procedures is discussed, including the development and design of the survey questionnaire and the statistical analysis procedures comprising exploratory factor analysis and structural equation modeling.

Chapter 4: *Data Analysis & Results*: this chapter presents the results from the quantitative data collection and analysis phase. It illustrates descriptive statistics of demographics, work atmosphere characteristics, and technographics. It then addresses the results obtained from the exploratory factor analysis and the structural equation modeling procedures.

Chapter 5: *Discussion & Conclusion*: this chapter reports the overall findings and results from the quantitative data collection and analysis by answering the research

study questions. Next, this chapter discusses the implications of theory and practice that the results of this research have highlighted. Finally, the limitations of the current research study are addressed along with the future work directions.

Chapter 2: Literature Review

This chapter presents the theoretical background used as the basis for this research study. First, this chapter discusses the concept of knowledge management and highlights many vital themes related to it. Next, it examines the second major concept in this research, which is technology and more specifically Enterprise 2.0 and its associated premises. Then, the intersection of knowledge management and Enterprise 2.0 technologies is emphasized. As the next step, the primary theoretical models that have been used in the formulation of the research study are discussed, acting as a scale for the validation of this study's concepts. Afterwards, other similar studies are presented in order to situate the research among the academic literature. Finally, the gaps of the current literature are presented in order to provide a rationale for the research study.

2.1 Definition of Knowledge

The definition of *knowledge* intersects with various other related concepts; thus, to gain a better understanding of the meaning of *knowledge*, the concepts of data and information have to be defined as well. Knowledge is linked to data and information in many contexts (Alhamoudi, 2010). Failure to define each correctly will cost organizations enormous expenditures on technology initiatives that rarely meet their requirements (Davenport & Prusak, 1998).

2.1.1 Data, Information, and Knowledge

Many researchers describe the relationship between data, information, and knowledge as being hierarchical (Davenport & Prusak, 2000; Hicks et al., 2006). According to Curley and Kivowitz (2001), data—the raw materials for information—are the basis of the hierarchy. When that raw material is given meaning, it represents

information, which is the next layer. Finally, knowledge is achieved by combining data and information to provide value and/or reach a result; thus, knowledge is located at the top of the hierarchical pyramid (Kivowitz &Curley, 2001), (see Figure 2-1).

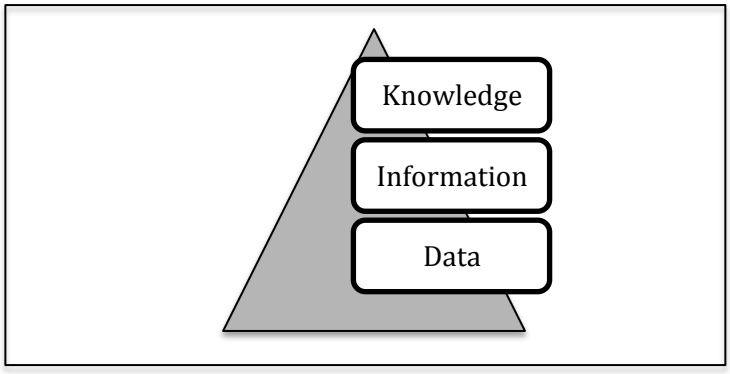

Figure 1-1: Knowledge Hierarchy (Hicks et, al., 2006)

Galliers and Leidner (2009) argued that data are context free and can be understood in many ways for different purposes, whereas information is context-dependent based on where data are processed. From another perspective, data are unprocessed raw representations of reality that are drawn on to produce information (Faucher et al., 2008) (see Figure 2-2). Xu (2007) uses the term *data* to refer to elements that can be detected, such as texts, facts, codes, images, and sounds. Davenport and Prusak (1998) referred to information as a message with both a sender and a receiver that impacts the receiver's judgment or behavior. In other words, information could be considered as data that make a difference. Nonaka and Takeuchi (1995) concluded that information is transferred to knowledge via a personal perspective.

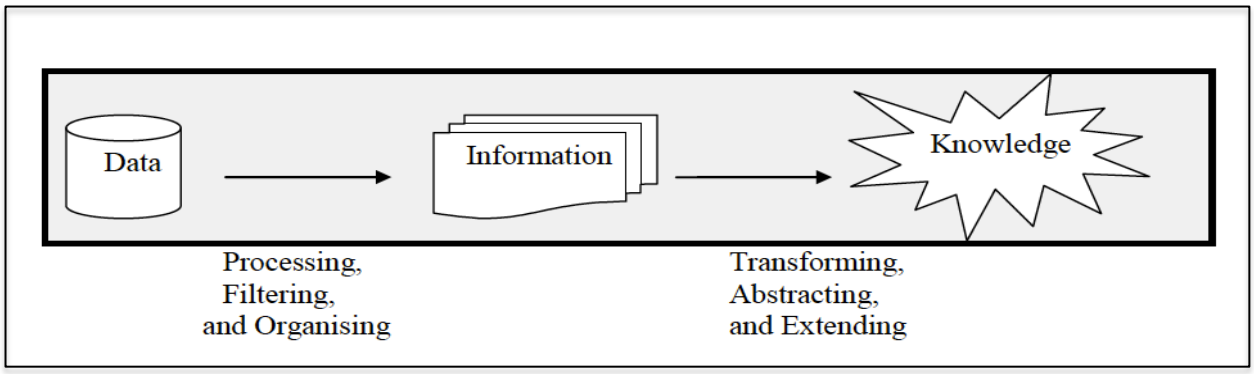

Figure 2-2: Data, Information and Knowledge Model (Bagshaw, 2000)

To define knowledge, Al-Adaileh and Al-Atawi (2011) cited *Webster's Dictionary*: "Knowledge is the fact or condition of knowing something with familiarity gained through experience or association." According to Davenport and Prusak (2000), knowledge is "…a fluid mix of framed experiences, values, contextual information, and expert insights that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms," thus making it highly linked to human thoughts and experience.

2.1.2 Knowledge Types

Categories of knowledge vary according to the knowledge's presence and availability in an organization (Alhamoudi, 2010). The literature divides knowledge into tacit and explicit knowledge; the distinction between them is critical, making it important to clearly define each type (Nonaka & Takeuchi, 1995; Tsoukas, 1996; Xu, 2007).

Tacit knowledge has many characteristics that distinguish it. Polanyi (1958) and Nonaka (2007) collectively categorize tacit knowledge as hidden, highly personal,

context-specific, non-verbalized, intuitive, and unarticulated. Xu (2007) defined it as the type of knowledge that is carried in a human's head without them being conscious of it. Such knowledge, which includes know-how, rules of thumb, experience, insights, intuition, skills, and judgment (Nonaka & Takeuchi, 1995; Tiwana, 2000; Xu, 2007), is hard to formalize, share, and communicate (Polanyi, 1958; Nonaka, 2007).

Alternately, explicit knowledge can be expressed easily by being fully aware of how it capacitates us (Xu, 2007). Such knowledge can be easily said, written, collected, stored, organized, and transferred through digital means and information communication technologies. Examples might include a telephone directory, an instruction manual or a report of research findings, e-mails, Internet, GroupWare, intranets, databases, organizational business records, and self-study materials (Tiwana, 2000; Xu, 2007).

Hislop (2009) also differentiates between tactic and explicit knowledge by examining similar characteristics, as shown in Table 2-1:

Table 2-1 Characteristics of Explicit and Tacit Knowledge (Hislop, 2009)

Explicit	Tacit
Codifiable	Inexpressible in a modifiable form
Objective	Subjective
Impersonal	Personal
Context-independent	Context-specific
Easy to share	Difficult to share

2.2 Defining Knowledge Management

Determining a standard and comprehensive definition for knowledge management is challenging, as existing definitions range from the technical to the theoretical to the philosophical, and from narrow to broad (Pathirage et al., 2007). The difficulty with defining knowledge management is similar to the difficulty of classifying knowledge itself (Metaxiotis et al., 2005). An examination of the history of knowledge management

in the literature indicates that this concept has evolved due to the fast-growing advancements in technology and information that took place in the mid-1990s. Such advancements have significantly impacted many different levels of organizations worldwide (Al-Qahtani, 2009).

Researchers have categorized knowledge management to serve different perspectives, depending on the contexts and fields of research for which it was employed (Al-Gahtani & Ghani, 2010). For the purpose of this research, some commonly cited definitions of knowledge management are listed in Table 2-2.

2.2.1 Knowledge Conversion Process:

The most famous relationship between explicit and tacit knowledge is illustrated by Nonaka and Takeuchi (1995), who identified four main interactions in order to help organizations successfully create knowledge:

1. Socialization – tacit to tacit
2. Externalization – tacit to explicit
3. Combination – explicit to explicit
4. Internalization – explicit to tacit

The interrelation occurs between these four processes when moving from tacit to explicit knowledge. It also progresses from socialization to internalization, then back to socialization, to form a spiral model of knowledge creation (Nonaka & Takeuchi, 1995), thereby facilitating the process of managing the desired knowledge, according to the organization's needs.

Table 2-2: Definitions of Knowledge Management

Author	Knowledge Management Definition
Quintas et al., 1997	Using an appropriate management process to discover, develop, utilize, deliver, and absorb knowledge inside and outside the organization to meet current and future needs. In another words, it is satisfying the existing needs through a process of managing critical existing and gained knowledge resources as well as developing new opportunities.
Allee, 1997 Davenport et al., 1998 Alavi and Leidner, 2001	Managing the corporation's knowledge through a systematically and organizationally specified process for acquiring, organizing, sustaining, applying, sharing, and renewing both the tacit and explicit knowledge of employees to enhance organizational performance and create value.
Horwitch and Armacost, 2002	Creating, extracting, transforming, and storing the correct knowledge and information to design better policy, modify action, and deliver results.
Egbu, 2004	The capability of an organization to innovate and continuously improve depends upon the effective sharing and exploitation of its knowledge.
Davenport, 2006	Assuring that the right information reaches the right people at the right time.
Ardichvili et al., 2006	Achieving the organization's strategic objectives through the exploitation and development process of an organization's knowledge base, which can be described as a socio-technical system that can incorporate various forms of knowledge creation, storage, reuse, and sharing.
Mahmoud, 2008	Capturing the knowledge embedded in the organizations efficiently and deploying it into their operations.
Madhoushi and Sadati, 2010	Planned and structured process to manage the creation and acquisition, sharing and transfer, and application of explicit and tacit knowledge as an organizational asset to encourage innovation and enhance competitive advantages.
APQC definition, 2011, Cited by Velev and Zlateva. (2012)	A systematic effort to enable information and knowledge to grow, flow and create value.
Pirkkalainen, Pawlowski, 2013	Achieving a more specific view on the organizational and individual challenges, which arise in collaborative distributed settings, where knowledge is being created, shared, and adopted by groups of people.

2.2.2 Benefits of Knowledge Management

Why is it important for an organization to establish and maintain effective knowledge management practices in order to reach its goal of achieving prosperity and success?

Although the basic need for knowledge management is to preserve the experience of a transient workforce (i.e., employees retiring or moving on) for the sake of the organization's benefit, organizational knowledge is also seen as a critical resource for global success (Marquardt & Kearsley, 1999). Nonaka and Takeuchi (1998) believe that this knowledge is the one promising way for organizations to gain sustainable, competitive advantages in the long run. Organizations with a defined knowledge management policy tend to be able to innovate more quickly in comparison to organizations with reliance on hierarchical decision-making. Furthermore, it is essential to generate future opportunities and to enhance new organizational performance (Velev & Zlateva, 2012).

Knowledge management is also needed to deliberately and systematically coordinate an organization's employees, technologies, processes, and organizational structure in order to add value to a corporate entity (Jones, 2001). In addition, managing knowledge is one of the most important resources contributing to managerial decision-making. It improves efficiency and effectiveness by facilitating the flow of knowledge (Jones, 2001). Knowledge management ultimately helps organizations make sense of what they know and use it more effectively (Jennex, 2008).

Such key advantages are the general benefits of applying knowledge management practices internally and externally within the organization. However, the scope of the

current research is to seek the best knowledge management practices that are internally applicable, between departments, in order to positively impact the employees' performance. These practices have the potential to improve the efficiency of operations by utilizing them when reusing employees' available knowledge. When solving issues, the ability to find the best solution while avoiding mistakes is one the most important advantages (Wagner et al., 2003). Moreover, having successful knowledge management practices facilitates the process of training employees and reduces costs associated with that process. It is a tool of empowerment and enhancement for an organization's staff (Saudi Aramco, 2011).

Some key benefits of knowledge management practices were highlighted in a survey conducted by KPMG Consulting (2000). The benefits, which are achieved at all levels of the organizations, include the following:

- Enhanced decision-making
- Improved customer handling
- Rapid responses to key business issues
- Enhanced employee skills
- Higher productivity
- Higher profits
- Shared best practices
- Reduced costs
- Innovative ways of working
- Boosted market share
- Creation of additional business opportunities
- More effective new product development
- Improved staff attraction and retention
- Increased share price (KPMG 2000)

2.3 Knowledge Management Macro Context

2.3.1 Knowledge-Based Economy

The idea of a new economy started in highly developed countries, where the results of the transfer process from a traditional material (i.e., labor, capital, raw materials, and entrepreneurship) consuming economy to a knowledge consuming economy, based on technological and innovative potential, could be observed (European Portal Website, 2011). Similarly, Mocanu et. al. (2010) perceived it as gradually replacing natural resources with intellectual resources and capital, to enable a better evaluation of an enterprise's ability to generate profits.

Chen and Dahlman (2005) defined a knowledge-based economy as an economy that uses knowledge as the main product to stimulate growth. In such an economy, knowledge is considered to be a key factor of development, value creation, and competitiveness (Chen & Dahlman, 2005).

According to Lopes et al. (2005), such an economy is built on four pillars: technological innovation, science and education, culture, and citizenship. Kocaoglu and Anderson (2002) asserted that the dominant role of technology in society, the rate of radical innovations, communication capabilities, the importance of people in technology-based environment, and the role of technology in corporate strategies, are among the most important factors that distinguish the traditional economy from the new one. Asoh et al. (2002) added to these the factor of speed, characterized as the speed of data capturing, processing, and dissemination, as well as the speed of learning and innovation. Thus, the main effective components of a knowledge-based economy are information

technology (IT) as the fundamental enabling tool, and human capital as the nucleus (OECD, 1996).

2.3.2 Knowledge Management and Culture

The word *culture* can be used to refer to the national culture of a group of people or to organizational cultural settings (Torun, 2004). National culture has traditionally been perceived as a separate entity from organizational culture; consequently, each was treated differently (Fahad & Busch, 2009) until Geert Hofstede demonstrated that national culture is an important part of organizational culture, since the latter is built within the former (Hofstede, 1980). Research has since verified that national culture has a great impact on human resource practices and organizational behavior (De Leo, 2009). Several studies used a variety of frameworks to demonstrate the positive relation between national cultural values and workplace behaviors, attitudes, and other organizational outcomes (Kirkman et al., 2006; Wei et al., 2008).

2.3.2.1 Knowledge Management and National Culture

Culture, which includes all traditions, habits, religions, arts, and languages, works as a system of different values that make one group of members unlike the others (Hofstede, 1984). Torun (2004) defined culture as "…the means by which people communicate, perpetuate and develop their knowledge about and attitudes toward, life."

Empirical evidence has shown that national, cultural differences benefit the process of knowledge management in many ways (Voelpel & Han, 2005; Finestone & Snyman, 2005). Pauleen and Murphy (2005) demonstrated that excluding such influences from the knowledge management models in organizations results in an underestimation

of the effectiveness of knowledge management applications. Indeed, a strong presence of such cultural differences exists in all areas of business and innovation in organizations (Ang & Massingham, 2007). Finestone and Snyman (2005) argued that the ignorance of these differences is a primary and serious source of confusion when applying a knowledge management model.

According to Watanabe and Senoo (2010), the knowledge management process is dependant on the employees' national culture, and their beliefs are represented in their actions and behaviors, as well as by their dependency to the organizational characteristics of their firm and its deliberate and explicit procedures and guidelines. Therefore, the knowledge management tools and practices are highly affected by employees' national, cultural traits. As such, tools and practices suitable for one culture may not work well in another (Holden, 2002; Stankosky, 2005; Pauleen, 2007; Stary, Barachini et al., 2007; Pawlowski & Bick, 2012). Such a conclusion is supported by Hofstede (1984), who stated, "…there are no universal solutions to organization and management problems." However, such differences could lead to a method of learning between countries: "Looking across the border is one of the most effective ways of getting new ideas in the area of management, organization, or politics" (Hofstede, 1984). Hofstede emphasized that this must be done with "prudence and judgment."

Having defined and highlighted the importance of national, cultural traits in leveraging knowledge management practices, the current research will use Hofstede's model as the scale for measuring these attributes. Hofstede conducted many studies on multicultural settings, drawing important conclusions about the way cultural aspects impact the workplace. Indeed, he conducted what is believed to be the most

comprehensive study of how values in the workplace are influenced by culture. The popularity of Hofstede's model is credited to the codification of the cultural attributes by using numerical indices, and to his emphasis on attitudes in the workplace (Kogut & Singh, 1988; Erez & Earley, 1993).

Through his many studies, Hofstede developed a significant model that identifies primary dimensions that are currently used as parameters to differentiate cultures (Boyd, 2012). Initially, his model was built on four dimensions: power distance (PDI), individuality (IDV), masculinity (MAS), and uncertainty avoidance (UAI). PDI is defined as the unequal distribution of power between members of an institution and organization within a specific country; in other words, it is the degree of tolerance for power disparity in society. UA refers to the beliefs and attitudes that members of a culture have developed as a reflection of feeling threatened by the unknown or by ambiguous situations. They are concerned about whether or not they have the power to control what will happen in the future. It represents the degree of tolerance for uncertainty, ambiguity, risk, and the need for formal rules. IDV describes the attitude of an individual in terms of favoring his/her interests ahead of the group's, and describes the degree of integration between a member and his/her group. MAS represents the division of gender roles and the distribution of tasks between males and females. Each has a score representation according to its dominancy in a culture, and these scores are unique to a specific culture. Hofstede eventually added a fifth dimension, long-term orientation (LTO), but it was only applied to 23 countries (Boyd, 2012). LTO is concerned with the time horizons of a society, namely whether the society has a long term, future-oriented time horizon or a conservative, historical, short-term time horizon.

2.3.3 Knowledge Management in Saudi Arabia

This section examines the knowledge management initiative in Saudi Arabia. The reason for including this section, where the objective of the study is to research a multicultural setting, is that the Saudi Arabia web-based survey participants scored the highest. The result made the researcher decide to compare the country of Saudi Arabia to all other participating countries. Moreover, it has lead to a more in-depth inspection of the Saudi Arabian knowledge management initiative.

2.3.3.1 Overview of the Saudi Arabia Economy

In the Middle East, Saudi Arabia is considered the largest economy, producing 25% of the Arab world's gross domestic product (Ussabc, 2008). Saudi Arabia is considered the world's leading oil exporter, possessing the largest oil reserves. That, in many ways, affects the Saudi economy enormously. Examining data from recent decades indicates that Saudi Arabia will continue to gain major profits from oil export in the future, positioning it as a country with an industrial and production wealth economy (Fahad & Busch , 2009).

In such an economy the traditional factors of production are mainly: labor, capital, raw materials**,** energy, and entrepreneurship (OECD, 1996). However, in the new global knowledge economy, production and services are based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, where there is more reliance on intellectual capabilities than on physical inputs or natural resources (Powell1&Snellman, 2004). As a result, the Saudi Government has become interested in transforming its economy to a knowledge intensive system (Ministry of Economy and Planning, 2008). The country is trying to adapt and change the structure of its economy to

be able to compete and fit itself in the new economic environment (King Abdullah Foundation, 2008; Office of the King, 2008). The country is trying to open up to the rest of the world by fostering a culture of moderation, by taking an inter-dialogue approach to face the possible challenges of an economy in transformation (Ramady, 2010). Because of this, Saudi Arabia is an excellent research candidate.

2.3.3.2 Current Knowledge Management Initiative in Saudi Arabia

In Saudi Arabia, knowledge management is a relatively new area of research (Al-Qahtani, 2009). Knowledge management practices are still in their infancy in terms of development, and are lagging behind when compared to the successful knowledge management approaches in developed countries (Alatawi et. al, 2012). Despite this, scant research and academic studies have been conducted within the context of Saudi Arabia (Magd & Hamza, 2008). Many initiatives have sought to apply knowledge management best practices in different Saudi sectors. The current, dominant leader of these initiatives in Saudi Arabia is the private sector, represented by the leading companies of the market. In some of these organizations, a fully equipped department has been established to serve as a knowledge management center. Examples include Saudi Telecom Company (STC), Saudi Arabian American Oil Company (ARAMCO), and Saudi Arabian Basic Industries Corporation (SABIC) (International Conference of Knowledge Management, 2009). However, despite such initiatives, Saudi Arabia—just like other developing countries—has not achieved full process integration, which would involve changing its basic economy from the old to the new (Al-Qahtani, 2009; Alatawi et. al, 2012). Comparing the two kinds of economies and consulting the most recent knowledge economy index rankings of the World Bank demonstrates that Saudi Arabia still lags behind others and

remains in the old economy. Saudi Arabia ranks 68th out of 145 countries (World Bank, 2009).

Saudi Arabia in general is experiencing low performances in many sectors, despite its huge capabilities. Due to the vagueness of organizational knowledge management concepts and applications, Saudi sectors are wasting financial and human capital on inefficient practices (Saudi Aramco Website, 2011).

2.4 Knowledge Management Micro Context

2.4.1 Knowledge Management and Organizational Culture

Organizational culture is believed to be the key enabler, positively influencing the effectiveness and the successful adoption of knowledge management practices (Holsapple & Joshi, 2000). Chen and Dahlman (2005) emphasized the importance of organizational culture by suggesting a framework containing several enablers for organizational knowledge management. The framework encompasses the tools and drivers to make knowledge management practices successful. One of the most vital enablers included in their framework was an overall environment that nurtures knowledge management with suitable policies and standards (Chen & Dahlman, 2005).

Wang (2003) defined organizational culture as the core beliefs, values, norms, and social customs that govern the way in which individuals act and behave in an organization. According to Schein (2004), organizational culture can be seen as "a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems." Collective research has demonstrated that

organizational culture explains the attitudes, experiences, beliefs, and values of an organization (Davenport et al., 1998; Davenport & Prusak, 1998; Ribière, 2001; Stankosky, 2005).

Some vital, cultural features should be available in a knowledge-friendly culture. Ang and Massingham (2007) highlighted the role of employees' inventions and creativity with an optimistic attitude toward knowledge, as well as the need to promote feelings of safety among employees by distributing knowledge. This can then enable the organization to match the organizational culture with its knowledge management needs (Ang & Massingham,2007). Ardichvili et al. (2006) highlighted several knowledge management-specific features and functions, built on employees' assumptions and cultural backgrounds, that can hamper knowledge creation and dissemination. Furthermore, McDermott and O'Dell (2001) argued that organizational culture is unique to each organization. They divided it into two dimensions, reflecting the organization's identity as part of the visible or the invisible culture. Visible culture includes the adopted values, philosophy, and task of the company, whereas the invisible culture exists in the hidden set of values that guide the employees' actions and perceptions during their work at the organization (McDermott & O'Dell, 2001). Moreover, Girard and McIntyre (2010) found that dynamics such as leadership, technology, and measurement were the critical success factors affecting organizational culture.

2.4.2 Knowledge Management Information Behavior & Knowledge Management Environment

The knowledge management context will be used as the second parameter of measurement in this research, in addition to some of Hofstede's previously mentioned

dimensions. Malone (2003) suggested that successful knowledge management depends on: the context in which the knowledge is exchanged, characteristics of the knowledge or evidence, and the way in which knowledge management is facilitated. Thus, knowledge management strategies are more effective when they are aligned with the culture and values of the communities that are relevant to them. The atmosphere of the organization plays a significant role in creating a culture-friendly, knowledge management environment as employee behavior is affected when they create, transfer, and share knowledge. Recent research on organizational learning and knowledge creation has shown that knowledge learning and sharing in organizations is directly affected by employees' cultural characteristics (Ardichvili et al., 2006).

A valuable model that can be used to evaluate the effect of the knowledge management context on knowledge management practices is Detlor et al.'s (2006) model (Figure 2-3). In their research, Detlor et al. tested and validated their model by collecting data from a web-based survey involving 400 participants. The main objective of the study was to better understand the factors of knowledge management behaviors in organizations. Specifically, it sought to illustrate the effect of the knowledge management environment on the knowledge management behavior at the level of the organization itself, as well as at the level of its employees, in addition to addressing the relationship between the latter two factors. The results supported the theory and provided empirical evidence of the relationship between culture and the knowledge management context, as well as between information and knowledge-sharing behaviors in the organization and among its employees (Detlor et al.,2006).

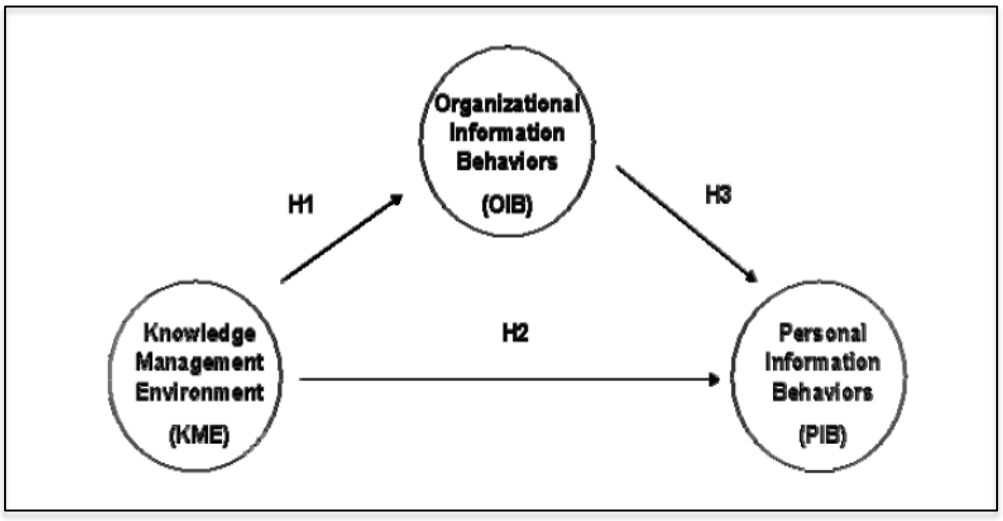

Figure 2-2: Theoretical Model of Detlor et al, (2006)

The analytical model was built based on constructs derived from information orientation and the organizational information environment models (Detlor et al., 2006). Detlor et al.'s model proposes three constructs of knowledge management contexts: knowledge management environment (KME), personal information behavior (PIB), and organizational information behavior (OIB), all of which are bonded by many relations. The first factor, a knowledge management environment, has been perceived as a key enabler in the promotion of effective knowledge management practices (Holsapple & Joshi, 2000). According to Detlor et al. (2006), a knowledge management environment refers to the culture and the commitment, within the organization, to implement and institutionalize effective information and knowledge-sharing processes, practices, and technologies. A knowledge management environment has a positive and direct impact on OIB and PIB (Detlor et al., 2006). OIB and PIB refer to the practices of knowledge sharing at an organizational level and at an individual level, respectively. In their preliminary study, Detlor et al. (2006) concluded that the knowledge management environment was directly impacted by these behaviors. Moreover, they validated the

close link between OIB and PIB, finding that organizational information behaviors impact the degree to which an individual practices specific behaviors regarding personal information. Thus, an individual's behavior, in terms of the practices of information and knowledge sharing, is affected by the insights of other individuals' commitments and tendencies for knowledge sharing. Detlor et al. (2006) concluded that the research model proposed included significant technological, psychological, and sociological factors that highly influence the effectiveness and success of an organization's knowledge management initiatives.

2.5 Knowledge Management and Information Technology

Throughout the related literature, there is a common theme that technology is considered to be the strongest and most effective enabler of knowledge management best practices. Studies have offered many methods of creating, delivering, and sharing the needed information for knowledge practices among individuals in organizations (Issa & Haddad, 2008). Chen and Dahlman's (2005) suggested framework of the key enablers of organizational knowledge management considered technology to be a vital pillar. It is perceived as a dynamic and modern information infrastructure that facilitates the effective communication, dissemination, and processing of information and knowledge (Chen & Dahlman, 2005).

Traditional systems that facilitated the practices of knowledge management have provided some functionality, but not full integration. Knowledge center portals and repositories have been used to code and share documents such as best practices. Knowledge-creating directories serve as the Yellow Pages, and knowledge-creating networks have also been used (Alavi & Leidner, 2001). Information and communication

technology (ICT) was eventually introduced to support codification and personalization strategies (Hansen et al., 1999). Codification strategies refer to capturing and storing knowledge for reuse, where prime technologies are search engines that locate documents and knowledge. Ultimately, the personalization strategy aims to connect people to people via communication technologies and expert locators (Parise, 2009).

A lateral initiative to ICT is the electronic community of practice, which includes websites, electronic message boards, emails, and listservs (Parise, 2009). However, as with preceding technology, such technologies still lack social and organizational contexts to explain the know-how, know-what, and know-who (McDermott, 1999; Brown & Duguid, 2000), all critical aspects of knowledge management practices.

Another division of the knowledge management technological solutions was presented by Wagner et al. (2003), who discussed knowledge management portals, customer relationship management (CRM) systems, data and text mining, content management, and expert directories, as examples. Their study determined that the most important and best solution is virtual communities (Wagner et al., 2003).

McAfee (2006) grouped the currently used information technologies for knowledge management into two categories: the comprised channels, in which the degree of communication is low but the process of generating content can be done by any person (e.g., e-mail and person-to-person instant messaging); the second category includes platforms like intranets, corporate websites, and information portals. In the latter category, all members of the involved group should approve the generated content to make it available to everyone, making the degree of communication higher while production is centralized.

However, most of the technologies discussed thus far lack what recent knowledge management initiatives are seeking. The literature emphasizes that today's organizations need interactive knowledge management technologies in order to unite the human side of the equation with the knowledge management side, which is possible through the use of virtual communities (i.e. web 2.0) (Ardichvili et al., 2003). Such new technologies have the potential to bond the organization together and overcome obstacles that previously could not be overcome (McAfee, 2006). Such an emphasis results from a knowledge management paradigm shift; from a knowledge-warehouse approach to a more dynamic, communication-based or network approach (Kuhlen, 2003; Hazlett et al., 2005). It can therefore be observed that organizations are increasingly integrating these technologies into their internal processes in order to help their knowledge management initiatives (Bughin & Manyika, 2007; Dennison, 2006). These technologies are promising in the context of knowledge management and have been applied to increase collaboration within organizations (Zheng et. al, 2010). They are being used to bridge the gap between humans and technology in the knowledge management initiative (Fiendler & Welpe, 2011).

2.5.1 Enterprise 2.0 and Knowledge Management

2.5.1.1 Enterprise 2.0

The term "Enterprise 2.0" is used to refer to social computing platforms and channels (e.g. blogs, wikis, social networks, multimedia sharing sites) that can be used in organizations to support collaborative knowledge work. McAfee (2006) defines Enterprise 2.0 as the strategic integration of Web 2.0 technologies into an organization's intranet, extranet, and business processes. In the preceding definition, Web 2.0 refers to

web applications that facilitate information, interoperability, user-centered design, and collaboration on the World Wide Web (O'Reilly, 2007). Such online interactive social applications enable people to gather, connect, and/or collaborate actively, in contrast to the prior, passive viewing of content as in older versions (Kane et al., 2009).

Web 2.0 is a fairly new innovation that is still referred to by many names. It emerged in the late 1990s with the launching of SixDegrees.com in 1997, one of the first recognizable social networking sites (SSNs) (Boyd & Ellison, 2007; Kim et al., 2010). This SSN had a strong and a powerful impact that changed the way the online world was viewed. This signified a new way of communicating and interacting on both individual and organizational levels, modifying the way they operate and interact internally and externally (Shehada, 2010).

Experian's "Hitwise" website defines such technologies as "online communities of people who share interests and activities, or who are interested in exploring the interests and activities of others. They typically provide a variety of ways for users to interact: through chat, messaging, email" (Experian Hitwise website, 2007). Chiu et al. (2006) further define it as "an online social network in which people with common interests, goals, or practices interact to share information and knowledge, and engage in social interactions."

Two terms are used interchangeably to describe such technologies: social media and social networks, but researchers have sought to differentiate between the two (Kim et al., 2010). One group focuses on content while another focuses on users, as indicated in Table 2-3.

Table 2-3: Social Media and Social Networks

Author	Definition	Key Features
Kim et al., 2010 **Kaplan and Haenlein, 2010**	Creating and sharing user-created contents (UCCs) Examples: photos, videos, bookmarks of web pages, user profiles, user's activity updates, and text (blog, micro blog, and comments)	Social networks are under social media.
Boyd and Ellison, 2007 **Mislove et al., 2007** **Fox and Naidu, 2009**	Organizing the web around users and extending their relationships on the web	(1) Construct a public or semi-public profile within a bounded system (2) Articulate a list of other users with whom they share a connection (3) View and traverse their list of connections and those made by others within the system

2.5.1.2 Different Types of Enterprise 2.0 Tools:

2.5.1.2.1 Social Networking Sites

The Digizen report of social media services (2011), divides social networking sites into six categories. In that report, the company emphasized the definitions from the preceding Table, segregating these services into sites that are primarily organized around users' profiles and those that are organized around content collection:

Profile-based social networking services: Examples include Facebook and MySpace. This category falls into the first division, which is organized around a user's profile. Such sites usually include information about the individual, pictures, preferences, and interests. The user can work on his or her space by engaging in many interactions with other users. Third-party content is also involved in the form of widgets to enhance profiles or include information from other web and social networking services.

Content-based social networking services: These focus primarily on organizing connections through the user's profile, but they also serve a secondary role: generating

content. Flicker and YouTube are good examples, where both sites are organized around the user's profile and serve to generate content.

White-label social networking services: These offer group-building functionality and allow users to form mini-communities within sites.

Multi-user virtual environments services: These allow users to interact with each other's avatars (a virtual representation of the site member).

Mobile social networking services: These are mobile versions of web-based social network services that allow the user to access such services from smart devices, such as a Blackberry or an iPhone.

Micro-blogging/presence updates: These services (e.g., Twitter) allow a user to publish a brief message to the public or a specific group. Initially, these were designed for mobile use, but they are widely used on the web as well.

Social Search: This involves utilizing the popularity of social networking services by searching the public profiles of multiple social networking sites (Digizen, 2011). Brandtzaeg and Heim (2008) categorized such services from a slightly different perspective, in terms of focus and target audience. They touched upon all of Digizen's (2011) definitions, but went further to introduce a "professional communities" category, which benefits this research. They distinguish such communities by focusing on business networking, such as LinkedIn (Brandtzæg & Heim, 2008).

2.5.1.2.2 Blogs

Blogs are mainly word-based sites, with wide variation in their content. They can be dedicated to technical developments, politics, news, and general opinion sharing (Razmerita et al., 2008). Their entries are usually organized in chronological order, but

displayed in reverse. Nardi et al. (2004) identified five reasons for using blogs: to update others on users' activities and whereabouts, to express opinions in order to influence others, to seek others' feedback and opinions, to "think by writing", and to release emotional tension. Herring et al. (2004) categorized blogs into personal journals, "filters", and "knowledge logs". They cited Zerfass and Bogosyan's (2007) work on 600 Internet users to conclude that most interviewees see blogs as an effective platform for sharing expert knowledge on different topics of interest. Moreover, they are used to acquire new information, to connect with other people, and to share knowledge. Blog writers tend to be expressive and often personal in their work (Herring et al., 2004; Zerfass & Bogosyan, 2007).

2.5.1.2.3 Wikis

According to Razmerita et al. (2008), Wiki applications are used to facilitate collaborative editing that is supported by a revision mechanism to allow for the monitoring of changes. Such applications can be used on the community or personal level (Razmerita et al., 2008). Two kinds of wikis exist: Firstly, the semantic wiki, which allows users to make formal descriptions by linking to the page's resources using metadata. Secondly, the regular wiki is where users add definitions, historical accounts and more, using it as plain-language reference material (Razmerita et al., 2008). However, testing the quality of contributions posted in such collaborative authoring environments is challenging (Korfiatis et al., 2006). Determining a reliable answer is based on the "wisdom of the crowd" principle (Razmerita et al., 2008).

2.5.1.2.4 Discussion Forums

Discussion forums help users analyze, evaluate, present, and share information with others. One example is Tangler (www.tangler.com), which allows users to establish live discussion forums and share information with others (Razmerita et al., 2008).

2.5.1.2.5 Content Feeds—Really Simple Syndication (RSS) feeds

Content feeds are content delivery vehicles used to syndicate news and other web content. A user creates the content, which is then published in many places (Press feeds, 2011). It can be seen as the process of publishing frequently updated material in XML form (Säntti, 2008).

2.5.1.2.6 Collaborative Tagging Tools

Collaborative tagging tools describe the process by which many users add metadata (i.e. a set of data that describes and gives information about other data) in the form of keywords, in order to share content. Collaborative tagging reveals users' points of view about a particular information source (Anila, 2008). Collaborative tagging has grown in popularity as a result of sites that allow users to tag bookmarks, photographs, and other content (Golder & Huberman, 2005).

2.5.1.2.7 Social Bookmarking Utilities

Social Bookmarking utilities provide a simple way for a group of people to share Internet resources as bookmarks. For example, Heystaks (www.heystaks.com) enables web search result collection, classification, and sharing. Users can create stacks—lists of search results—as well as join existing lists and share with others (e.g. friends and colleagues). A user can evaluate a link for other users (Razmerita et al., 2008).

2.5.1.2.8 Mashups

Mashups is a web page or a web application that combines data, presentation, or functionality from more than one resource to create a new web service. For example, Google Earth service presents maps of a destination along with detailed information and services such as nearby restaurants and hotels, combining many web applications to present one service to the user (Säntti, 2008).

2.5.1.2.9 Instant Messaging

Instant messaging is one of the most commonly used types of communication service and was among the first tools adopted by technology users (Säntti, 2008). According to Otala (2008), instant messaging refers to real-time messaging via connected computers over a network.

Fox and Naidu's (2009) analysis demonstrated that Enterprise 2.0 tools share many common characteristics despite the variation in the way in which they are set up, the level of details involved, and the way they function. They allow a person to benefit from a virtual environment to create a social presence, make connections, and communicate with friends or find new ones who share the same interests (Fox & Naidu, 2009).

2.5.2 Overview of Social Media Adoption in Saudi Arabia

Although the Internet was late to be introduced in Saudi Arabia, the adoption rates have been constantly rising since then (Saudi Internet Website, 2012). In 2000, the number of Internet users reached 2 million, and by 2005 it had grown to 2,54 million. In June 2012, with a population of 26,534,504, the number had reached 13 million, representing 49.0% of the population (Internet World Stats website, 2012).

At first the introduction of social media in Saudi Arabia was surrounded by cultural and religious concerns, similar to those that arose when the Internet was first introduced (Amos, 2011). However, the government of Saudi Arabia was more aware of the benefits and the necessity of introducing such technologies. The government's aim was, and still is, to support anything that could foster the overall wellbeing of the Saudi community and economy (Tago, 2012).

Many statistics show that Saudi Arabia is considered one of the top countries in the Middle East for the use of Social Media tools (Amos, 2011); the country is catching up to the rest of the world, when it comes to social media (Tago, 2012). There are now a total of 5,852,520 Facebook users in Saudi Arabia, ranking Saudi Arabia as 33rd in the world, and corresponding to a representation of 20.01% of the Saudi population (Social Bakers website, 2013). As for Twitter, there are now more than 3 million active users, due to an increase of 3,000% from 2011 to 2012, which is much higher than the global average (Bennett, 2013). The situation is similar with YouTube, where a growth rate of more than 109% was recorded from 2011 to 2012, with more than 90,000,000 videos watched daily in Saudi Arabia (Saudi Arabia Social Media Statistics, 2013). Furthermore, the LinkedIn adoption rate is also considered to be high in Saudi Arabia, with 840,000 active LinkedIn users.

2.5.3 Enterprise 2.0 for Knowledge Management

Throughout history, organizations have searched for the most effective tools to help achieve the ultimate knowledge management approach. They seek appropriate methods to gain a competitive advantage over their rivals in the business world. Prosperity is the fundamental dream of any organization (Parise, 2009), and the

emergence of Enterprise 2.0 tools transforms that dream into reality (Findler&Welpe, 2011). The focus has shifted toward leveraging such technologies in a business setting. Due to the parallels between the information revolution, the search to manage knowledge, and the growth of social media as a tool to organize human activity (Serrat, 2009), the movement toward applying these tools to knowledge management and incorporating them into the workplace is accelerating around the globe (Kane et al., 2009; Zheng et. al, 2010). According to Forrester, as cited by Kane et al. (2009), expenditures on Web 2.0 tools will continue to grow, which will motivate organizations to use these tools for knowledge management. Since these technologies are growing in popularity among personal users, their potential benefits in the workplace should not be underestimated (Antonova and Nikolov, 2011). Enterprise 2.0 tools positively impact knowledge management practices, where knowledge processes are essentially social processes (Davenport et al., 1998; Brown & Gugid, 2000).

2.5.4 Uses of Enterprise 2.0 for Knowledge Management

The Useful Social Media Report, conducted in the US and Europe, shows that organizations are currently using Enterprise 2.0 technologies for a wide range of marketing and communication efforts. In addition, a fuller integration of social responsibilities within a variety of different departments inside the organization is gaining in popularity. The use of Enterprise 2.0 tools for employee engagement is also increasing (Johnson, 2011).

Within the organization, Enterprise 2.0 tools serve as a new method of collaboration and knowledge sharing. Their embedded features effectively connect

colleagues and foster interactions in order to encourage personal and professional knowledge sharing (Murphy & Salomone 2010).

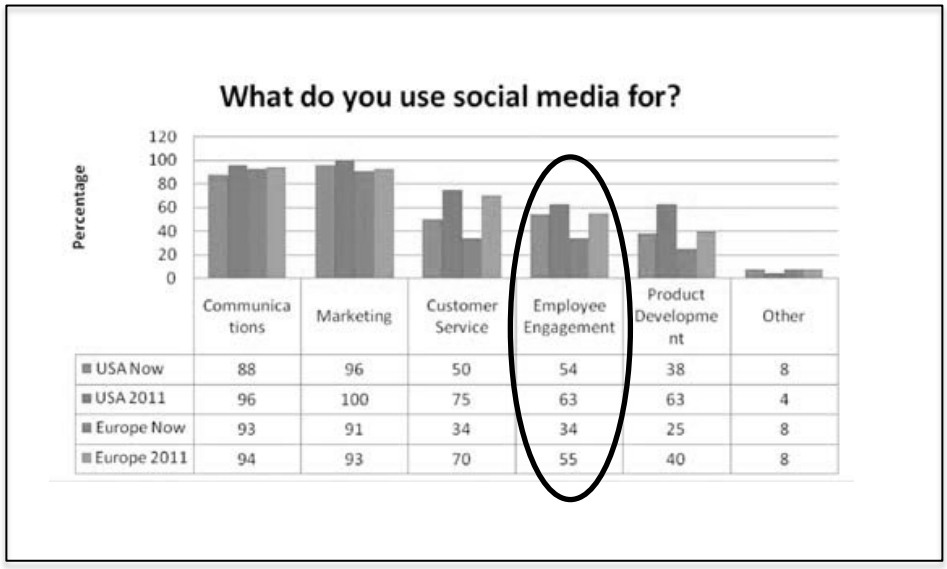

Figure 2-4: Useful Social Media Report (Johnson, 2011)

These tools are used to strengthen weak bonds between employees, as well as to give them the chance to build new relations with previously unknown employees at personal and team levels. This can enable them to advance their careers with the company and promote their campaign for a new project (DiMicco et al., 2008).

Training is also an important factor for intra-organizational Enterprise 2.0 tools (Saudi Aramco, 2011). When using such tools for training, employees and their colleagues can benefit, for example, by becoming involved in video-sharing rather than reading manuals the old-fashioned way. However, the main use of Enterprise 2.0 tools in an organization continues to be general social use (Vadari & Kummamuru, 2010).

2.5.5 Advantages of Enterprise 2.0 Tools for Knowledge Management

Although the use Enterprise 2.0 technologies for knowledge management did not reach its full potential in organizations (Riedl, 2012), there are many noticeable advantages of its use. The main advantage of using Enterprise 2.0 for knowledge management is related to people and content. People are used to find content, and content is used to find people, particularly when using Enterprise 2.0, as such tools facilitate the quest for people and content. According to Kane et al. (2009), knowledge management acquires the knowledge that is in an employee's head, while Enterprise 2.0 tools are used as a way to collect that knowledge. When used internally, the value of these tools is significant because they offer a richer means for employees to communicate and interact with each other online (Yates & Paquette, 2011). Through the power of communication and interaction, many closed doors are opened to knowledge management. This is evident when considering the most important result, namely fostering intelligent and effective collaboration between employees and teams of employees (Razmerita et al., 2008; Serrat, 2009; Vadari & Kummamuru, 2010). This collaboration nurtures the overall intellectual capital among employees, as Mentzas et al. (2007) assert that no matter how smart an individual employee is, large groups of people are better at resolving problems, adopting innovation, reaching wise decisions, and even forecasting the future. Such collaboration allows employees to engage in many practices, such as sharing documents, making comments, participating in discussions, creating schematic diagrams, and representing valuable activities for knowledge management (Jones, 2001).

Furthermore, according to Shoham & Hasgall (2005), the focused scope of knowledge sharing using Enterprise 2.0 increases knowledge reuse and eliminates

reliance on formal liaison structures (in terms of both personnel and systems) among employees. It also gives them complete visibility as to how their colleagues manage knowledge, by: including access to other employees' sources, identifying how to solve a problem from a different starting point, finding materials that could easily be repurposed for other needs, avoiding duplicate efforts, and giving them the ability to respond immediately and effectively to any change, due to real-time features (Shoham & Hasgall, 2005).

Enterprise 2.0 tools can lead to numerous advantages if monitored, managed, and utilized properly. They can be leveraged internally in an organization to push its knowledge management approach forward. Some of these advantages include being user-friendly, free to use, flexible, and in support of a growth in the "*Word of Mouth*" theory (Reynard, 2008). Additionally, using such tools to find talent, to identify expertise for just-in-time assistance, to achieve effective training mechanisms, to support communications and interactions among employees in separate locations, to speed up decision making, and to increase agility and adaptability (Drapeau & Wells, 2009) all support for the idea of investing in such solutions (Avram, 2006). Enterprise 2.0 technologies also support unstructured and complex issues through individual collaboration, according to the task assigned to them, which reflects natural communication patterns (Benitoruiz, 2010).

Moreover, Enterprise 2.0 technology enhancement is expected to reveal significant benefits to the efficiency of information management, and provide an improved overall user experience of knowledge-workers in organizations (Bibikas et. al, 2011). It has been

seen to improve relations among all players within organizations, enhance resource management, cost containment and the marketing edge (Benitoruiz, 2010).

Such advantages are tangible benefits (Chiu et al., 2006), but there are also useful intangible advantages for employees who use Enterprise 2.0 tools for an intra-organizational knowledge management approach. Becoming more visible (Butler et al., 2002), enhancing their reputation (He & Wei, 2009), achieving a sense of self-worth (Bock et al., 2005), and obtaining enjoyment by helping others (Yu et al., 2010) are among the most important advantages.

2.6 Key Studies & Literature Gaps

This section emphasizes the key studies that the researcher came across when investigating the subject. These studies, presented in Table 2-4, highlight the many gaps that should be taken into consideration in order to make this research valuable. They touch upon many vital areas concerning the scope of this study, which helps position such research within a suitable context by examining the current research in the same field.

Among the important arguments is the need to identify internal knowledge management practices in organizations worldwide, specifically in developing countries such as Saudi Arabia, with different national and organizational cultural settings. Enterprise 2.0 is an effective enabler of knowledge management best practices and is used to explore the major factors affecting both constructs. An examination will be performed to seek correlations with the associated knowledge management context.

Table 2-4: Key Studies

Author & Company	Purpose	Method	Key Findings and Results
Current State of Enterprise 2.0 Knowledge Management (Velev & Zlateva,2012)	Summarize the present and future trends using enterprise 2.0 technologies for knowledge management	Analysis of Web Resources	Current and new trends of adopting Cloud Computing technology for the purpose of knowledge management perceived as a viable option of enhancement.
Barriers to Knowledge Management in Saudi Arabia (Al-Hussain, 2012)	Explore, identify, rank and understand the major barriers that hamper the application of knowledge management approach in Saudi Arabia	Delphi Method	Revealed barriers of adapting a knowledge management approach on the dimensions of learning, learnability, technology and organization
Saudi Telecommunications Company (STC) (Al-Adaileh and Al-Atawi , 2011)	Investigate the impact of some organizational culture attributes on the knowledge exchange (KE) process	A descriptive correlation design was used to determine if the proposed organizational culture factors could affect KE (a deductive research). Web survey collected data from 378 employees, the sample was selected using an e-mail list	Statistically significant correlation between organizational culture and KE as a whole. Factors of trust, innovation, information flow, supervision, and reward impact KE within the context of STC. Concepts of team working and customer-centric organizations have not been established.
SABIC Case of The Research and Development Department (Rabhi , 2011)	Evaluating the Key Performance Indicators' (KPIs) effect on the advancement and sustainability of knowledge management	Five years of data and trend analysis from the organization's database. Evaluating KPIs within the organization.	There is an increase in the numerical data representing KPIs incorporated into the knowledge management processes and systems, number of projects completed on time, and number of technical reports generated, which clearly proved to management that knowledge management is important to business success, prosperity, and continuity. The numerical values reflected in these KPIs will ensure a viable and sustainable knowledge management in SABIC R&D. The introduction of knowledge management approach is considered to be an effective solution.
Knowledge Management at Saudi ARAMCO (Maintenance Department, Saudi Aramco Website, 2011)	Sustaining and enhancing Saudi Aramco's competitive advantages through knowledge management.	Developing an Experience Express (EX2) initiative. Using video clips for knowledge creation and sharing. A way to train employees.	Delivering significant benefits in productivity and enhancement of knowledge among Aramco's employees. Specifically, reducing training time for new employees by 50 percent
Shaping knowledge management: organization and national culture (MagnierWatanabe and Senoo, 2010)	Assuring the impact of organizational culture on knowledge management	Distributing a questionnaire survey to a Japanese pharmaceutical company's 14 foreign subsidiaries	It was found that organizational culture characteristics as well as national culture attributes have an impact on the process of knowledge sharing. However, the organizational culture characteristics effect is dominant and stronger

The impact and value of blogs on organizational social capital and knowledge sharing at Dell Inc. (Baehr & Alex-Brown 2010)	Examining Dell's blog use to investigate its value and impact on individual and organizational knowledge-sharing practices	Three-phased study: 1- formal and informal personal interviews and an analysis of site-usage statistics 2- User survey, additional personal interviews, and an analysis of site-usage statistics. 3- Personal interviews, site-usage statistics, and data from a new survey-based blog-post rating system.	Corporate blog can be used as a sustainable forum, leading to a shared understanding of organizational roles, increased sense of group cohesiveness, improved work processes, and improved professional and personal ties among employees in the organization.
Tapping into social networking: Collaborating enhances both Knowledge Management and e-learning (Kane et al., 2009)	Exploring the untapped uses of social networks in the workplace.	Analyzing authors' viewpoint and relying on their experience and review of literature	A synergy exists between knowledge management and e-learning through these social networking tools. "By incorporating knowledge management with social networking, organizations could have a new vehicle for e-learning, allowing formal and informal information to flow along the 'super highway'." (Kane et al., 2009)
Social Media Networks: What do they Mean for Knowledge Management? (Parise, 2009)	Investigating the impact of Social Media Networks on Organization knowledge management	Comparing and analyzing the available literature of knowledge management and Social Media	The future is nurturing the use of Social Media as enabler for organizations knowledge management .
Developing Corporate Knowledge Management through Social Media (Säntti, 2008)	Defining how corporate knowledge management can be developed through social media utilization	Developing a knowledge management proposed system, then validating it through surveys, interviews and literature review. Finding demand > matching solutions > utilizing the use of social media through a model.	Using Social Media for knowledge management significantly impacts communication facilitation and creates new possibilities for the emergence and processing of innovations that combine employees and their knowledge.
Integrating Knowledge Management into Corporate Internal Communication (Xu, 2007)	Investigating the importance of integrating knowledge sharing in an organization and Highlighting the benefits achieved internally.	Author's personal experience, working as a translation project manager in China and Analyzing the flow in a translation project.	Knowledge management provides the opportunity to achieve effective corporate internal communication. Successful handling of knowledge sharing will contribute to substantial savings and significant Improvements in human performance. Some key conclusions: - Knowledge sharing requires trust among members in an organization to encourage communication. - Technology is a knowledge facilitator and people are enablers. - A usable knowledge management system does not have to be complicated or fancy; the fit is important.

The impact of organizational context and information technology on employee knowledge-sharing capacities. (Kim & Lee, 2006)	Analyzes the impact of organizational context and IT on employees' perceptions of knowledge-sharing capabilities in five public sector and five private sector organizations in South Korea.	Survey questionnaires were sent to employees in agencies in South Korea.	Social networks, centralization, performance-based reward systems, employee usage of IT applications, and user-friendly IT systems were found to significantly and positively affect knowledge-sharing capabilities.
Critical factors of knowledge management implementation success (Chong & Choi, 2005)	To identify the best practices that would make knowledge management programs work in an organization.	Review of various knowledge management models presented by various researchers and practitioners.	Employee training, employee involvement, teamwork, employee empowerment, top management leadership and commitment, organizational constraints, information system infrastructure, performance measurement, egalitarian culture, benchmarking, and knowledge.
Managing Knowledge Through Virtual Communities in Developing Countries. (Wagner et al., 2003)	Reviewing the role of virtual communities as a knowledge management solution, especially in e-government in developing countries.	Testing the feasibility of many other solutions, highlighting the opportunities and the challenges of each technology and mechanism.	Virtual communities are the most suitable solution for developing countries to manage knowledge (specifically in e-government) due to their effectiveness and affordability. Providing successful examples from the developing countries context.

Analyzing existing knowledge management literature indicates a gap in the connection of enterprise social computing (Enterprise 2.0) use and knowledge management. It has received little scholarly attention due to the novelty of the technology and its use. In addition, measuring its economic value for organizations is still an unfocused and undeveloped idea (Baehr & Alex-Brown, 2010). Despite the public's widespread adoption of social media, organizations have only recently realized the potential of enterprise social media (Enterprise 2.0) tools (Wagner, 2003; Desouza & Awazu, 2004; Jarvenpaa & Majchrzak, 2010; Yates & Paquette, 2011).

Although organizations are aware of the benefits of Enterprise 2.0 tools for their knowledge management practices, they are still far from being able to utilize their public and organizational power in ways that can harness their potential. Organizations are still afraid of the main obstacles accompanying such tools, in their fragmentation and lack of interoperability. Organizations need to understand when, why, and how Enterprise 2.0

can function to enhance knowledge management (Serrat, 2009). Understanding how to properly leverage such tools remains a great challenge (Vadari & Kummamuru, 2010). Therefore, the use of such technologies for the purpose of knowledge management presents new challenges and avenues for research (Hasty et al., 2006), which this research aims to address.

Furthermore, it can be seen that it is rare in such studies to merge all factors of national, cultural traits in a knowledge management context along with the role of the technological factor. Table 2-4 shows that two groups are interchangeably studied and little research has been conducted to study all three constructs and their combined effects. Therefore, there is a need to conduct additional research to investigate the broader spectrum of the interaction of such factors.

Chapter 3: Research Design and Methodology

This Chapter discusses the research procedures followed for empirical investigation for this research study. It starts with the introduction of the important theories that have been used to form this research theoretical structural model. Then, it presents the research theoretical structural model that is used as the basis for the deductive quantitative analysis. Then the research design appropriateness is presented, followed by a description of the survey instrument design. Lastly, the data collection procedures and data analysis techniques will be reviewed.

The main goal of this research is to explore the sociological and technological factors that affect the use of Enterprise 2.0 technologies for knowledge management. Toward this end, we investigate the relationships that might occur between espoused cultural values, technology perceptions, corporate knowledge management practices, and organizational and personal information behaviors in this part of the research.

As explained in the previous chapter, within the realm of knowledge management, information technology (IT) is considered a "fundamental building block" that supports and coordinates knowledge management (Alavi & Leidner, 2001; Yeh, Lai, & Ho, 2006). Therefore, exploring the use of Enterprise 2.0 technologies to facilitate various knowledge management processes and practices within the organization will be the aim.

3.1 Theories Used in the Formation of the Research Theoretical Model

3.1.1 Technology Acceptance Model (TAM):

TAM stemmed from an adaptation of the Theory of Reasoned Action (TRA) in the information system field presented by Fishbein and Ajzen (1975). TRA successfully

predicts and explains behaviors across a variety of domains, where it is considered to be a well-researched intention model (Davis & Bagozzi, 1989). In the TRA, a person's performance of a specified behavior is determined by his or her behavioral intention (BI) to perform the behavior, and BI is mutually determined by his/her attitude (A) and subjective norm (SN) concerning the questioned behavior. This theory was used as a basis for the TAM model presented in Figure 3-1, which models a user's acceptance of information systems. Two beliefs—perceived usefulness and perceived ease of use—are believed to have an impact on the users' behavior when accepting information systems by testing their attitude based on the intention, and ending with the actual system use (Davis & Bagozzi, 1989). The two primary factors are defined as: *Perceived Usefulness*: "…the degree to which a person believes that using a particular system would enhance his or her job performance." *Perceived Ease of Use*: "…degree to which the prospective user expects the target system to be free of effort" (Davis & Bagozzi, 1989).

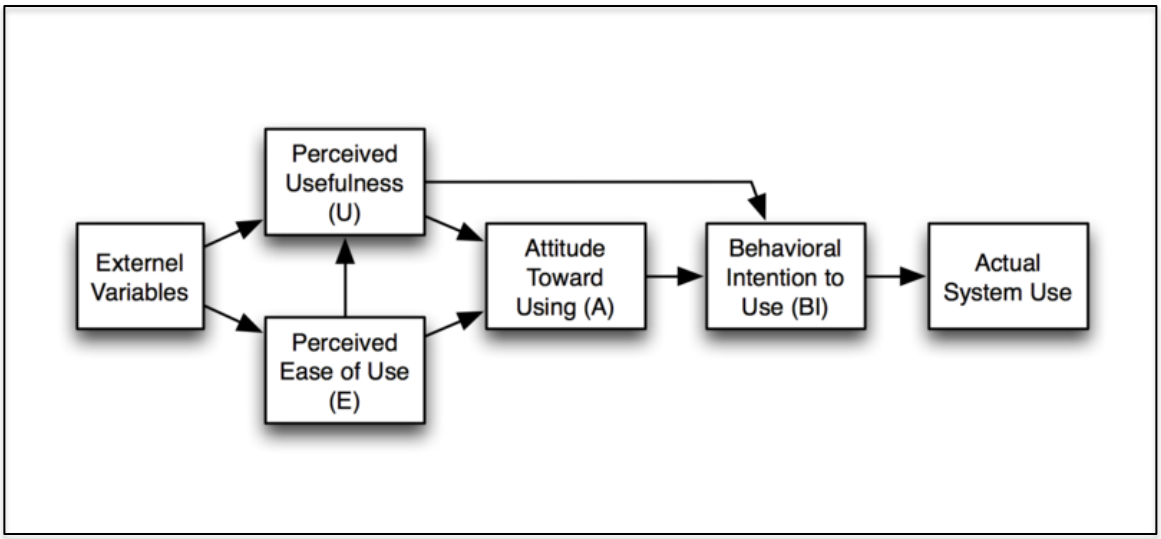

Figure 3-1: TAM-Technology Acceptance Model (TAM) (Davis & Bagozzi, 1989)

3.1.2 Information System (IS) Success Model:

DeLone and McLean presented their model to provide a general and comprehensive definition of IS success that covers different perspectives of evaluating information systems. By reviewing the existing definitions of IS success and the measures corresponding to it, they classified them into six categories (system quality,>information quality > use and user satisfaction > individual impact > organizational impact), in which they suggested a multi-dimensional measuring model with interdependencies among the different success categories (DeLone & McLean, 1992). However, ten years later they presented an updated version of it based on the need for modification and development that evolved and the evaluation of the many contributions to it by other researchers and studies (DeLone & McLean, 2002, 2003).

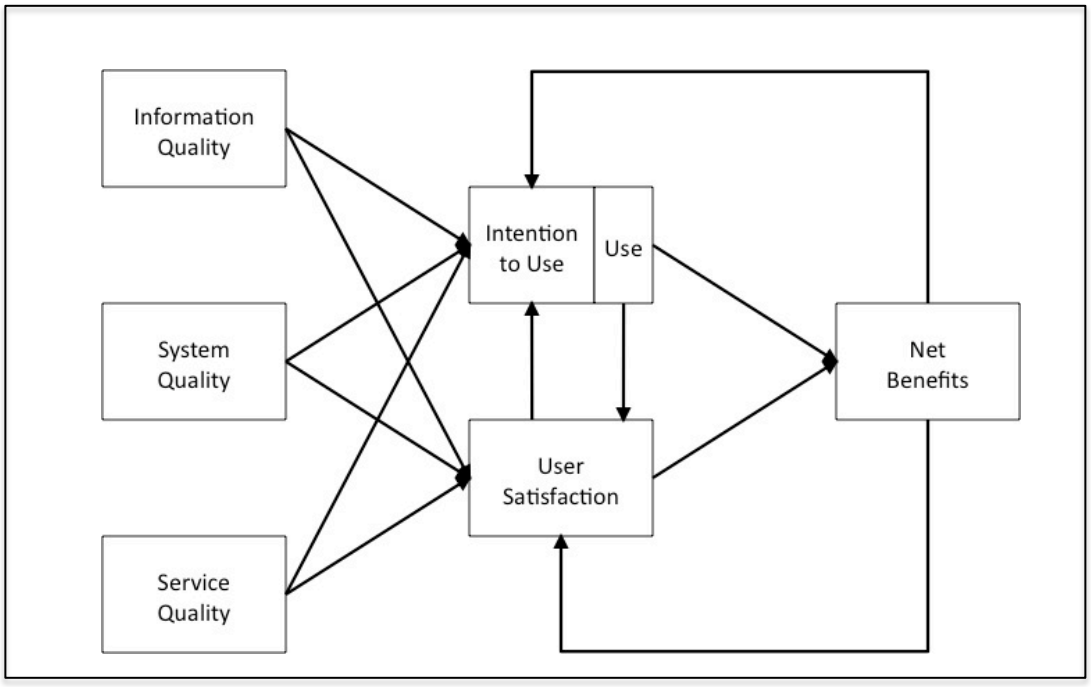

Figure 3-2: Updated Information Systems Success Model (DeLone & McLean, 2002, 2003)

The six interrelated dimensions of IS success in the updated model are similar to the initial version in many ways: information, system and service quality, (intention to) use, user satisfaction, and net benefits (see Figure 3-2). The model can be interpreted as a system that can be validated in terms of information, system, and service quality; these attributes will affect the use of the system or the intention to use, and user satisfaction, which ultimately yields the desired benefit. Such a benefit might affect the satisfaction of the user either positively or negatively, which will lead to the use of the information system.

3.1.3 Media Richness Theory

Daft and Lengel named the Information Richness Theory, defining it as "…the ability of information to change understanding within a time interval." According to this theory, the richest medium of communication is the one that promotes understanding in a timely fashion; meanwhile, the one that takes more time to understand is a less rich medium. From a different perspective, the richest medium has more effective communication than other ones. This is also applicable when a user wants to send a message: he/she should use the richest medium available in order to convey that message properly and achieve a successful communication. According to this theory, media richness is a function that has many features. First, the medium has the capacity for immediate feedback. Second, it functions in a variety of languages. Third, it has an available number of cues and channels. Finally, it has a degree of intent that is focused on the recipient to receive a richer communication (see Figure 3-3) (Daft & Lengel, 1986).

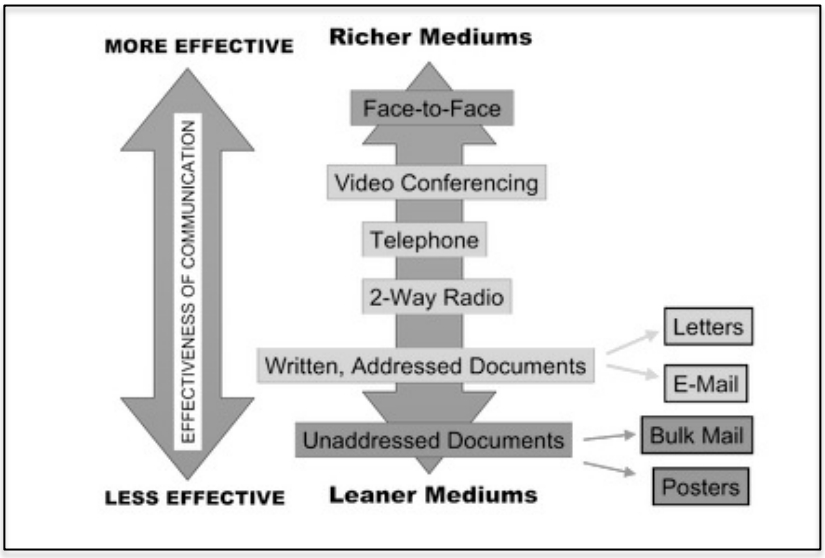

Figure 3-3: Media Richness Theory (Daft & Lengel, 1986)

3.2 Research Proposed Theoretical Model

Built on the previously mentioned theories, the following theoretical model has been formulated to achieve the objective of this research study.

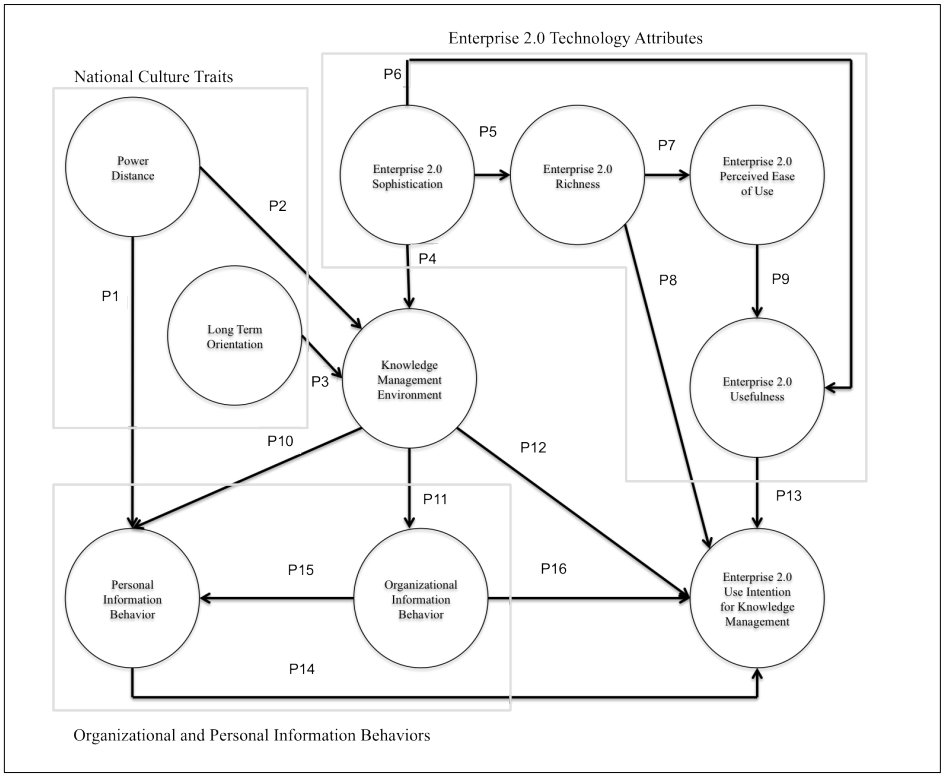

Figure 3-4: Research Proposed Theoretical Model

3.2.1 Proposed Constructs' Dimensions and Paths

3.2.1.1 National Culture Traits

The first dimension of the theoretical model introduced in this research is national, cultural traits. This dimension reflects espoused national, cultural values as individual difference variables that affect the knowledge management environment and practices in the organization. This dimension includes the constructs of Power Distance-PDI, and Long-Term Orientation-LTO.

Table 3-1: Path Propositions for National Culture Traits

Proposition	Model Path
P1	*Power Distance between organization's employees has a positive impact on Personal Information Management Behavior*
P2	*Power Distance between organization's employees has a positive impact on Organization's Knowledge management Environment*
P3	*Long-Term Orientation has a positive impact on Organization's Knowledge management Environment*

3.2.1.2 Enterprise 2.0 Technology Attributes

This second dimension covers the technologic attributes of Enterprise 2.0. The theoretical model includes factors that are expected to influence employees' cognitive, affective, and behavioral responses toward Enterprise 2.0 technologies. This includes several factors: efficiency, usefulness, richness, and sophistication.

Previous researchers have discovered that perceived usefulness and perceived ease of use have a positive influence on the individual's intention to use the enterprise system, subsequently leading to greater actual use of that system (Davis & Bagozzi, 1989). Additionally, high-quality communication with mature and diverse tools can enhance an end-user's interaction with technology and overall use (Daft & Lengel, 1986;

Ghobakhloo et al. 2011). Together, technologies with such traits have been shown to facilitate effective communication, dissemination, and processing of information and knowledge (Chen & Dahlman, 2005). Therefore, in this research it will be theorized that perceptions of usefulness, ease of use, media richness and technology sophistication are important cognitive drivers that affect the knowledge management environment and the adoption of Enterprise 2.0 technologies.

Table 3-2: Path Propositions for Technology Attributes

Proposition	Model Path
P4	*Sophistication of Enterprise 2.0 technologies has a positive impact on Organization's Knowledge management Environment*
P5	*Sophistication of Enterprise 2.0 technologies has a positive impact on the Richness of Enterprise 2.0 technologies*
P6	*Sophistication of Enterprise 2.0 technologies has a positive impact on Perceived Usefulness of Enterprise 2.0 technologies*
P7	*Richness of Enterprise 2.0 technologies has a positive impact on the perceived ease of Enterprise 2.0 technologies use*
P9	*Perceived ease of Enterprise 2.0 technologies use has a positive impact on the Perceived Usefulness of Enterprise 2.0 technologies (Adapted from TAM)*

3.2.1.3 Knowledge Management Environment

The third dimension includes a vital factor at the organizational level, which is the knowledge management environment (KME). It has been seen in previous studies as a key enabler that positively influences the effectiveness of knowledge management practices (Holsapple & Joshi, 2000). According to Detlor et al. (2006), knowledge management environment refers to the culture and commitment within the organization to implement and institutionalize effective information and knowledge sharing processes, practices and technologies. The knowledge management environment has a positive and a direct effect on organizational information behavior and personal information behaviors (Detlor et al., 2006). In the theoretical model, it is also proposed that knowledge

management environment has a positive effect on intentions to use Enterprise 2.0. That is based on the premise that the context in which the knowledge is exchanged affects the employees behavior in terms of creating, transferring, and sharing knowledge (Malone,2003). That has also been supported by Ardichvili et al. (2006) who demonstrated that the atmosphere of a culturally friendly knowledge management environment is a factor that should be considered when studying the subsequent affected behavior of employees (Ardichvili et al., 2006).

Table 3-3: Path Propositions for Knowledge management

Proposition	Model Path
P10	*Organization's Knowledge management Environment has a positive impact on Personal Information Management Behavior (Adapted from Detlor et, al. 2006)*
P11	*Organization's Knowledge management Environment has a positive impact on Organizational Information Management Behavior (Adapted from Detlor et, al. 2006)*

3.2.1.4 Organizational and Personal Information Behavior

The factor in the theoretical model pertains to organizational and personal information behaviors falling under the fourth dimension. Based on the preliminary study by Detlor et al. (2006), the knowledge management environment is proposed to directly influence these behaviors. Furthermore, these behaviors are also related to the espoused national cultural values of individuals and groups within the organization. While several studies have identified national culture as an important factor for specific knowledge management activities related to innovation, as well as research and development (Shane, 1995; Kedia et al., 1992), there have been several calls for additional research to explore the broader effect of culture on knowledge management processes (Bhagat et al., 2002; Holden, 2001).

Table 3-4: Path Proposition for Management Organizational and Personal Information Behavior

Proposition	Model Path
P15	*Organizational Information Management Behavior has a positive impact on Personal Information Management Behavior (Adapted from Detlor et, al. 2006)*

3.2.1.5 Enterprise 2.0 Use Intention

Lastly, in the study's theoretical model, Enterprise Use Intention is positioned as the ultimate, consequent construct. This is aligned with other previously mentioned theoretical models introduced in the information systems literature, including the technology acceptance model (TAM) (Davis, 1989; Davis & Bagozzi, 1989) and the IS success model (DeLone & McLean, 1992; DeLone & McLean, 2003).

Table 3-5: Path Propositions for Enterprise 2.0 Technologies Use Intention

Proposition	Model Path
P8	*Richness of Enterprise 2.0 technologies has a positive impact on the behavioral intention to use Enterprise 2.0 technologies for Knowledge Management*
P12	*Organization's Knowledge Management Environment has a positive impact on the behavioral intention to use Enterprise 2.0 technologies for Knowledge Management*
P13	*Perceived Usefulness of Enterprise 2.0 technologies has a positive impact on the behavioral intention to use Enterprise 2.0 technologies for Knowledge Management (Adapted from TAM)*
P14	*Personal Information Management Behavior on the behavioral intention to use Enterprise 2.0 technologies for Knowledge Management*
P16	*Organization's Knowledge management Environment has a positive impact on the behavioral intention to use Enterprise 2.0 technologies for Knowledge Management*

Being a downstream construct in the nomological network of other theoretical constructs, the intention to use is factor-deliberated as a behavioral variable that is influenced by other upstream variables pertaining to beliefs (e.g., natural cultural values), perceptions (e.g., technology attributes & knowledge management), and other pertinent behaviors (e.g., organizational & personal information behaviors).

3.3 Research Design and Method Appropriateness

According to Burns and Grove (2003), a research design is "…a blueprint for conducting a study with maximum control over factors that may interface with validity of findings" (p.223). Moreover, Parahoo (1997) called a research design a plan that describes the data collection and analysis method, place, and timing. Polit et al. (2001) defined the research design as the method for answering the proposed research questions or testing the proposed hypothesis. The research design can be seen as putting the research into practice.

"Research methodology" and "research methods" are two terms that are used interchangeably and fall under the umbrella of research design. Such terms refer to the chosen approach by a researcher. The choice differs according to different research perspectives or paradigms. These methods reflect the practical ways to collect and analyze data (Draper, 2004).

Myers (2009) perceives research method as a strategy of enquiry; it starts with the essential assumptions of research design and moves on to the data collection process. In the world of research, researchers may use different criteria to classify research types and methods, as it is difficult to identify the many types of research. However, educators have adopted two common classifications of research methods, qualitative and quantitative (Sukamolson, 2012). The major distinction between them involves the nature of knowledge they produce, in other words, the understanding of the world and the ultimate purpose of the research. From a slightly different angle, they refer to the way in which data is collected and analyzed, and to the resulting generalizations and representation. Neither of these two is better; the choice of which is to be used depends

highly on its suitability according to the context, purpose and nature of the questioned research study (Bryman and Burgess, 1999).

The research method that is used in this study is quantitative. It is called a numbers-based research discipline. It uses the power of numbers to measure attitudes, behavior, performance and more. Using various tests and techniques, quantitative research produces data generalizable to a larger population. Quantitative results could be easily converted into quantifiable charts and graphs (Answers Research, 2012). Mora (2010) supports this idea about quantitative research by considering it conclusive in its purpose. Such research attempts to measure the problem and compare its prevalence by testing the results on a large population (Mora, 2010). Given (2008) perceived quantitative research as the use of statistical, mathematical or computational techniques to reach a systematic empirical investigation of social phenomena.

Furthermore, Cohen and Manion (1980) suggested that social research utilizes quantitative empirical methods and empirical statements. In their view, an empirical statement refers to the real world's situation rather than the ideal state that is expressed in numerical terms. Moreover, they considered that such discipline is likely to apply empirical evaluations. These evaluations are designed to determine the degree of fulfillment provided by a specific program or policy empirically to satisfy a particular standard or norm (Cohen & Manion, 1980). Similarly, Creswell (as quoted in Leedy, 1997:104) contrasted his definition of qualitative research by defining quantitative research as "an inquiry into social or human problems based on testing a theory composed of variables measured with numbers and analyzed with statistical procedures in order to determine whether the predictive generalizations of the theory hold true."

Examples of data collection procedures include surveys (online, phone, paper), audits, observations, tracking, and experiments (McLeod, 2008).

It can be concluded that the goal of quantitative research is to generalize the findings from samples and communicate them to the population (Sukamolson, 2012).

Examining the above definitions and characteristics of quantitative research designs, it has been determined that the appropriate approach for this study is to be quantitative in nature. The Conceptual Framework Part is being used in this research to accomplish a systematic observation and testing of the previously mentioned variables that affect the use and adoption of Enterprise 2.0 for knowledge management purpose.

3.3.1 Advantages of quantitative research for this study

It is very helpful to utilize quantitative methods in this study because the objective of it is to quantify employees' attitudes and behaviors regarding the application of knowledge management practices and using the tools of Enterprise 2.0 for that purpose. It is considered the most appropriate design since it describes a set of variables and highlights the relationship between those variables (Burns & Grove, 2005). It is used to test the assumed relations between variables and to examine specific connections. It will allow for the measuring and analyzing of data while obtaining findings that are more objective (Jones, 2012). Such data may not appear as quantitative at first glance; however, data will be collected in a quantitative way using survey items measured on a Likert scale. For example, the representation of employees perceptions about the national culture traits followed in their organization do not naturally exist in quantitative form. However, in the survey that is designed for this study, employees will be asked to rate a

their agreement on number of statements representing such values and beliefs on a scale from agree to disagree ranging from 1 for strongly disagree to 7 for strongly agree.
A quantitative approach is being used because the purpose of it is replicating, analyzing, and comparing this study's results with previously conducted studies in the same field. It will enable the summarization of the information sources and compare them across different categories. Furthermore, involving few variables in the model will retain approved methods to ensure both reliability and validity. Finally, it is considered a great method to test and prove the proposed hypothesis and finalize the anticipated results, which will help narrow down any possible directions in case the same research area need to be proceeded with in the future (Benefits of quantitative research, 2012).

3.4 Survey Instrument and Data Collection

The primary data collection mechanism in this study will comprise a web-based survey questionnaire sent to employees of various organizations within different national contexts and industrial settings. The survey collects the data using cross-sectional and longitudinal questions with the intent of estimating the characteristics of a large population of interest, based on a smaller sample from that population.

According to Tull and Hawkins (1987), a survey is one of the most common data collection methods. Surveys usually yield richer results regarding the importance and application of knowledge management through Enterprise 2.0 tools across industries (Fahad & Busch, 2009). A survey is used in this research to find common patterns and relationships among a large number of organizations, providing generally stable results (Gable, 1994; Jick, 1979). In addition, survey data will allow having clear interpretations about associations and relationships among the desired variables (Alshumaimeri, 2001).

An online survey is chosen over other traditional methods for many reasons. First, the research is conducted in Canada and the sample is located in Canada and other countries; therefore, it is more efficient to distribute the survey online. It offers a feasible solution for the distance problem between participants and the researcher. Another benefit is that such surveys are self-administered, which make them easy to classify and analyze (Alshumaimeri, 2001). In addition, using an online survey will help ensure that a wider audience is targeted. Furthermore, it will facilitate the process of collecting the data from the participants, thereby ensuring a higher rate of response. A survey will reflect positively on the research, as it is about engaging electronic methods in the workplace; thus, using an electronic method will promote the goal of this research. Cost and time are critical obstacles that are eliminated when using online surveys. No paper, printing, postage, telephone, or interviewer costs are involved in online surveys. Moreover, online distribution is more instantaneous and collecting data in real-time makes the data analysis faster. Finally, it may be more acceptable for participants to complete an online survey because it is more convenient for them, as they can stop completing it, save it, and return to it later (Sefton & Atkinson, 2004; Donna, 2010).

3.4.1 Survey Design

The survey instrument used in this study comprised demographic, technographic, work atmosphere characteristics, and psychographic questionnaire items. While the demographic, work atmosphere characteristics and technographic characteristics of survey respondents are measured mostly with direct questions (i.e., questions that directly ask a person to report their age, gender, frequency of technology use, etc.), the theoretical constructs in the theoretical model comprising latent variables cannot be measured

directly. Instead, the measurement of these latent variables required the utilization of psychometric scales. As a result, the survey instrument comprised both psychometric scales to measure the model's latent variables as well as direct questions to obtain pertinent demographic, work atmosphere characteristics, and technographic information from survey respondents.

The survey questions were adapted from item scales that have been previously validated in other research. The Likert scale was used as the measurement scale in the research survey. LaMarca (2011) defined the Likert scale as "an ordinal psychometric measurement of attitudes, beliefs and opinions." When designing the survey questions, a statement is presented to the participants asking them to indicate their level of agreement or disagreement on a 7-point symmetric agree-disagree scale.

Specifically, the following measures were used to assess the variables and dimensions proposed in the theoretical model, through utilizing them in the 7-point Likert scale questionnaire.

3.4.2 Construct Measurement Items

3.4.2.1 National Cultural Traits

These questions evaluate the parameters that differentiate cultures, including the degree of power distance, and long-term orientation in the participants' organization (adapted from Venaik, 2011; Alkailani et al., 2012).

Table 3-6: Measurement Items for National Culture Constructs

Construct	Measurement Items
Power Distance (Participants were asked to rate the importance of these statements)	- Having a good working relationship with your direct superior - Being consulted by your direct superior in his/her decisions - Being consulted by your boss in decisions involving your work - Relations between a superior and subordinates are open & friendly - Authority to match position or role in the hierarchy - Authority to match competencies
Long-Term Orientation (Participants were asked to rate the importance of these statements)	- Working toward future goals - Working for future life - Saving money for future - Persistence (perseverance) - Steadiness and stability - Respect for tradition

3.4.2.2 Enterprise 2.0 Technology Attributes

These questions pertain to the perceptions of respondents about the usefulness, ease of use, richness, and sophistication of Enterprise 2.0 technologies (adapted from Davis & Bagozzi, 1989; Daft & Lengel, 1986).

Table 3-7: Measurement Items for Enterprise 2.0 Technology Attributes Construct

Construct	Measurement Items
Perceived Ease of Enterprise 2.0 Technologies Use	- I find it easy to get Enterprise 2.0 tools to do what I want them to do. - It is easy for me to become skillful at using Enterprise 2.0 tools. - I find Enterprise 2.0 tools easy to use.
Perceived Usefulness of Enterprise 2.0 Technologies	Using Enterprise 2.0 technologies allows me to: - Accomplish tasks more quickly - Improves my job performance - Increases my productivity - Enhances my effectiveness on the job - Makes it easier to do my job - Overall, I find Enterprise 2.0 useful in my job
Enterprise 2.0 Technologies Richness	Enterprise 2.0 technologies allow me to: - Tailor interactions according to my personal requirements and preferences - Communicate a variety of different cues (such as emotional tone, attitude, or formality) during communication - Use varied and rich language during communication - Convey multiple types of information
Enterprise 2.0 Technologies Sophistication	- I have access to a wide variety of Enterprise 2.0 tools at my workplace. - I have all the essential Enterprise 2.0 tools at my workplace.

3.4.2.3 Knowledge Management Environment

These survey items assess the respondents' beliefs about the culture and commitment in their organization to implement and institutionalize effective information and knowledge sharing processes, practices, and technologies (adapted from Detlor et al., 2006).

Table 3-8: Measurement Items for Knowledge Management Environment Construct

Construct	Measurement Items
Knowledge Management Environment	- My organization has a culture intended to promote knowledge and information sharing. - Knowledge and information in my organization is available and organized to make it easy to find what I need. - Information about good work practices, lessons learned, and knowledgeable persons is easy to find in my organization. - My organization makes use of information technology to facilitate knowledge and information sharing.

3.4.2.4 Personal & Organizational Information Behaviors

These questions evaluate the information and knowledge sharing practices at the individual level of the participants as well as their organizations (adapted from Detlor et al., 2006).

Table 3-9: Measurement Items for Personal & Organizational Information Behaviors Constructs

Construct	Measurement Items
Organizational Information Behavior	- The people I work with regularly share information on errors or failures openly. - The people I work with regularly use information on failures or errors to address problems constructively. - Among the people I work with regularly, it is normal for individuals to keep information to themselves.
Personal Information Behavior	- I often exchange information with the people with whom I work regularly. - I often exchange information with people outside of my regular work unit but within my organization. - I often exchange information with citizens, customers, or clients outside my organization. - I often exchange information with partner organizations.

3.4.2.5 Enterprise 2.0 Technology Use Intention

These survey items evaluate the participants' cognitive response regarding their intention to continue using Enterprise 2.0 technologies (adapted from Davis & Bagozzi, 1989; DeLone & McLean, 2002, 2003).

Table 3-10: Measurement Items for Enterprise 2.0 Technology Use Intention Constructs

Construct	Measurement Items
Enterprise 2.0 Technologies Use Intention	- If I have access to Enterprise 2.0 tools, I predict that I would use it - I intend to use Enterprise 2.0 tools as often as needed - I intend to continue using Enterprise 2.0 tools for social interactions - I intend to continue using Enterprise 2.0 tools for information exchange

3.4.3 Work Atmosphere Characteristics, Technographics, and Demographics Measurement Items

In addition to survey items for each construct in the theoretical model, the survey also consists of technographics, work atmosphere characteristics and demographic questions. The work atmosphere characteristics, questions about the managerial level, type of work, type of industry, number of employees, feature and culture of the workplace were asked. The goal of including such questions was to use participant responses to characterize the overall work context and circumstances that participants work in, in order to conceptualize the factors that may lead to better behaviors, beliefs and perceptions.

The technographic questions included in the survey pertain primarily to patterns of use of Enterprise 2.0 technologies. The main purpose of these questions is to obtain response data to characterize the use of Enterprise 2.0 technologies in terms of frequency of use, motivations to use social media tools, and usage patterns pertaining to various Enterprise 2.0 social computing tools and features.

The final section of the survey inquires about demographic information. Although this research study does not formally include demographics as control variables in the theoretical model, it is necessary to incorporate demographic information in the quantitative results to present a holistic picture that frames the analysis and results by considering the characteristics and attributes of the sample of survey respondents. Questions regarding the respondents' age, gender, education, and occupation are included in the questionnaire.

Appendix A contains the survey instrument used for data collection.

3.4.4 Design Consideration and Validity of the Survey

Validity is an important part of the research design and methodology, as it determines whether the survey questionnaire measures what is supposed to be measured (Alshumaimeri, 2001). For the purpose of ensuring validity, the researcher followed the design guidelines for surveying similar topics to this research study as suggested by Couper et al. (2001) and Andrews, Nonnecke and Preece (2003). Furthermore, the guidelines for self-report instruments offered by Podsakoff et al. (2003;1986) were followed in order to maximize survey data quality and minimize error attributable to method and format of survey questions.

Moreover, in this research study, questions that have been validated in previous studies were used. Bagozzi (1996) recommended that conducting a literature review could be used to identify possible items for inclusion in the scale of measurement to be added to the survey (Bagozzi, 1996). Then, aligning the survey instrument scales with the quantitative analysis procedures were implemented, which was ensured through the use of closed and direct questions. That would be very useful for the proposed exploratory factor analysis and structural equation modeling. As mentioned earlier, fully anchored

Likert-type scales (Likert, 1932) were used to operationalize the measurement of most indicators for the construct in the structural model. It was formulated using seven ordered responses (odd number of options has been recommended in prior research), each response option was labeled verbally as well as numerically to ensure that the anchors were scaled to approximate equal intervals.

Many reasons led to choosing a Likert-type scale for this research, as according to Bertram, such a method is easy to construct, and it produces a highly reliable scale, which is easy for participants to read and answer (Kothari, 2003). Furthermore, LaMaraca (2011) listed many advantages of using a Likert scale in survey questionnaires: First, it provides a simple means of quantifying and subjecting responses in order to compute some mathematical analysis. Second, it ensures an answering of the questions: participants do not have to take a stand; instead, they provide a degree of agreement. Third, it gives participants a neutral or undecided feeling. Fourth, ensures easiness of coding responses at the time of data accumulation where a single number represents the participant's response. Fifth, their administration is quick, efficient and inexpensive. Finally, it provides a high degree of adaptability where it can be used in a web-based or online survey.

Additionally, to operationalize non-response in the survey, the scale for all items in the questionnaire contained "Not Applicable/ Prefer Not to Say" option without a numerical label. The reason for using such an option was to "increase satisfaction" for participants (Holbrook et al., 2003).

Lastly, the visual design aspects of the web-based survey questionnaire were also taken into consideration. The survey employed a simple layout with straightforward

navigation, and a graphic-based element was kept at minimum to ensure quick download time (Andrews et al.,2003; Couper et al., 2001) and to add credibility to the survey (Couper et al., 2001; Dillman, 2000).

3.4.5 Survey Pre-Test Procedure

Pre-testing is considered an important step in the phase of developing and designing a survey questionnaire to ensure the adequacy of planned survey administration and data collection procedures (Andrews et al.,2003; Prece et al., 2002). The web-based survey that was used for this research study was subjected to two rounds of revisions, as the use of multistage pre-testing for online surveys has been recommended by many researchers (Dillman, 200; Oppenheim, 2001).

The first stage of pre-testing was through the evaluation of resource instrument in the survey questionnaire by the researcher's supervisor. Using the extensive background of knowledge that he has in studying some of the constructs in the theoretical model and his experience in doing many surveys related to the theme of this research study, he was able to offer practical insights for the sequencing of questions, formatting, and wording of the various questions and items in the survey instrument.

The second stage of pre-testing was performed before the official launching of the survey. It involved asking 20 individuals from various cultural contexts who are users of Enterprise 2.0 technologies (i.e., social media tools) to fill out the survey and provide their constructive comments. Using an adapted version of the "think-aloud" protocol (Ericsson & Simon, 1987; Lewis & Rieman, 1993), the researcher was able to gain a sense of the understandability of survey questions by the participants, the interpretation consistency of the participant while answering, and the overall impression of the survey

instrument through being in the presence of five participants, and receiving comments from 15 others. Accordingly, minor modifications were performed based on the participant's feedback.

The 20 responses from the survey pre-testing phase were not included in the final dataset for analysis to ensure consistency of protocol across the responses received from the final version of the survey.

3.5 Data Collection and Survey Administration Procedures

3.5.1 Sampling Frame

Sampling is defined as a method of data collection used to choose a representative selection of units from the population of interest to act as the research information (Latham, 2007). Studying this sample will permit the researcher to generalize the findings from the population (Trochim, 2006). Following the recommendation of various researchers who have conducted empirical studies similar to this, the researcher's study utilizes a diverse cross-section of targeted population to draw samples of respondents (Andrews et al., 2001; Preece et al., 2004; Ridings & Gefen, 2004).

This research involved targeting employees of multicultural organizations with different industrial interests, in different countries. Following the recommended convenience, purposive, and self-selection sampling techniques for exploratory research, participants from various open online forums and communities pertaining to knowledge management and enterprise social computing were sought. Convenience Sampling was used to involve readily available and easily accessible participants, who are voluntarily willing to participate (Trochim, 2006; Teddlie & Yu, 2009). This was employed to get a

gross estimation of the results with the least cost and time compared to a random sample (StatPac, 2012). And due to the researcher's network connections, direct access was available more easily to Saudi participants.

As for purposive sampling, it has been used to target and seek a specific group of employees who have a specific perception and attitude about the use of Enterprise 2.0 in organizational settings (Maxwell, 1997).

3.5.2 Sample Size Requirement

Based on the requirements for establishing statistical validity of the results and for testing the theoretical model, this study aims to recruit more than 60 survey participants in order to match the minimum sample size heuristic. This sample size has been calculated using the Structural Equation Modeling (SEM).

This study used SEM, which is multivariate statistical analysis that uses partial least square (PLS). Therefore, the minimum sample size heuristic for PLS studies (Chin, 1998; Chin, 2001) is the one that is employed for a priori calculation of the required sample size.

The minimum sample size requirement for PLS based models is determined by finding the larger of the following values. The following comparison takes a place between the value that is ten times greater than the largest number of predecessor variables, which has an effect on another consequent factor in the model with the value that is ten times greater than the number of maximum indicators (manifest variables) in a latent variable in the model (Chin, 1998; Chin, 2001).

Consequently, the minimum sample size calculation (N) is shown below:

N = Max (10 * max no. of antecedents affecting a consequent in the research model,

10 * max no. of items in a latent variable)

= 10*4, 10*6

= 60

3.6 Data Analysis and Reporting Procedures

This section highlights the various statistical procedures and techniques that will be used to conduct the analyses and to interpret the quantitative results to illustrate relationships and correlations among variables. First, the demographics, work atmosphere characteristics and technographics analysis procedures are presented. Then, the relevance and application of exploratory factor analysis techniques is highlighted in the context of ensuring the validity of measurement items from the survey instrument and determining construct dimensionality. Finally, the structural equation modeling procedures are discussed, which are used to test the study theoretical model.

3.6.1 Demographics, Work Atmosphere Characteristics and Technographics Analysis and Reporting

For the demographic and technographic variables analysis, a selection of statistical analysis techniques will be used, including Descriptive Statistics and Nonparametric Statistical Tests, which are briefly introduced below. SPSS (Statistical Package for the Social Sciences) will be used to perform the analyses as well as StatPlus tool in Microsoft Excel 2011.

Descriptive Statistics comprises the process of arranging, summarizing, and presenting a set of data in a specific way to produce useful information. To summarize

and present the needed data, descriptive methods use graphical techniques and numerical descriptive measures (such as averages) (Keller, 2007).

Nonparametric Statistical Tests usually deal with nominal or ordinal data (Zhao, 2012). Tests including the binomial and chi-squared test were used to compare the propositions associated with various categories on different variables. These tests are known as powerful in cases where distributional assumptions with parametric procedures cannot be met (Green & Salkind, 2003).

3.6.2 Exploratory Factor Analysis for Assessment of Measurement Validity and Construct Dimensionality

The exploratory factor analysis techniques will be used to ascertain the validity of measurement items from the survey instrument and to determine construct dimensionality before commencing the structural equation modeling on the structural model. Exploratory factor analysis is defined as "a statistical procedure used to uncover relationships among many variables." It allows numerous inter-correlated variables to be condensed into fewer dimensions called factors (Velicer & Jackson, 1990). In this research the factors are the variables pertaining to the degree of agreement with various specific statements in the survey instrument, and the factors involved behaviors, perceptions, attitudes and beliefs pertaining to Enterprise 2.0 technologies for knowledge management.

3.6.2.1 Procedures for Extraction and Rotation

To accomplish exploratory factor analysis the type of factor rotation, number of factors to be used, and extraction method to be used should be taken into consideration. For this research, principal axis factoring (PAF) is the method for extraction since it does

not depend on distributional assumptions of multivariate normality (Costello & Osborne, 2005). And it generally provides more interpretable solutions for exploratory analysis (Coughlin & Knight, 2007 ; Fabrigar et al., 1999).

As for the rotation procedure, the promax rotation was the one that has been used in this research to facilitate a simple interpretation of the data structure (Fabrigar et al., 1999) through allowing correlations among factors to exist, which usually happen between attitudinal and belief dimensions (Norusis, 1990). Furthermore, the promax rotation procedure has the advantage of being fast and has a conceptually simple rotation technique (Abdi, 2003).

With respect to the amount of factors to include in the factor analysis procedures, the recommendation by Velicer and Jackson (1990) was followed, through using the screen cut-off points as general guides to determine the dimensionality of factor space.

3.6.2.2 Assessment Criteria for item Validity and Construct Dimensionality

Exploratory factor analysis in this research was done on several levels taking into account the previously discussed procedures and parameters. Furthermore, for each level, various statistical criteria were used to assess the validity of the measurement items and the factors structure.

First, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1970) was consulted to ensure whether it was feasible to proceed with further factor analysis at a construct level. A value larger to 0.50 for the KMO measure is acceptable and recommends that it is a good indicator of feasibility (Coughlin & Knight, 2007).

Second, at a construct level, as a criteria, each item's loading on its respective factor should be above 0.70 for items from previously validated measurement scale

(Nunnally, 1978), while a lower threshold of 0.60 is acceptable for loadings of items that were new to the resource instrument (Chin, 1998b).

Third, after selecting the final items for each construct, a last iteration of factor analysis was performed to ensure the internal consistency reliability of the construct as a whole. The overall Cronbach's alpha (Cronbach, 1951) value of above 0.70 for each construct was acceptable, which is a threshold value that is commonly used in social science disciplines (Allen & Yen, 1981).

3.6.3 Structural Equation Modeling Analysis of Theoretical Model

Structural equation modeling (SEM) procedures will be used to test statistical conclusion validity and the overall efficacy of the theoretical model that is at the core of this research investigation. Component-based SEM analysis of the theoretical model will be performed using the battery of procedures associated with the partial least squares (PLS) algorithm. SmartPLS will be used to perform the SEM analysis.

Structural equation modeling is a class of methodologies that seeks to represent hypotheses about summary statistics derived from empirical measurements in terms of a smaller number of "structural" parameters defined by a hypothesized underlying model (Kaplan, 2008). The purpose of SEM is to study complex relationships among variables, where some variables can be hypothetical or unobserved (Wothke, 2010). SEM is suitable for theory testing and development. It can also allow both exploratory and confirmatory analyses (Kline, 2005). SEM is considered a second-generation data analysis approach used to test statistical conclusions' validity (Rigdon, 1998; Gefen et al., 2000). They allow the assessment of the measurement model unlike the first generational data analysis techniques that only analyze the structural model (examples are univariate

and multivariate analysis of variance (ANOVA, MANOVA)). Combining the structural (i.e., set of one of more dependence relationships that link the model constructs) and measurement models (i.e., specific indicators for each construct and respective loadings on the target construct) in the assessment process makes SEM a rigorous technique for analyzing the theoretical model under investigation (Chin, 1998). SEM using partial least square (PLS) will be used as the multivariate statistical analysis procedure in this research.

3.6.3.1 Evaluation of Measurement Model Reliability and Validity

Many tests have been used in this research based on global criteria to evaluate the measurement model. These tests' criteria and their associated heuristics used to assess the quality of the measurement model in this research study are presented in Table 3-11.

Table 3-11: Test Criteria and Heuristics for Measurement Model Assessment

Purpose of Evaluation	Test Criteria	Heuristics Applied	Explanation
Item Reliability	Item Loadings on Target Construct	- Item Loadings of 0.70or higher are recommended; - 0.60 for exploratory models or new measurement scales is acceptable (Chin, 1998; Nunnally, 1978)	- Item Loadings on their target construct s represent the strength of substantive association between items and their constructs
Convergent Validity	Communality Index or Average Variance Extracted (AVE) for a Construct	- Value should be greater than 0.50 (Chin, 1998b, Fornell &Lacrcker, 1981)	- Communality Index or AVE represents a measure of the proportion of variance captured by a construct from its indicators. - AVE of 0.50 or higher implies that a latent construct can account for at least 50 % of the variance in the item.
	Composite Reliability	- Value should be greater than0.60 (Bagozzi &Yi, 1988); or 0.70 according to some researchers (Fornell &Lacrcker, 1981)	- it is a measure of internal consistency reliability of a construct as compared with other constructs in the model.
	Cronbach's alph	- Value should exceed 0.70 (Cronbach, 1951; Nunnally, 1978; Chin, 1998b, Gefen et al., 200b)	- It also measures the internal consistency reliability of a construct on a single basis, i.e. it is not a relative index like composite reliability.
Discriminant Validity	Inter-Correlation among constructs cross-tabulated with square roots of AVE	- The square root of the AVE should exceed the inter-correlations of a construct with other constructs in the model (Fornell &Lacrcker, 1981; Chin, 1998b, Gefen et al., 200b)	- A construct should have discernable as a valid individual component within the overall model.
	Item Cross-Loadings	- Item Correlations with Target Construct should be higher compared to its correlations with other constructs in the model (Chin, 1998b).	- Indicators that are meant to measure their target construct should me more strongly associated with them as compared to other constructs in the model.

3.6.3.2 Evaluation of the Structural Model

In this study a bootstrapping procedure was used to estimate the structural model, in order to assess the significance of the oath beta coefficients. It was meant to provide a stable estimate for model parameters through a re-sampling technique. In this study bootstrapping with 1000 replications was performed to provide a more conservative test of parameter significance (Fornell & Barclay, 1983; Chin, 2001).

Several standard test criteria and heuristics were applied in evaluating the structural model and summarized herewith in Table 3-12.

Table 3-12: Test Criteria and Heuristics for Structural Model Assessment

Purpose of Evaluation	Test Criteria	Heuristics Applied	Explanation
Nomological Validity (Construct Level)	- Model Fit/ Predictability: Variance Explained (R^2) for all constructs in the model. - Average Predictability of entire model (R^2)	- No specific heuristics available. Value needs to be interpreted in comparison to similar studies or norm in the discipline (Gefen et al., 200b). - Falk et al. (1992) recommended minimum value of 0.10 for a construct to be considered viable within the nomological network.	- R^2 value for endogenous variable represents the proportion of its variance that can be explained by the predictors in the model. - Average R^2 allows comparison across competing models.
	- Path Validity Coefficients; Significance (p-values)	- Inner model paths should be significant at <0.05 level to provide support for proposition in the theoretical model.	- A significant path represents the an association between two latent variables was not a chance happening.
	-Predictability Effect Size: Effect Size (f^2) for criterion variables based on the exclusion of a predictor variable from the model	- Predictor variable should ideally have a large or medium effect. - The following scheme can be used to determine effect sizes: Small Effect: 0.02; Medium Effect: 0.15; Large Effect: 0.35 (Chin, 1998b)	- f^2 value between a predictor an a criterion variable represents the effect of the predictor on the criterion variable. Higher values imply that greater importance
Goodness of Fit	- Global Criterion of goodness-of fit (GoF)	- The following baseline values can be used to evaluate the overall model fit: Low fit: 0.1; Medium fit:0.25; High fit; 0.36(Tenehaus et al., 2005; Wetzels et al., 2009)	- GoF values allow a scalar based assessment (summative index) of the model as whole. - GoF values allow comparisons across competing models.

Chapter 4: Data Analysis and Results

This chapter of the research illustrates the key findings of the quantitative data analysis and results of the survey questionnaire data collected for this study. First, the research participants' data, including the demographics and technographic context of the responses, are presented. Then, the results of multivariate statistics and structural equation modeling (SEM) will follow.

A total of *305* responses were collected from multicultural contexts in different countries. Specifically targeted respondents from Saudi Arabia were 160, while 145 came from other countries. After discarding partial responses, a total of 71 participants from Saudi Arabia and a total of 63 participants from other countries were deemed usable (37 participants were from Canada and the United States of America).

4.1 Participant Characteristics and Descriptive Statistics

The characteristics of the responses obtained through the online survey will be discussed in this section as well as the examination of the demographics and technographics of the participants in this study. It should be noted that participants were allowed to skip questions, and there were no missing data treatments used on demographics and technographics, therefore, some responses labeled as "Unspecified" may occur.

4.1.1 Demographics

Appendix B, Table B-1, depicts demographic distribution characteristics including gender, age group and educational level of participants broken down by country.

4.1.1.1 Gender

Gender distribution in Figure 4-1, for Saudi Arabia and other countries is relatively close. For Saudi participants: 44% female and 55% male, while for the other countries the percentage of male participants, at 60%, were higher in number than females at 40%.

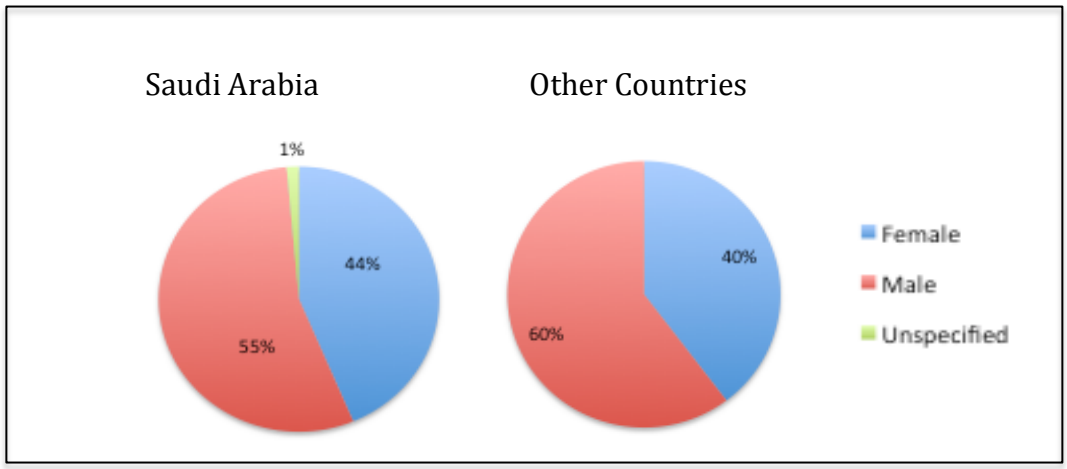

Figure 4-1: Participants Gender Distribution

4.1.1.2 Age Group

The Saudi Participants' age group was mainly between the ages of 30-40 at 41%, as perceived in Figure 5-2, followed by 28% of participants between the ages of 21-29. This is also similarly reflected in other countries, with 38% of participants between the ages of 30-39, followed by 25% of participants between the ages of 21-29.

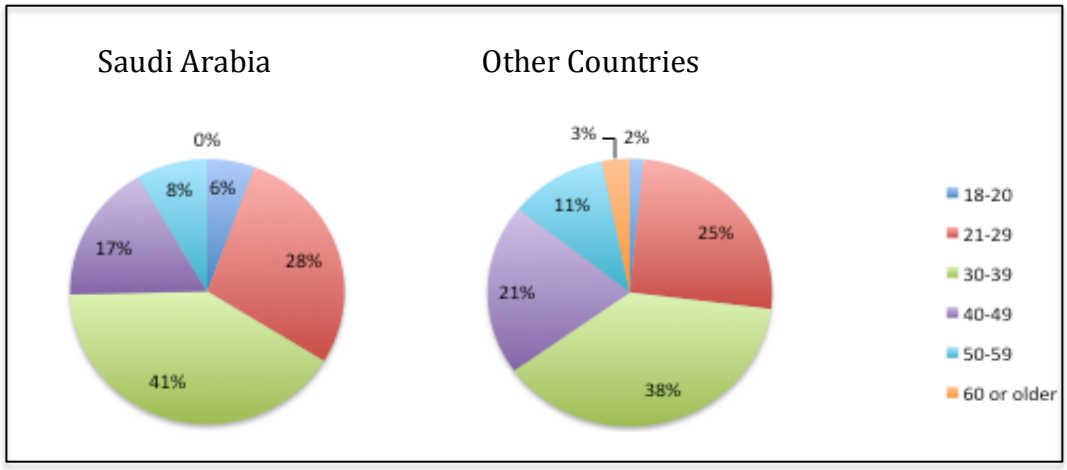

Figure 4-2: Participants Age Group

4.1.1.3 Educational Level

Among Saudi Arabia participants, 40% had undergraduate degrees, followed by holders of graduate degrees at 37%. Where most participants from other countries were graduate degree holders, 48%, followed by the holders of undergraduate degrees, 36%.

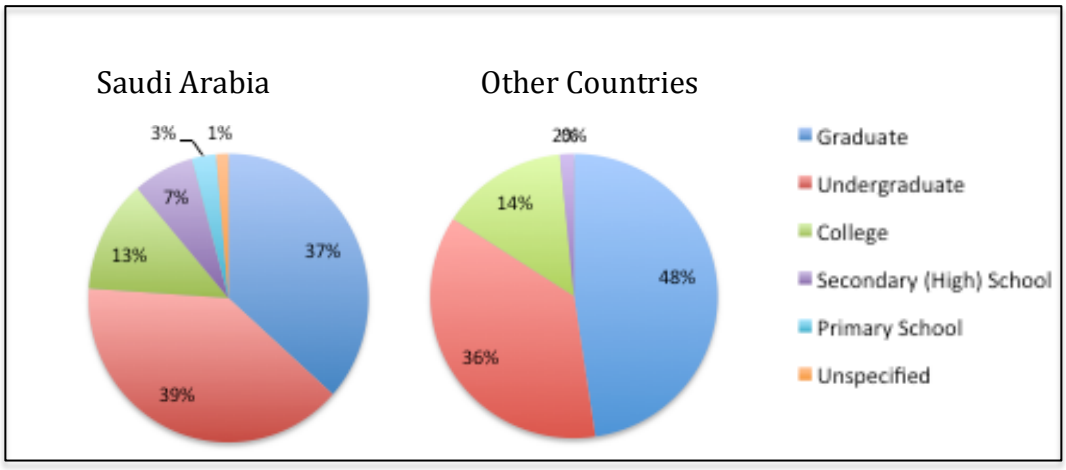

Figure 4-3: Participants Educational Level

4.1.2 Work Atmosphere Characteristics

This section examines the participants' work atmosphere characteristics and job role, covering many areas of the work environment such as the managerial level of participants, type of work that the participants' jobs entail, principle industry of participants' organization, number of employees, type of organizational structure, type of corporate culture, nature of work practices, and general characteristics of participants' workplace culture. Appendix B, Table B-2 contains participants' work atmosphere characteristics.

4.1.2.1 Managerial Level:

Most Saudi participants, at 39%, work in a middle management position, followed by participants working in executive management, at 18%. The participants from other

countries have a higher percentage of participants working in a middle management position at 45%, followed by 21% working at entry-level positions.

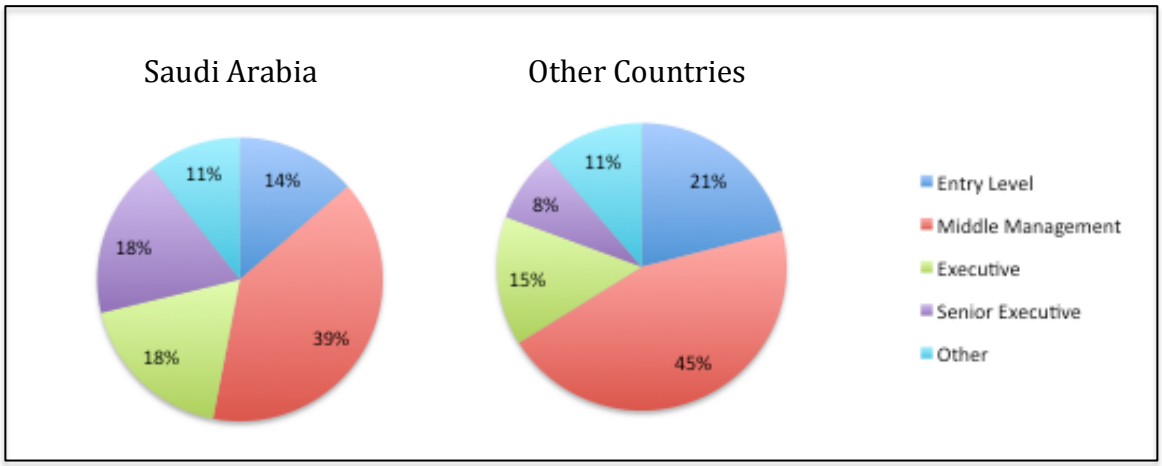

Figure 4-4: Participants Managerial Level

4.1.2.2 Type of Work

As for the type of work that participants' current job entails most participants, in Saudi Arabia, 61%, and in other countries, 51%, were working as a back office with internal facing.

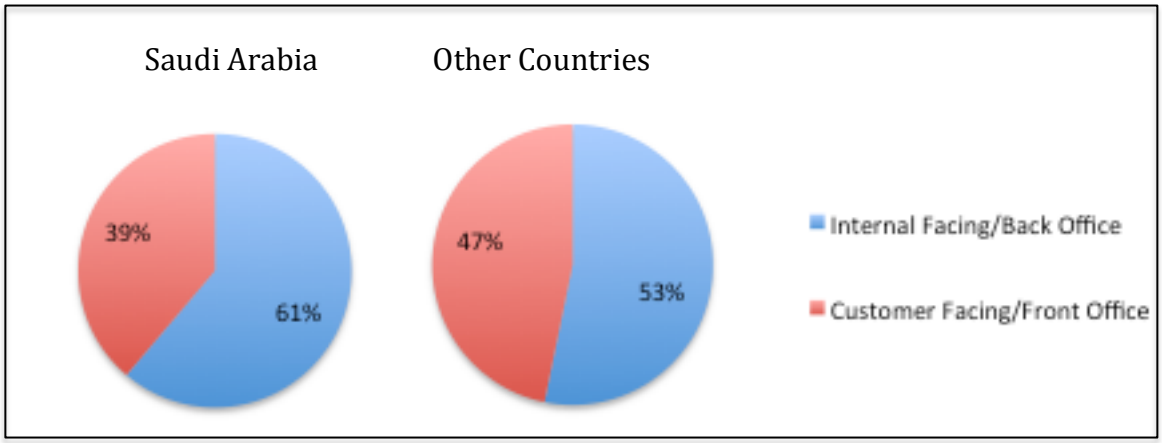

Figure 4-5: Participants Type of Work

4.1.2.3 Type of Industry

The charts below present the principal type of industry of the participants. A high percentage of Saudi participants work in Educational Services (37%), Manufacturing (14%), and finally Public Administration and Finance and Insurance, (8%).

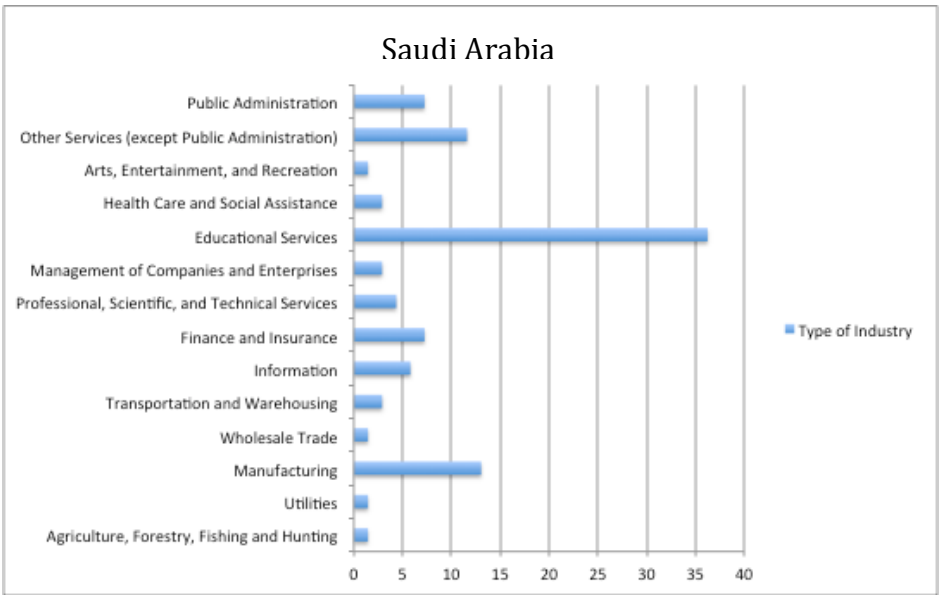

Figure 4-6a: Saudi Participants Type of Industry

Similarly, participants from other countries were mostly working in Educational Services (22%), followed by Information Technology Sector and Professional, Scientific, and Technical Services (15%), then the Finance and Insurance sector (14%).

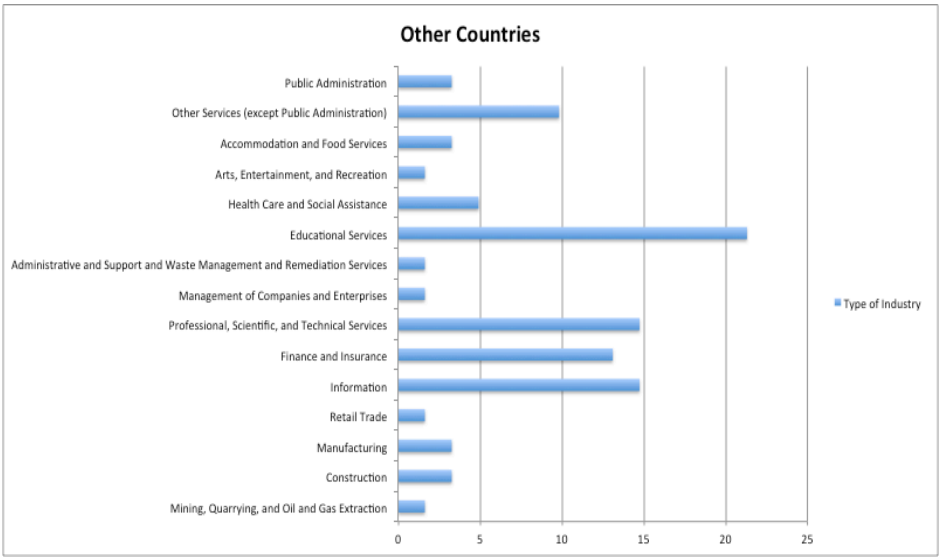

Figure4-6b: Other Countries Participants Type of Industry

4.1.2.4 Number of Employees

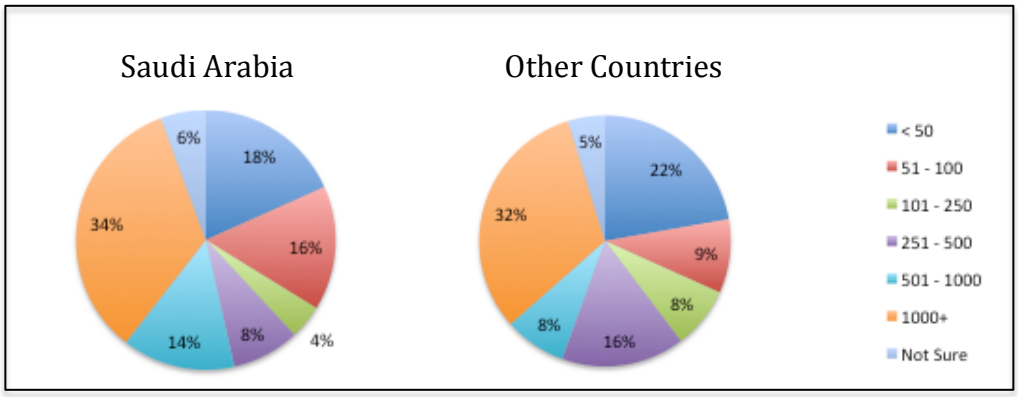

Figure4-7: Number of Employees in Participants Organizations

Organizations where participants work in have more than 1000 employees both in Saudi Arabia (34%), and in other countries (32%).

4.1.2.5 Workplace Features

Survey participants from Saudi Arabia and other countries work in a hierarchal, organizational structure with an authoritative corporate culture and controlled work practices.

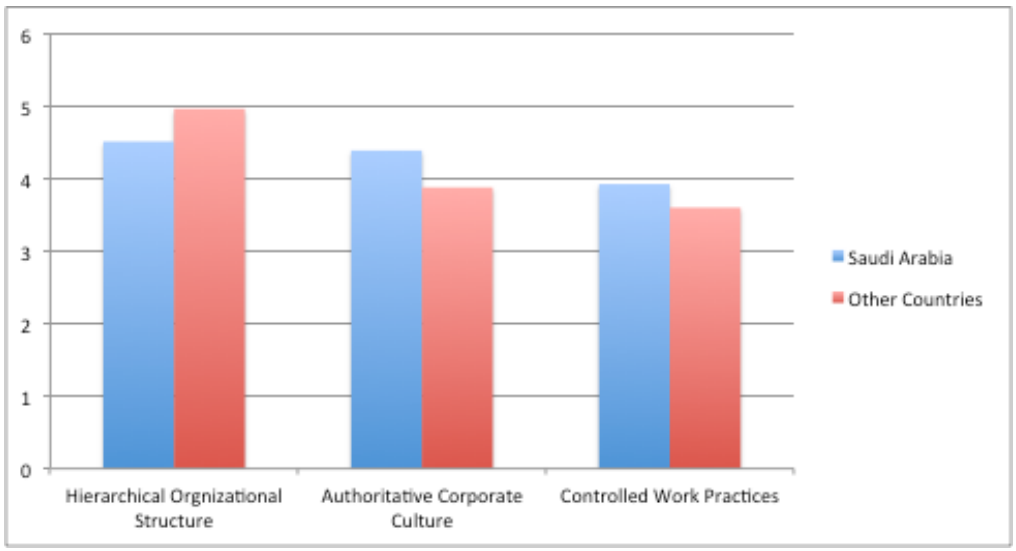

Figure 4-8: Workplace Features in Participants Organization

4.1.2.6 Workplace Culture

Participants were asked to evaluate their organizations' general work place culture by indicating their response on the following statement, rating them on a scale of 1 to 7 (1 Strongly Disagree, 4 Neutral, 7 Strongly Agree). In Saudi Arabia, employees evaluate their corporate culture as a friendly and supportive place to work in, which is also supported by employees in other countries along with the fact that the organization values an individual creativity. It follows that in all participants' organizations, the workplace environment is conflict-free and pleasant to work in.

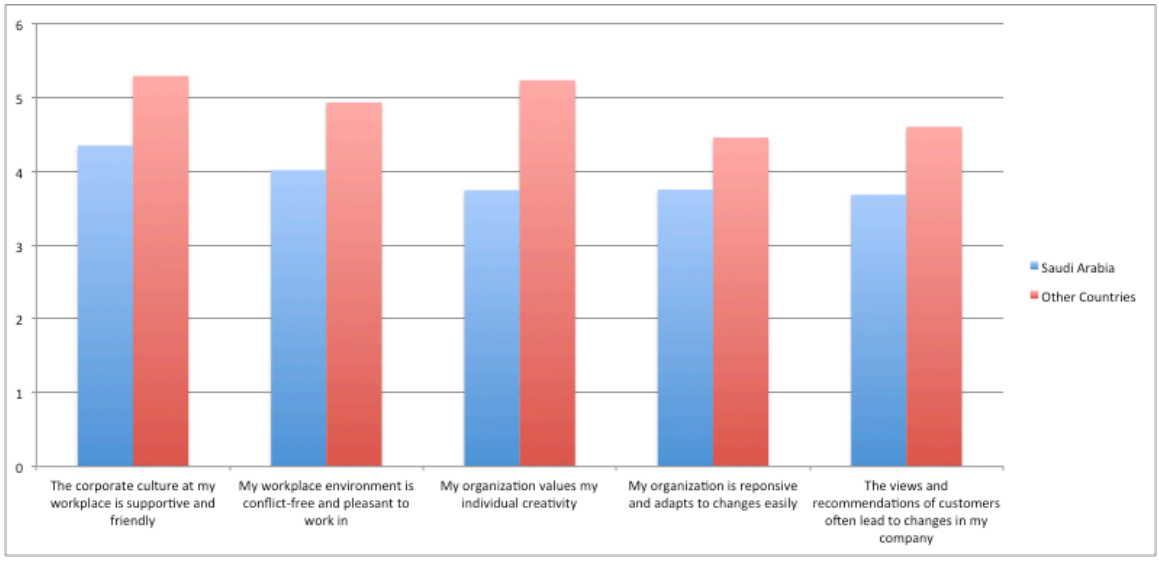

Figure 4-9: Participants general Work Place Culture

4.1.3 Technographics

To measure employees' experience with Enterprise 2.0 technology use and the surrounding work environment associated with that use, 6 items were collected; 1) employees' personal evaluation of technology use 2) type of Enterprise 2.0 technologies used at work 3) purpose of using Enterprise 2.0 technologies at work 4) hours spent per week on Enterprise 2.0 technologies 5) Enterprise 2.0 technologies use practices in employees' organization 6) norms and policies governing the use of Enterprise 2.0

technologies in employees' organization. Appendix B, Table B-3, contains participants technographics.

4.1.3.1 Employees Personal Evaluation about Technology Use

Participants were asked to rate their response to statements that explain their personal evaluation through a scale from 1 to 7 (1 Strongly Disagree, 4 Neutral, 7 Strongly Agree). It is shown that employees in other countries consider themselves more advanced technology users, who explore new technology applications and are the first among other peers to try out new information and communication technologies. However, all three of these aspects are represented by lower rates in Saudi participants.

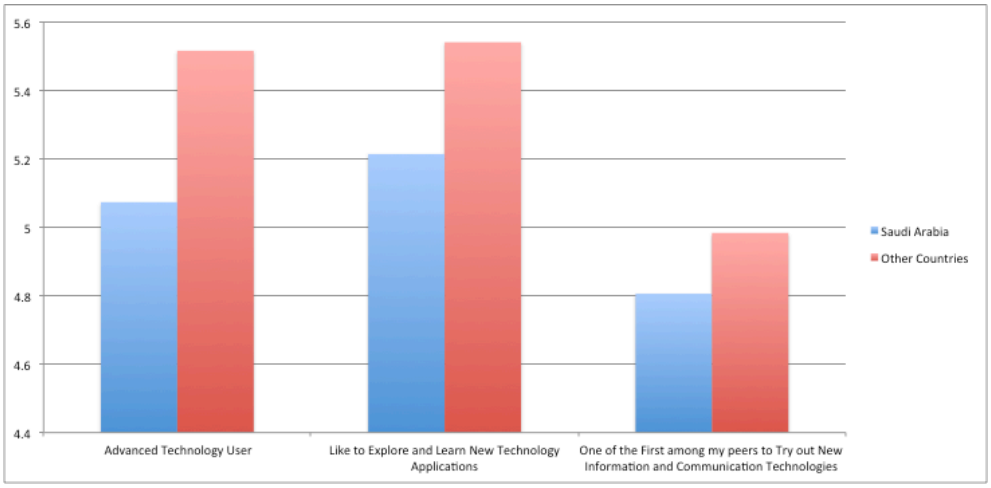

Figure 4-10: Personal Perception about Technology Use

4.1.3.2 Type of Enterprise 2.0 Technologies Used at Employees' Work Place

Employees were asked to rate their use of different Enterprise 2.0 technologies, which are used in their work place on a scale from 1- 7 (1 Use Rarely, 4 Use Sometimes, 7 Use Frequently). In Saudi Arabia, Social News was the most used Enterprise 2.0 technology in employee work places, followed by instant messaging and social networking sites, then file sharing. Alternately, in other countries, file sharing comes

first, followed by instant messaging, then social networking sites and trailed by collaborative document editing.

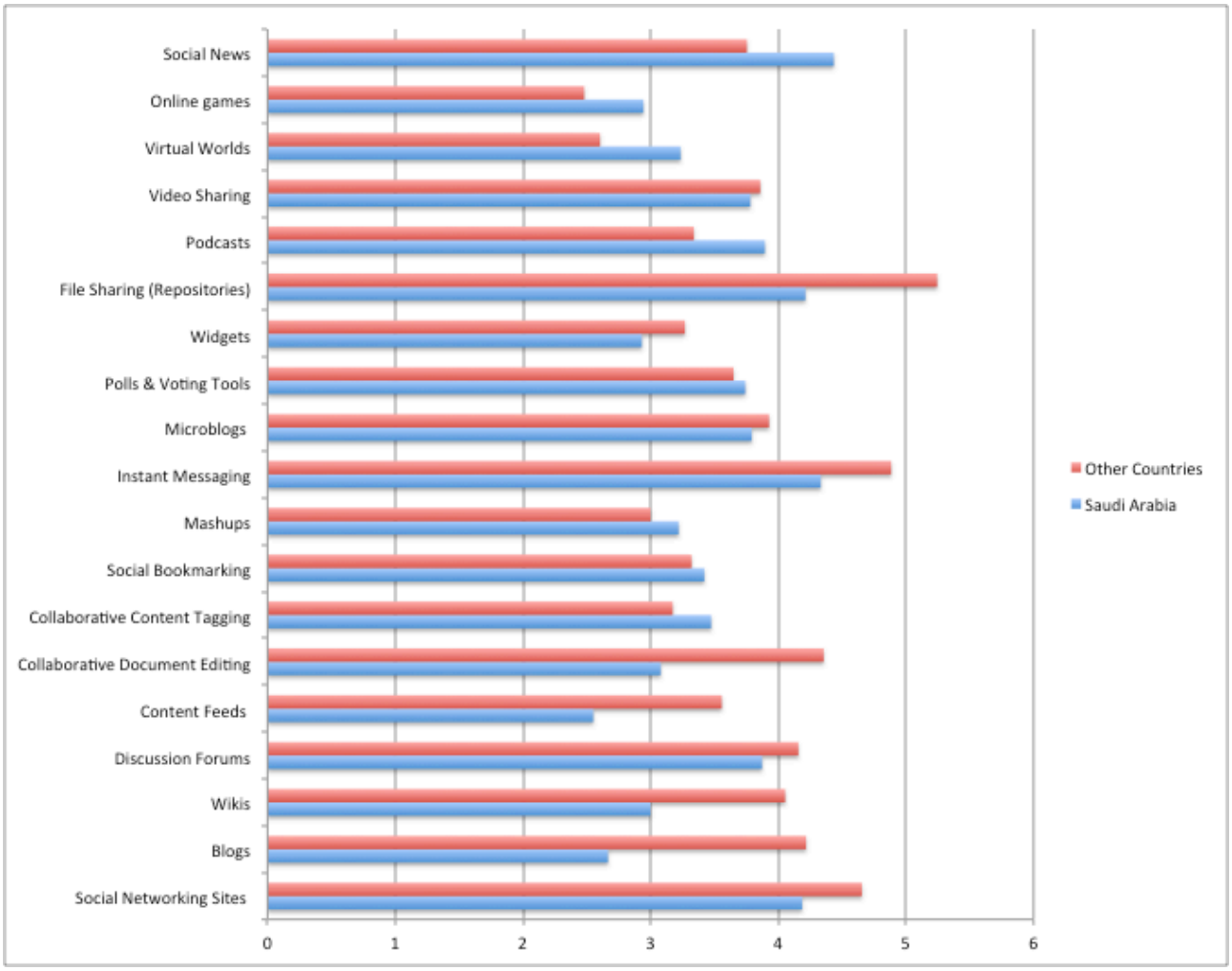

Figure 4-11: Type of Use Enterprise 2.0 at Participants Work Place

4.1.3.3 Purpose of Using Enterprise 2.0 Technologies at Work

Employees were asked to rate the purpose of using Enterprise 2.0 technologies in their work place on the scale from 1 to 4 (1 Least Common Use, 2 Infrequent Use, 4 Most Common Use). In Saudi Arabia, Enterprise 2.0 technologies are used for internal

communication within the organization, where employees in other countries use Enterprise 2.0 technologies for internal collaboration.

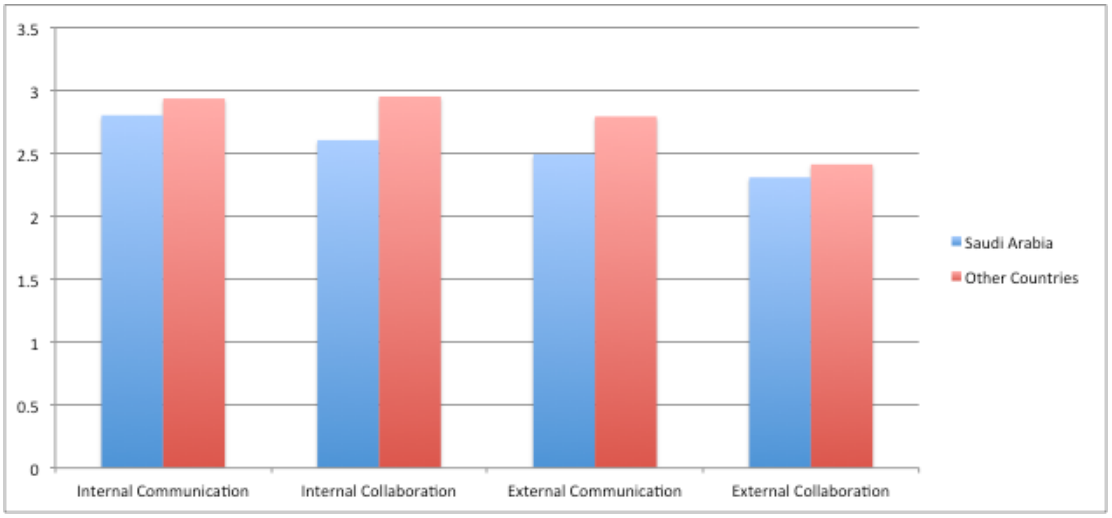

Figure4-12: Enterprise 2.0 Use Purposes

4.1.3.4 Hours Spent per Week Using Enterprise 2.0 Technologies

4.1.3.**4**.1 Use of Enterprise 2.0 Technologies For Work Purposes at the Work Place

Most Saudi employees, 30%, spend 1- 4 hours on using enterprise 2.0 technologies for work-related purposes. Employees in other countries, 29%, spend 10 hours or more using Enterprise 2.0 technologies for work related purposes.

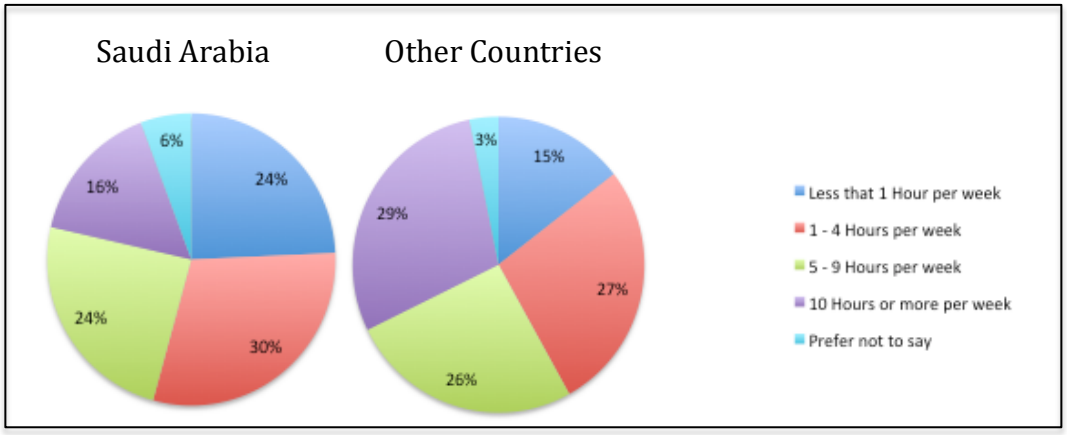

Figure 4-13a: Time Spent on Enterprise 2.0 for Work Purposes at the Work Place

4.1.3.4.2 Use of Enterprise 2.0 Technologies For Personal Purposes at the Work Place

27% of the employees working in Saudi Arabia spend 1- 4 hours per week and more on using Enterprise 2.0 for personal related purposes at the work place. With a similar percentage, 27%, of Saud Arabia employees spend 10 hours on using Enterprise 2.0 for personal related purposes at the work place. However, in other countries most employees, 33%, spend less than 1 hour on using Enterprise 2.0 for personal related purposes at the work place.

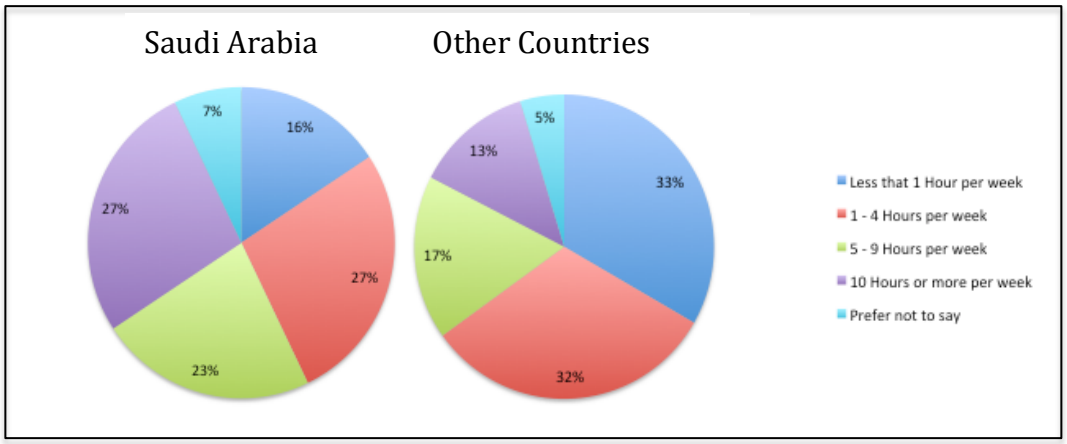

Figure 4-13b: Time Spent on Enterprise 2.0 for Personal Purposes at the Work Place

4.1.3.5 Enterprise 2.0 Technologies Use Practices in Employees' Organization

Employees were asked to rate their response on Enterprise 2.0 technology use practices in their organization on a scale from 1-7 (1 Strongly Disagree, 4 Neutral, 7 Strongly Agree). In Saudi Arabia, the employees' perspective that Enterprise 2.0 technologies help to improve the customer satisfaction rate, and improve the quality of business decisions were dominating. Conversely, in other countries the perspective that Enterprise 2.0 technologies help leverage corporate resources better was more dominant followed by the idea that using Enterprise 2.0 technologies improve employee productivity.

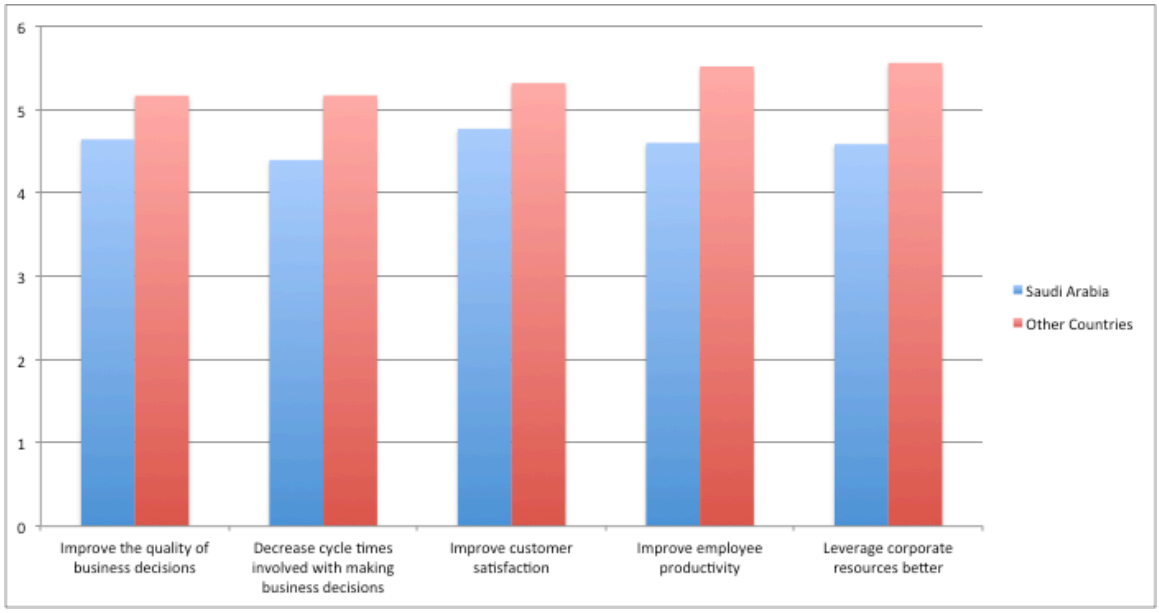

Figure 4-14: Enterprise 2.0 Technologies Use Practices

4.1.3.6 Norms and Policies Governing the Use of Enterprise 2.0 Technologies Organization

Employees were asked to rate the norms and policies that govern Enterprise 2.0 technology use in their organization on a scale from 1-7 (1 Strongly Disagree, 4 Neutral, 7 Strongly Agree). In Saudi, the fact that managers and executives are regular users of Enterprise 2.0 technologies, as well as employees who are free to use Enterprise 2.0 technologies at work, and that Enterprise 2.0 technologies are used for internal communication and collaboration among employees are more dominant norms and policies. Similarly in other countries the degree of freedom in using Enterprise 2.0 technologies at work is high, followed by the fact that Enterprise 2.0 technologies are used for internal communication and collaboration among employees.

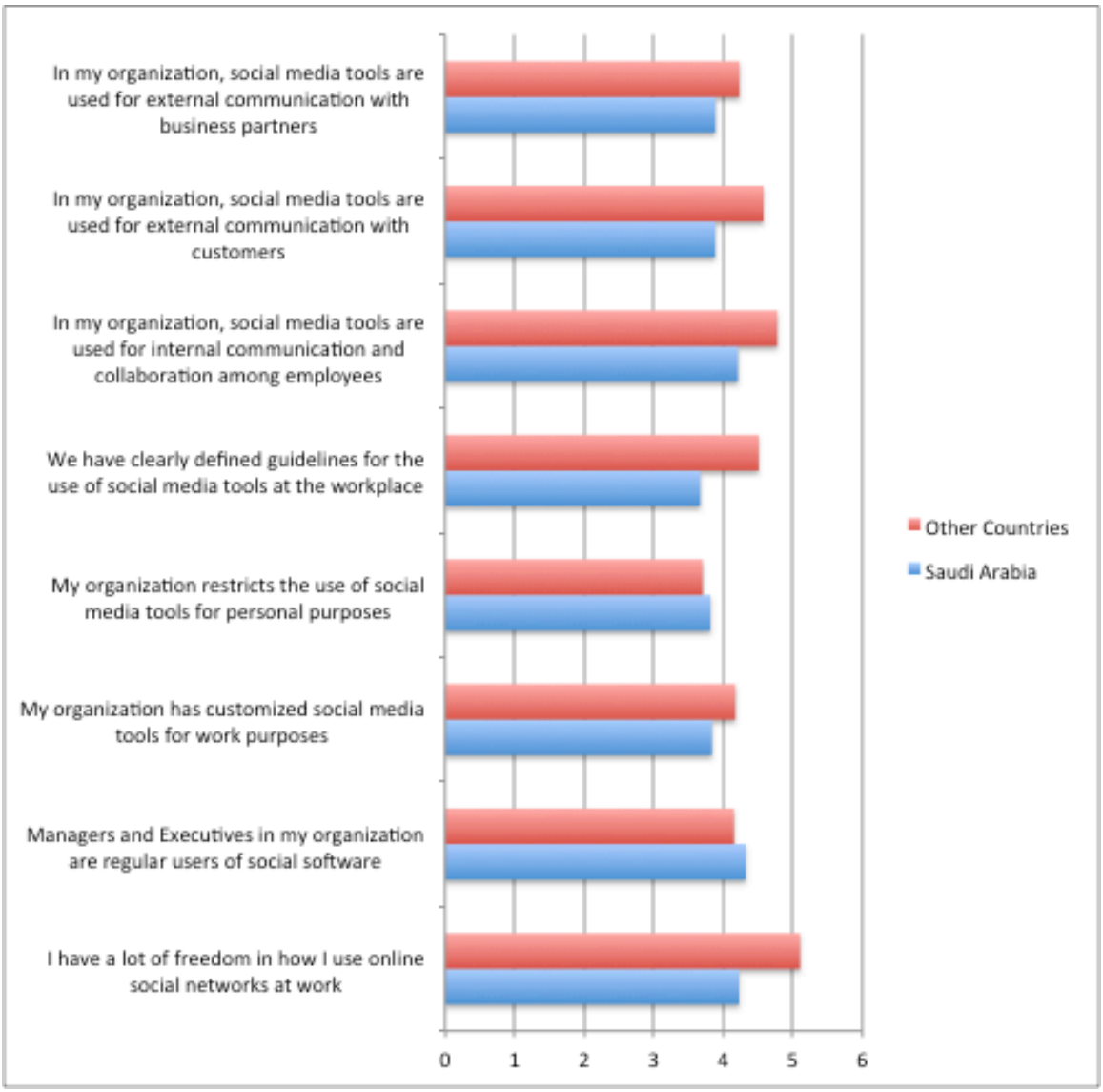

Figure 4-15: Enterprise 2.0 Use Norms and Policies

4.2 Research Proposed Structural Model Validation

It was supposed that from this point of the data analysis process, the analysis should be conducted on the combined data of all 134 participants in order to validate the research proposed theoretical model, however, three rounds of validation was suggested. These rounds are: one on the level of combined data of all participants from different multicultural backgrounds, the second on the Saudi Arabia Level, and third on the level of the other countries to compare it with Saudi Arabia. The point was to gain a better

understanding of the national, cultural trait constructs on all levels due to the observed changing behavior of such factors in each evaluation round. Furthermore, the degree of knowledge management initiative maturity differs from country to another, which is becoming a vital construct in the study (Chapter1 & Chapter2).

4.2.1 Internal Consistency Reliability and Exploratory Factor Analysis

Within a construct reliability is an issue of measurement. It is meant to validate if the instrument items selected for a specific construct could be error-prone operationalization of that construct (Straub, Boudreau et al, 2004). Reliability is used most of the time to validate internal consistency that measure a construct through a variety of items within the same instrumentation (Straub, Boudreau et al, 2004). Common techniques used to measure internal consistency are Cronbach's alpha (will be presented in the following section), and correlations. Appendix D contains correlation results of all study factors along with the descriptive statistics of these factors for the three previously mentioned rounds.

4.2.1.1 Exploratory Factor Analysis & Construct Dimensionality

A preliminary factor analysis was done on all measurement items. Consulting the Kaiser-Meyer- Olkin (KMO) measure of sampling adequacy (Kaiser, 1970) at a global level to decide whether it is feasible to proceed with further factor analysis at the construct level, the KMO values in the below Table 4-1, for each round suggested that the items warranted further investigation using exploratory factor analysis.

Table 4-1: Kaiser-Meyer- Olkin (KMO) Measure of Sampling Adequacy Values

Round	Kaiser-Meyer- Olkin (KMO) measure of sampling adequacy
Combined Data of All Countries	0.850
Saudi Arabia	0.745
Other Countries	0.708

Principal axis factoring with promax rotation was the procedure used for exploratory factor analysis (EFA). The reason for using these procedures was that they do not depend on distributional assumptions of multivariate normality (Costello and Osborne, 2005). Moreover, these procedures provide more interpretable solutions for exploratory analysis (Fabrigar, Wegener et al. 1999; Abdi, 2003; Coughlin and Knight, 2007).

The EFA suggested the items that could be dropped from the scale according to their low loadings on pertinent construct. Most item loadings in all rounds were deemed to be adequate using the recommended cut-off value of 0.70 for items adapted from previously validated measurement scale (Nunnally, 1987), or 0.60 for items that were relatively new (Chin, 1998). Furthermore, psychometrics properties of the retained measurement items also have been validated through item-total correlations and the effect of dropping items from the scale on the Cronbach's alpha value (Cronbach, 1951) for each pertinent construct.

However, there were some items (OIB3, PD5, PD6, LTO5, and LTO6) that were not retained in all of the evaluations rounds due to the significantly low loadings of these items on their constructs, as well as the values of the Cronbach's alpha if those items are deleted. Therefore, it was highly supported to drop those items off the measurement scale. Other than the previously mentioned items, all item-total correlations exceeded the recommended cut-off value of 0.35, and the Cronbach's alpha values of the resulting

constructs exceeded the threshold of 0.70 adequate indicating internal consistency reliability of the construct illustrating that the items in the construct were measuring a single, unidirectional latent variable (Cronbach, 1951; Nunnally 1978). Appendix E contains the Internal Consistency Reliability Test for all of the three rounds.

Table 4-2, contains the items that were retained:

Construct	Retained Measurement Items	Notes
Enterprise 2.0 Perceived Ease of Use	E2.0EOU1, E2.0EOU2, E2.0EOU3, E2.0EOU4	Retained in all three rounds
Enterprise 2.0 Perceived Usefulness	E2.0U1, E2.0U2, E2.0U3, E2.0U4, E2.0U5, E2.0U6	Retained in all three rounds
Enterprise 2.0 Sophistication	E2.0S1, E2.0S2	Retained in all three rounds
Enterprise 2.0 Richness	E2.0R1, E2.0R2, E2.0R3, E2.0R4	Retained in all three rounds
Knowledge Management Environment	KME1, KME2, KME3, KME4	Retained in all three rounds
Organizational Information Behavior	OIB1, OIB2	OIB3 was dropped in all three rounds
Personal Information Behavior	PIB1, PIB2, PIB3, PIB4	PIB3 and PIB4 were retained in the round of validating the Other Countries data to ensure content validity even though the item loading in that round were lesser than 0.70. And the item-total correlations exceeded the recommend cut-off of 0.35
Power Distance	PD1, PD2, PD3, PD4	PD5 and PD6 were dropped in all three rounds
Long Term Orientation	LTO1, LTO2, LTO3, LTO4	LTO3, LTO4 were retained in the round of validating the Other Countries data to ensure content validity even though the item loading in that round were lesser than 0.70. And the item-total correlations exceeded the recommend cut-off of 0.35 LTO5 and LTO6 were dropped in all three rounds
Enterprise 2.0 Use Intention	E2.0UI1, E2.0UI2, E2.0UI3, E2.0UI4	Retained in all three rounds

4.2.2 Structural Equation Modeling Analysis

In this stage of analysis a two-step approach will be advocated, where an examination of the measurement model is conducted before validating the structural model, which is strongly suggested by Anderson and Gerbing, 1988.

4.2.2.1 Measurement Model Assessment

In this phase the construct validity of each measurement model was examined. It is an issue of operationalization or measurement between construct (Straub, Boudreau et al, 2004). The purpose of such measurement is to validate if the measurement items selected by a researcher work well to capture the essence of the construct (Straub, Boudreau et al, 2004). A commonly used way to measure construct validity are convergent and discriminant validity (Straub, Boudreau et al, 2004). The goal of testing the discriminant validity of a construct is to validate if the measurement items posited to reflect a specific construct is more suitable than other measurement items (Straub, Boudreau et al, 2004). It can be determined that convergent validity is proved when items thought to reflect a construct converge high correlations with one another, specifically when comparing them to the convergence of items relevant to other constructs (Straub, Boudreau et al, 2004).

To evaluate the validity of the outer model and test the validities of discriminant and convergent, a matrix of loadings and cross-loadings is presented in Table 4-3, for all three rounds of evaluation (highest loadings of items are in bold and underlined).

Table 4-3: Matrix of Loading and Cross Loadings

Measurement Items	Model Constructs (Combined Data)									
	EOU	KME	LTO	OIB	PD	PIB	Richn	Soph	UI	Usefl
E2.0UI1	0.5676	0.2063	0.2880	0.1392	0.3872	0.2727	0.6326	0.4293	**0.9255**	0.5266
E2.0UI2	0.5021	0.1921	0.2252	0.1703	0.3422	0.2751	0.5350	0.3712	**0.9035**	0.5094
E2.0UI3	0.4826	0.2296	0.3163	0.1579	0.3429	0.3285	0.5512	0.3305	**0.8552**	0.4731
E2.0UI4	0.4778	0.2297	0.3013	0.2227	0.3646	0.2641	0.5173	0.3378	**0.8913**	0.5295
E2.0EOU1	**0.8654**	0.2386	0.3807	0.1320	0.3622	0.2738	0.6176	0.3825	0.4875	0.5296
E2.0EOU2	**0.9393**	0.2896	0.3859	0.1559	0.4212	0.3240	0.5340	0.3215	0.5068	0.5050
E2.0EOU3	**0.9038**	0.2454	0.4193	0.1596	0.4644	0.3775	0.5454	0.3458	0.5445	0.6078
E2.0R1	0.5505	0.2509	0.2743	0.2096	0.2622	0.4287	**0.7877**	0.4462	0.5489	0.4677
E2.0R2	0.4472	0.1919	0.2277	0.1269	0.1687	0.2106	**0.8087**	0.3429	0.4121	0.3704
E2.0R3	0.4900	0.2079	0.2116	0.2538	0.1536	0.3085	**0.8926**	0.4081	0.4756	0.3691
E2.0R4	0.5981	0.2037	0.2837	0.1819	0.3239	0.3407	**0.8680**	0.3576	0.6336	0.4466
E2.0S1	0.3565	0.5145	0.1267	0.3256	0.1363	0.3579	0.4292	**0.9360**	0.3753	0.2892
E2.0S2	0.3724	0.5098	0.1350	0.3188	0.1421	0.3100	0.4416	**0.9369**	0.3970	0.4087
E2.0U1	0.6562	0.2789	0.4127	0.1706	0.4191	0.3415	0.4749	0.3455	0.4918	**0.8681**
E2.0U2	0.5698	0.2339	0.4279	0.1176	0.3816	0.2774	0.3864	0.3006	0.4587	**0.9081**
E2.0U3	0.5263	0.1911	0.3590	0.0630	0.3305	0.2026	0.4197	0.2418	0.4811	**0.9030**
E2.0U4	0.5398	0.2700	0.3932	0.1356	0.3469	0.2487	0.4418	0.2965	0.4766	**0.8938**
E2.0U5	0.4415	0.2688	0.3360	0.1663	0.2997	0.2774	0.4378	0.3070	0.5424	**0.8703**
E2.0U6	0.4524	0.3758	0.2821	0.2769	0.3140	0.3252	0.4562	0.4710	0.5569	**0.8249**
OIB1	0.1059	0.5439	0.0431	**0.9422**	0.1783	0.4542	0.1499	0.2851	0.1478	0.0866
OIB2	0.2024	0.5825	0.1088	**0.9533**	0.1921	0.5099	0.2835	0.3632	0.2126	0.2403
PIB1	0.3711	0.5178	0.3729	0.4286	0.4313	0.7388	0.3618	0.2184	0.3951	0.3312
PIB2	0.3133	0.4920	0.2117	0.3861	0.2274	**0.8162**	0.2744	0.2997	0.2095	0.2324
PIB3	0.2094	0.3282	0.1237	0.3084	0.2279	**0.7173**	0.2838	0.3118	0.2144	0.2397
PIB4	0.1538	0.3745	0.0969	0.4037	0.2214	**0.7664**	0.2521	0.2767	0.0926	0.1361
KME1	0.2635	**0.8347**	0.3218	0.4475	0.3050	0.4607	0.1857	0.4378	0.1697	0.3177
KME2	0.2795	**0.9149**	0.2764	0.5912	0.2211	0.5778	0.2584	0.4683	0.1877	0.3127
KME3	0.1891	**0.8991**	0.1991	0.5334	0.1646	0.4870	0.2031	0.4849	0.1795	0.2087
KME4	0.2644	**0.8550**	0.2759	0.5048	0.2591	0.4977	0.2436	0.5238	0.2973	0.2397
LTO1	0.4377	0.3224	**0.8856**	0.1429	0.6719	0.3510	0.3377	0.1135	0.3437	0.3629
LTO2	0.2787	0.2332	**0.8945**	0.0774	0.5714	0.2250	0.2204	0.1081	0.2419	0.2935
LTO3	0.3766	0.2563	**0.8019**	0.0105	0.4841	0.1382	0.1551	0.1365	0.1809	0.3849
LTO4	0.3428	0.1454	**0.7132**	-0.0067	0.4565	0.2049	0.2835	0.1064	0.2768	0.3742
PD1	0.3816	0.1890	0.5813	0.1552	**0.8500**	0.3248	0.2227	0.0323	0.3877	0.3293
PD2	0.3847	0.2489	0.5252	0.2024	**0.8607**	0.3493	0.2450	0.1564	0.2621	0.2890
PD3	0.4332	0.1777	0.6077	0.0584	**0.8596**	0.3216	0.3121	0.1522	0.3904	0.3704
PD4	0.3423	0.2969	0.5437	0.2503	**0.7754**	0.2749	0.1414	0.1615	0.3130	0.3595

Measurement Items	Model Constructs (Saudi)									
	EOU	KME	LTO	OIB	PD	PIB	Richn	Soph	UI	Usefl
E2.0UI1	0.6169	0.2089	0.2948	0.1433	0.3100	0.1716	0.6804	0.4639	**0.9310**	0.5276
E2.0UI2	0.5127	0.1662	0.1964	0.1947	0.2257	0.1877	0.5978	0.3942	**0.9182**	0.5063
E2.0UI3	0.4884	0.2164	0.3171	0.1219	0.2533	0.2462	0.5925	0.3307	**0.8773**	0.4976
E2.0UI4	0.4849	0.2421	0.2797	0.2644	0.2433	0.1909	0.5421	0.3599	**0.9083**	0.5162
E2.0EOU1	**0.8897**	0.2200	0.3931	0.1172	0.3159	0.2715	0.6921	0.3526	0.5198	0.4858
E2.0EOU2	**0.9596**	0.3370	0.4812	0.1763	0.4471	0.3846	0.6381	0.3783	0.5000	0.4473
E2.0EOU3	**0.8996**	0.2757	0.4870	0.1507	0.4618	0.3772	0.6347	0.3915	0.5717	0.5942
E2.0R1	0.5530	0.1349	0.2070	0.1185	0.1923	0.3603	**0.7891**	0.3433	0.5350	0.3978
E2.0R2	0.5667	0.0454	0.2647	-0.0902	0.1694	0.2014	**0.8632**	0.2915	0.5765	0.4418
E2.0R3	0.6406	0.1449	0.1743	0.1155	0.0923	0.2614	**0.9217**	0.4116	0.5704	0.4774
E2.0R4	0.7164	0.1778	0.2472	0.0980	0.1960	0.2720	**0.9025**	0.4001	0.6315	0.4993
E2.0S1	0.3396	0.5200	0.0327	0.3613	0.0433	0.2991	0.3641	**0.9236**	0.3435	0.2558
E2.0S2	0.4183	0.5836	0.1515	0.3599	0.1422	0.2153	0.4130	**0.9403**	0.4491	0.5271
E2.0U1	0.6536	0.3549	0.4163	0.2136	0.3713	0.3797	0.5544	0.4145	0.4835	**0.8464**
E2.0U2	0.5314	0.2930	0.4880	0.1033	0.3629	0.2812	0.4382	0.3468	0.4651	**0.9243**
E2.0U3	0.4823	0.2044	0.3726	0.0460	0.2631	0.1966	0.4596	0.3395	0.5149	**0.9222**
E2.0U4	0.4869	0.2453	0.4171	0.1272	0.3022	0.2462	0.4617	0.3278	0.5075	**0.9227**
E2.0U5	0.4326	0.2514	0.3058	0.1429	0.2172	0.2144	0.4713	0.3689	0.5506	**0.9315**
E2.0U6	0.3750	0.3872	0.2661	0.2580	0.1805	0.2257	0.4064	0.5111	0.5042	**0.8155**
OIB1	0.0910	0.5688	-0.0015	0.9394	0.2659	0.4288	-0.0085	0.3283	0.1350	0.0590
OIB2	0.2069	0.6067	0.0681	0.9526	0.2623	0.4938	0.1374	0.3995	0.2336	0.2431
PIB1	0.3771	0.5752	0.3794	0.4522	0.4083	**0.7388**	0.3770	0.2273	0.3536	0.2664
PIB2	0.3390	0.5359	0.1802	0.3323	0.1506	**0.8532**	0.2083	0.2424	0.0575	0.1592
PIB3	0.2288	0.3168	0.1114	0.3387	0.2358	**0.7491**	0.2126	0.1991	0.1873	0.3819
PIB4	0.1716	0.3711	0.0898	0.3773	0.2397	**0.7902**	0.1179	0.1713	0.0152	0.1169
KME1	0.2102	**0.8448**	0.2845	0.4440	0.2807	0.3993	-0.0032	0.3921	-0.0022	0.2666
KME2	0.3126	**0.9378**	0.2372	0.6254	0.2336	0.6483	0.1667	0.5327	0.2259	0.3605
KME3	0.2538	**0.9231**	0.1560	0.5949	0.1959	0.5544	0.1381	0.5598	0.2580	0.2941
KME4	0.2829	**0.8531**	0.2402	0.5239	0.2417	0.5028	0.1870	0.6012	0.2783	0.2225
LTO1	0.4972	0.2822	**0.9332**	0.1275	0.7236	0.3237	0.2914	0.0904	0.3668	0.4078
LTO2	0.3911	0.1650	**0.9418**	-0.0515	0.6547	0.2024	0.1750	0.0291	0.2284	0.3232
LTO3	0.4554	0.2568	**0.9121**	0.0277	0.5548	0.2217	0.1884	0.1543	0.1974	0.4117
LTO4	0.3904	0.0720	**0.7404**	-0.1136	0.4612	0.1424	0.2957	0.0348	0.2701	0.3712
PD1	0.3671	0.1898	0.5905	0.2190	**0.8689**	0.3365	0.1601	0.0265	0.2815	0.2158
PD2	0.3795	0.2516	0.5608	0.2678	**0.8698**	0.2894	0.1371	0.0981	0.2022	0.2036
PD3	0.4415	0.2050	0.6911	0.1150	**0.8753**	0.2876	0.2623	0.0961	0.2917	0.3677
PD4	0.3299	0.2582	0.5076	0.3662	**0.7904**	0.2591	0.0660	0.1457	0.1863	0.3241

Measurement Items	Model Constructs (Other Countries)									
	EOU	KME	LTO	OIB	PD	PIB	Richn	Soph	UI	Usefl
E2.0UI1	0.4606	0.1920	0.2693	0.1047	0.5057	0.4304	0.5543	0.3431	**0.9167**	0.5175
E2.0UI2	0.4735	0.2019	0.3110	0.0745	0.5244	0.3654	0.4397	0.2865	**0.8769**	0.5113
E2.0UI3	0.4627	0.2619	0.3246	0.1815	0.4711	0.4281	0.4864	0.3044	**0.7997**	0.4170
E2.0UI4	0.4519	0.1984	0.3913	0.1068	0.5345	0.3248	0.4979	0.2761	**0.8583**	0.5459
E2.0EOU1	**0.8151**	0.2471	0.3556	0.1391	0.4170	0.2335	0.4894	0.4152	0.4074	0.5927
E2.0EOU2	**0.9037**	0.1998	0.1930	0.1117	0.3420	0.1994	0.3775	0.2075	0.5092	0.6072
E2.0EOU3	**0.9144**	0.1964	0.2819	0.1630	0.4574	0.3728	0.4239	0.2596	0.4904	0.6320
E2.0R1	0.5586	0.4183	0.4386	0.3201	0.3563	0.4765	**0.8167**	0.5383	0.5477	0.5858
E2.0R2	0.2719	0.4519	0.1475	0.4387	0.1727	0.2243	**0.7268**	0.4237	0.1688	0.2735
E2.0R3	0.2466	0.3561	0.2983	0.4860	0.2731	0.3990	**0.8374**	0.4137	0.3340	0.2062
E2.0R4	0.3829	0.2637	0.3659	0.3139	0.5402	0.4522	**0.8079**	0.2693	0.6372	0.3581
E2.0S1	0.3542	0.4829	0.3487	0.2355	0.2033	0.3668	0.5131	**0.9523**	0.3781	0.2951
E2.0S2	0.2731	0.3392	0.1306	0.2227	0.1069	0.4026	0.4634	**0.9270**	0.2699	0.1797
E2.0U1	0.6620	0.1747	0.4197	0.1016	0.4932	0.2851	0.3819	0.2506	0.5190	**0.9170**
E2.0U2	0.6356	0.1457	0.3149	0.1329	0.3994	0.2845	0.3378	0.2382	0.4546	**0.8883**
E2.0U3	0.5995	0.1524	0.3233	0.0725	0.4238	0.1915	0.3533	0.0748	0.4198	**0.8625**
E2.0U4	0.6258	0.2641	0.3457	0.1025	0.3741	0.1869	0.4253	0.1945	0.3895	**0.8451**
E2.0U5	0.4533	0.3268	0.4341	0.1880	0.4222	0.3696	0.4217	0.1991	0.5304	**0.7632**
E2.0U6	0.5813	0.3196	0.3708	0.2788	0.5002	0.4487	0.5578	0.3431	0.6369	**0.8449**
OIB1	0.1104	0.4917	0.1707	0.9453	-0.0080	0.4719	0.3702	0.1698	0.1145	0.1101
OIB2	0.1856	0.5557	0.2452	0.9574	0.0395	0.5307	0.5083	0.2878	0.1371	0.2128
PIB1	0.3396	0.3867	0.3986	0.3603	0.4570	**0.7493**	0.3185	0.1536	0.4541	0.4407
PIB2	0.2382	0.3751	0.3057	0.4575	0.2950	**0.7780**	0.3613	0.3151	0.3886	0.3105
PIB3	0.1536	0.3107	0.1717	0.2478	0.2043	***0.6209**	0.3693	0.4142	0.2094	-0.0028
PIB4	0.1029	0.3308	0.1461	0.4192	0.1721	***0.6934**	0.4374	0.3534	0.1564	0.1293
KME1	0.3248	**0.8347**	0.4914	0.4555	0.2556	0.4721	0.4902	0.4611	0.3835	0.3761
KME2	0.1985	**0.8594**	0.3852	0.5300	0.1787	0.4191	0.3961	0.3456	0.0801	0.1970
KME3	0.0588	**0.8477**	0.2874	0.4282	0.0855	0.3415	0.2835	0.3538	0.0106	0.0363
KME4	0.2015	**0.8568**	0.4589	0.4575	0.2157	0.4230	0.3562	0.3328	0.2846	0.2398
LTO1	0.3403	0.4316	**0.8087**	0.1656	0.6048	0.4123	0.4328	0.1734	0.3212	0.2984
LTO2	0.1068	0.3873	**0.8371**	0.2704	0.4534	0.2844	0.3233	0.2513	0.2965	0.2610
LTO3	0.2629	0.2776	***0.5698**	-0.0230	0.3783	0.0266	0.1364	0.1243	0.1709	0.3534
LTO4	0.2123	0.2878	***0.6338**	0.1881	0.4235	0.3032	0.2676	0.2210	0.2721	0.3758
PD1	0.3821	0.1754	0.5991	0.0260	**0.8116**	0.2869	0.3315	-0.0023	0.5712	0.5223
PD2	0.3763	0.2025	0.4893	0.0860	**0.8604**	0.4241	0.4019	0.1958	0.3445	0.4101
PD3	0.4037	0.1033	0.4541	-0.0518	**0.8459**	0.3550	0.3926	0.2064	0.5471	0.3584
PD4	0.3462	0.2973	0.6776	-0.0299	**0.7069**	0.2192	0.2868	0.1069	0.5304	0.4023

- The reason of keeping these items was to ensure content validity even though the value of their loading were lesser than 0.70

4.2.2.1.1 Measurement Model Assessment: Discriminant Validity at Item level

Examining the above Tables shows that for each block of items, the substantive loading of each item on its own construct is above the minimum required threshold of 0.70 (Nunnally 1978; Chin 1998). That ensures item reliability for the measurement model. Moreover, evaluating the loadings of an item on its associated latent constructs shows high value when comparing it to the item's cross-loadings on other latent constructs. This results in ascertaining discriminant validity of the measurement model.

4.2.2.1.2 Measurement Model Assessment: Discriminant Validity at Construct level.

Discriminant validity at the construct level was also evaluated through observing the correlations among latent variables. The average variance extracted (AVE) was used to indicate any measurement error that could be attributed. That was done through a comparison of the square root of AVE and the construct correlations.

The below Table 4-4, show the matrix of correlations among latent variables in all three rounds of evaluation with the discriminant validity metric (square root of AVE) along the diagonal. It can be inspected visually in all three Tables that the values in the diagonal are higher than the values of correlations value in the pertiner row and column for the construct. That supports the confidence in the discriminant validity of the constructs in the model (Fornell and larcker, 1981; Chin, 1998; Gefen, Straub et al., 2000).

Table 4-4:Average Variance Extracted and Inter-Construct Correlations

Combined Data Construct Correlations	EOU	KME	LTO	OIB	PD	PIB	Rich	Soph	UI	Usefl
Enterprise 2.0 Ease of Use	**0.903**									
Knowledge Management Environment	0.285	**0.876**								
Long Term Orientation	0.439	0.305	**0.827**							
Organizational Information Behavior	0.165	0.595	0.082	**0.948**						
Power Distance	0.461	0.269	0.673	0.196	**0.837**					
Personal Information Behavior	0.361	0.579	0.287	0.510	0.381	**0.761**				
Enterprise 2.0 Richness	0.629	0.256	0.300	0.232	0.279	0.392	**0.840**			
Enterprise 2.0 Sophistication	0.389	0.547	0.140	0.344	0.149	0.357	0.465	**0.936**		
Enterprise 2.0 Use Intention	0.569	0.239	0.316	0.192	0.402	0.318	0.627	0.412	**0.894**	
Enterprise 2.0 Usefulness	0.609	0.307	0.421	0.177	0.399	0.319	0.498	0.373	0.570	**0.420**
Saudi Arabia Construct Correlations	EOU	KME	LTO	OIB	PD	PIB	Rich	Soph	UI	Usefl
Enterprise 2.0 Ease of Use	**0.917**									
Knowledge Management Environment	0.302	**0.891**								
Long Term Orientation	0.495	0.252	**0.886**							
Organizational Information Behavior	0.161	0.622	0.037	**0.946**						
Power Distance	0.446	0.262	0.691	0.279	**0.852**					
Personal Information Behavior	0.376	0.602	0.272	0.490	0.347	**0.784**				
Enterprise 2.0 Richness	0.716	0.148	0.256	0.073	0.186	0.313	**0.871**			
Enterprise 2.0 Sophistication	0.409	0.594	0.103	0.387	0.103	0.273	0.418	**0.932**		
Enterprise 2.0 Use Intention	0.581	0.229	0.299	0.198	0.285	0.218	0.666	0.428	**0.909**	
Enterprise 2.0 Usefulness	0.559	0.323	0.426	0.165	0.321	0.292	0.524	0.428	0.563	**0.895**
Other Countries Construct Correlations	EOU	KME	LTO	OIB	PD	PIB	Rich	Soph	UI	Usefl
Enterprise 2.0 Ease of Use	**0.879**									
Knowledge Management Environment	0.245	**0.850**								
Long Term Orientation	0.318	0.489	**0.721**							
Organizational Information Behavior	0.158	0.552	0.221	**0.951**						
Power Distance	0.464	0.226	0.655	0.018	**0.808**					
Personal Information Behavior	0.308	0.495	0.378	0.529	0.414	**0.713**				
Enterprise 2.0 Richness	0.492	0.460	0.421	0.466	0.444	0.510	**0.798**			
Enterprise 2.0 Sophistication	0.338	0.445	0.267	0.244	0.170	0.407	0.522	**0.940**		
Enterprise 2.0 Use Intention	0.534	0.245	0.374	0.133	0.589	0.446	0.574	0.350	**0.864**	
Enterprise 2.0 Usefulness	0.696	0.269	0.430	0.173	0.512	0.348	0.485	0.259	0.579	**0.855**

4.2.2.1.2 Measurement Model: Convergent Validity

The convergent validity of the various model constructs was reached and supported through examining the following criteria. Average Variance Extracted (AVE) measures the percent of variance captured by a construct by showing the ratio of the sum of the variance captured by construct and measurement variance.

Table 4-5: Constructs Statistics – Convergent Validity

	Latent Variables	Convergent Validity Indicator		
		AVE (> 0.50)	Composite Reliability (>0.70)	Cronbach's Alpha (>0.70)
Combined	Enterprise 2.0 Ease of Use	0.816	0.930	0.887
	Knowledge Management Environment	0.768	0.930	0.899
	Long Term Orientation	0.684	0.896	0.848
	Organizational Information Behavior	0.898	0.946	0.887
	Power Distance	0.701	0.903	0.857
	Personal Information Behavior	0.579	0.846	0.762
	Enterprise 2.0 Richness	0.706	0.906	0.861
	Enterprise 2.0 Sophistication	0.877	0.935	0.860
	Enterprise 2.0 Use Intention	0.800	0.941	0.916
	Enterprise 2.0 Usefulness	0.772	0.953	0.941
	Latent Variables	Convergent Validity Indicator		
		AVE (> 0.50)	Composite Reliability (>0.70)	Cronbach's Alpha (>0.70)
Saudi Arabia	Enterprise 2.0 Ease of Use	0.841	0.941	0.905
	Knowledge Management Environment	0.793	0.939	0.913
	Long Term Orientation	0.785	0.935	0.914
	Organizational Information Behavior	0.895	0.945	0.883
	Power Distance	0.726	0.914	0.874
	Personal Information Behavior	0.615	0.864	0.797
	Enterprise 2.0 Richness	0.758	0.926	0.892
	Enterprise 2.0 Sophistication	0.869	0.930	0.849
	Enterprise 2.0 Use Intention	0.826	0.950	0.930
	Enterprise 2.0 Usefulness	0.801	0.960	0.950
	Latent Variables	Convergent Validity Indicator		
		AVE (> 0.50)	Composite Reliability (>0.70)	Cronbach's Alpha (>0.70)
Other Countries	Enterprise 2.0 Ease of Use	0.772	0.910	0.851
	Knowledge Management Environment	0.722	0.912	0.873
	Long Term Orientation	0.520	0.809	*0.683
	Organizational Information Behavior	0.905	0.950	0.896
	Power Distance	0.654	0.882	0.828
	Personal Information Behavior	0.508	0.804	*0.686
	Enterprise 2.0 Richness	0.637	0.875	0.817
	Enterprise 2.0 Sophistication	0.883	0.938	0.869
	Enterprise 2.0 Use Intention	0.746	0.922	0.886
	Enterprise 2.0 Usefulness	0.731	0.942	0.926

(* These cronbach's alpha noticed to be low due to the low loadings of the measurements items associated with these two constructs in the third round of validation.)

Values of AVE from all the three rounds are listed in Table 4-5. It is shown that the AVE value for each latent variable is higher than 0.5, indicating that at least 50% of the variance in each block of indicators can be attributed to the pertinent latent variables (Fornell and Larcker 1981; Chin, 1998). Moreover, the values of Cronbac's alpha in all the three Tables exceeding 0.70 show the internal reliability consistency of construct at an individual level (Cronbach, 1951; Nunnally, 1978; Chin, 1998, Gefen, Straub et al, 2000). Furthermore, composite reliability values for each construct is higher than 0.70, which is the recommended cut-off to validate the internal reliability consistency relative to all other constructs in the model (Fornell and Larcker, 1981).

4.2.2.2.1 Predictability and Coefficients of Determination of Model Constructs

Many researchers consider the evaluation of the coefficients of determination (R^2) as an preferable procedure to test construct validity in the structural model (Chin, 1998b; Tenenhaus et al.,2005; Wicks & Chin, 2008). The coefficients of determination (R^2) explain the proportion of a construct's variance that can be predictable by antecedent constructs in the model. There is no specific cut-off value for measuring the coefficients of determination (R^2), however, higher values are favorable (Gefen et al., 2000b). Some researchers indicate that values higher than 0.10 is considered usable to ensure the usefulness of endogenous variable within the model (Falk&Miller, 1992).

The below Table 4-6, provides the values of coefficients of determination (R^2) for all model's constructs in all of the three rounds.

Table 4-6: Constructs Coefficients of Determination (R^2)

Latent Variables	Coefficients of Determination (R^2)		
	Combined	Saudi Arabia	Other Countries
Enterprise 2.0 Ease of Use	0.395	0.513	0.242
Knowledge Management Environment	0.355	0.400	0.360
Long Term Orientation	na (exogenous)	na (exogenous)	na (exogenous)
Organizational Information Behavior *	0.354	0.387	0.305
Power Distance	na (exogenous)	na (exogenous)	na (exogenous)
Personal Information Behavior *	0.432	0.421	0.461
Enterprise 2.0 Richness	0.216	0.176	0.272
Enterprise 2.0 Sophistication	na (exogenous)	na (exogenous)	na (exogenous)
Enterprise 2.0 Use Intention *	0.484	0.529	0.511
Enterprise 2.0 Usefulness	0.393	0.364	0.486
Average	0.376	0.399	0.377

It can be noticed from the above Table 4-6, that all of the coefficients of determination (R^2) for the endogenous variables exceeded the minimum level of 0.10. The exception of *Enterprise 2.0 richness,* with a value that is slightly above 0.10, can be noticed in the round of validating Saudi Arabia participants' data. However, this should not be a big concern since this variable only has one incoming path from other constructs in the model, which explains the low value of R^2.

Furthermore, this study is interested in investigating the downstream behavioral variables: Personal Information Behavior, Organizational Information Behavior, and Enterprise 2.0 Use Intention, and all of their coefficients of determination (R^2) were in the range of 0.3 and 0.5.

4.2.2.2.2 Path Validity Coefficient in the Structural Model

In order to determine the relevance of the overall model the various proposed paths among latent variables in the previously proposed theoretical model should be assessed. Values of T-statistics from the bootstrapping procedure were used to determine the significance levels of each proposed path in the model. Tables 4-7, 4-8, and 4-9, show

all the paths in the structural model with the path coefficients and significance levels for the three rounds of evaluations. These tables also provide the validation decision of these proposed paths as well as the path coefficients and the significance of the relationship.

In the first round that validated the structural model on all combined data of the study, all paths were supported except the following:

- The path from power distance to knowledge management environment
- The path from long-term orientation to knowledge management environment
- The path from knowledge management environment to Enterprise 2.0 use intention
- The path from personal information behavior to Enterprise 2.0 use intention
- The path from organizational information behavior to Enterprise 2.0 use intention.

An overview of the estimated structural model with the R^2 values and path coefficients are presented in Figure 4- 16.

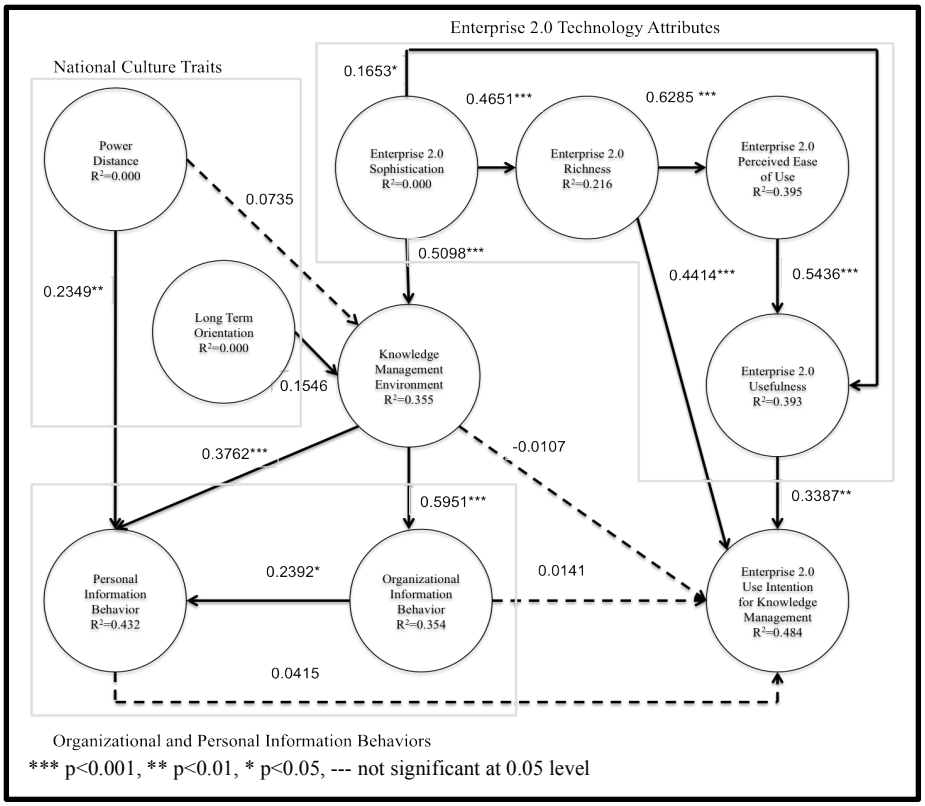

Figure 4-16: Estimated Structural Model (Combined Data)

Table 4-7: Combined Data Path Validity Analysis

Proposition	Model Path	Path Coefficients	T-Value	P-Value	Significance Level	Validation
P1	Power Distance -> Personal Information Behavior	0.2349	2.7378	0.0062951	<0.01	Supported
P2	Power Distance -> Knowledge Management Environment	0.0735	0.6306	0.5284463	n.s.	Rejected
P3	Long Term Orientation -> Knowledge Management Environment	0.1846	1.7438	0.0815016	n.s.	Rejected
P4	Sophistication -> Knowledge Management Environment	0.5098	6.3505	0.0000000	<0.001	Supported
P5	Sophistication -> Richness	0.4651	5.4412	0.0000001	<0.001	Supported
P6	Sophistication -> Usefulness	0.1653	1.98	0.0479776	<0.05	Supported
P7	Richness -> Ease of Use	0.6285	9.8669	0.0000000	<0.001	Supported
P8	Richness -> Use Intention	0.4414	3.8813	0.0001107	<0.001	Supported
P9	Ease of Use -> Usefulness	0.5436	6.088	0.0000000	<0.001	Supported
P10	Knowledge Management Environment -> Personal Information Behavior	0.3761	3.5175	0.0004552	<0.001	Supported
P11	Knowledge Management Environment -> Organizational Information Behavior	0.5951	7.8333	0.0000000	<0.001	Supported
P12	Knowledge Management Environment -> Use Intention	-0.0107	0.0878	0.9300532	n.s.	Rejected
P13	Usefulness -> Use Intention	0.3387	2.887	0.0039732	<0.01	Supported
P14	Personal Information Behavior -> Use Intention	0.0415	0.3448	0.7303173	n.s.	Rejected
P15	Organizational Information Behavior -> Personal Information Behavior	0.2392	2.1922	0.0285952	<0.05	Supported
P16	Organizational Information Behavior -> Use Intention	0.0141	0.153	0.8784292	n.s.	Rejected

In the second round that validated the structural model on Saudi Arabia participants, all paths were supported except the following:

- The path from power distance to knowledge management environment
- The path from long-term orientation to knowledge management environment
- The path from knowledge management environment to Enterprise 2.0 use intention
- The path from personal information behavior to Enterprise 2.0 use intention
- The path from organizational information behavior to personal information behavior.

An overview of the estimated structural model with the R^2 values and path coefficients are presented in Figure 4-17.

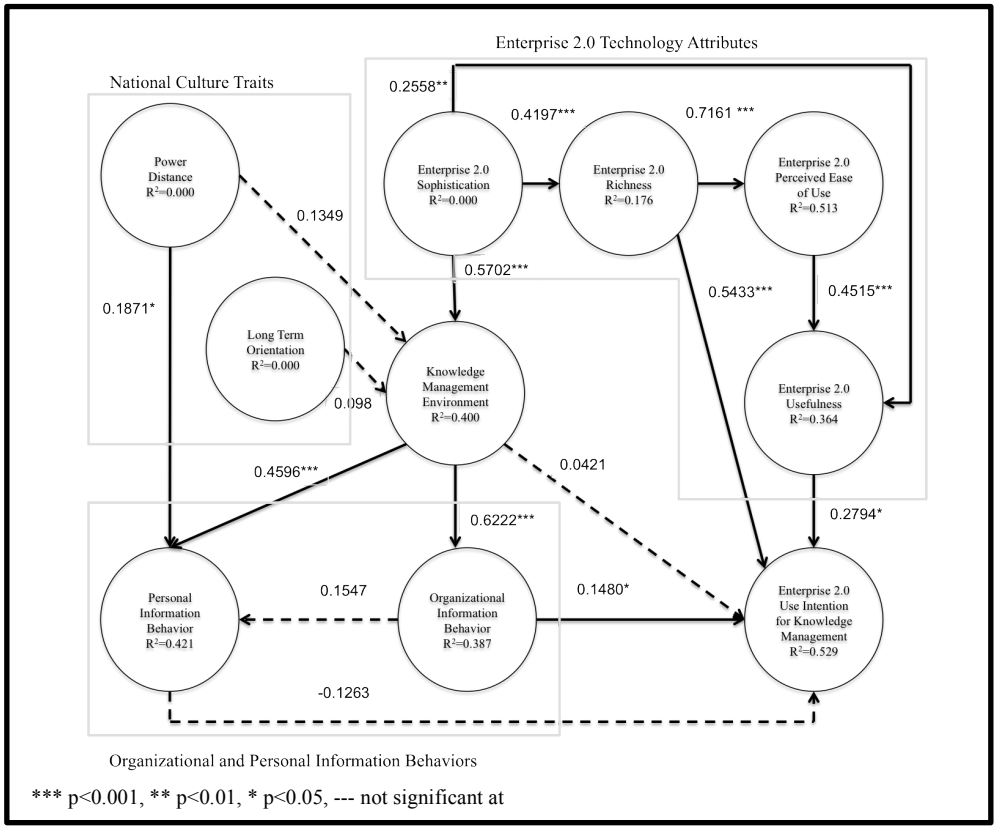

Figure 4-17: Estimated Structural Model (Saudi Arabia)

Table 4-8: Saudi Arabia Path Validity Analysis

Proposition	Model Path	Path Coefficients	T-Value	P-Value	Significance Level	Validation
P1	Power Distance -> Personal Information Behavior	0.1871	2.2734	0.0232137	<0.05	Supported
P2	Power Distance -> Knowledge Management Environment	0.1349	1.284	0.1994397	n.s.	Rejected
P3	Long Term Orientation -> Knowledge Management Environment	0.098	1.1106	0.2670078	n.s.	Rejected
P4	Sophistication -> Knowledge Management Environment	0.5702	7.4006	0.0000000	<0.001	Supported
P5	Sophistication -> Richness	0.4197	4.7554	0.0000023	<0.001	Supported
P6	Sophistication -> Usefulness	0.2558	3.1135	0.0019014	<0.001	Supported
P7	Richness -> Ease of Use	0.7161	15.6251	0.0000000	<0.001	Supported
P8	Richness -> Use Intention	0.5433	5.0418	0.0000005	<0.001	Supported
P9	Ease of Use -> Usefulness	0.4515	4.8691	0.0000013	<0.001	Supported
P10	Knowledge Management Environment -> Personal Information Behavior	0.4596	4.8342	0.0000015	<0.001	Supported
P11	Knowledge Management Environment -> Organizational Information Behavior	0.6222	8.7659	0.0000000	<0.001	Supported
P12	Knowledge Management Environment -> Use Intention	0.0421	0.4164	0.6772068	n.s.	Rejected
P13	Usefulness -> Use Intention	0.2794	2.5612	0.0105770	<0.05	Supported

P14	Personal Information Behavior -> Use Intention	-0.1263	1.1396	0.2547261	n.s.	Rejected
P15	Organizational Information Behavior -> Personal Information Behavior	0.1547	1.4747	0.1406083	n.s.	Rejected
P16	Organizational Information Behavior -> Use Intention	0.148	2.2623	0.0238930	<0.05	Supported

Similarly, in the third round that validated the structural model on other countries participants, all paths were supported except the following:

- The path from power distance to knowledge management environment
- The path from Enterprise 2.0 sophistication to perceived usefulness of Enterprise 2.0
- The path from knowledge management environment to personal information behavior
- The path from knowledge management environment to Enterprise 2.0 use intention

An overview of the estimated structural model with the R^2 values and path coefficients are presented in Figure 4-18.

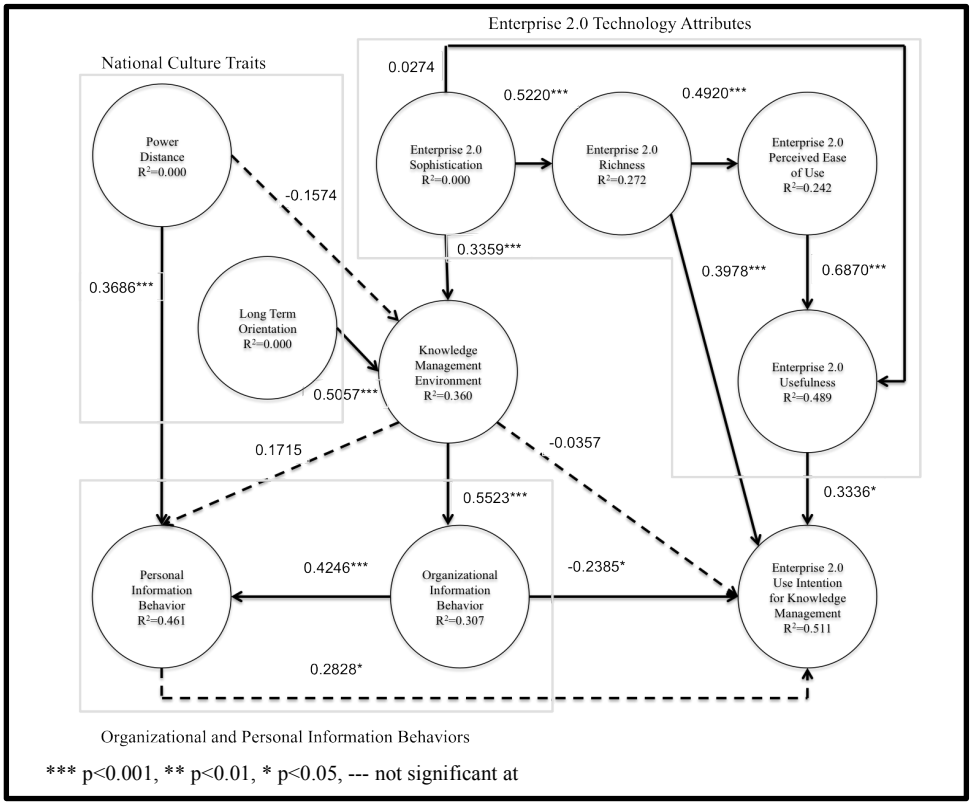

Figure 4-18: Estimated Structural Model (Other Countries)

Table 4-9: Other Countries Data Path Validity Analysis

Proposition	Model Path	Path Coefficients	T-Value	P-Value	Significance Level	Validation
P1	Power Distance -> Personal Information Behavior	0.3686	4.1249	0.0000402	<0.001	Supported
P2	Power Distance -> Knowledge Management Environment	-0.1574	1.2779	0.2015815	n.s.	Rejected
P3	Long Term Orientation -> Knowledge Management Environment	0.5057	5.5925	0.0000000	<0.001	Supported
P4	Sophistication -> Knowledge Management Environment	0.3359	4.6245	0.0000042	<0.001	Supported
P5	Sophistication -> Richness	0.522	7.8529	0.0000000	<0.001	Supported
P6	Sophistication -> Usefulness	0.0274	0.3652	0.7150394	n.s.	Rejected
P7	Richness -> Ease of Use	0.492	5.8017	0.0000000	<0.001	Supported
P8	Richness -> Use Intention	0.3978	3.4319	0.0006239	<0.001	Supported
P9	Ease of Use -> Usefulness	0.687	10.0834	0.0000000	<0.001	Supported
P10	Knowledge Management Environment -> Personal Information Behavior	0.1715	1.5393	0.1240477	n.s.	Rejected
P11	Knowledge Management Environment -> Organizational Information Behavior	0.5523	6.679	0.0000000	<0.001	Supported
P12	Knowledge Management Environment -> Use Intention	-0.0357	0.3028	0.7621053	n.s.	Rejected
P13	Usefulness -> Use Intention	0.3336	3.3267	0.0009108	<0.001	Supported
P14	Personal Information Behavior -> Use Intention	0.2828	2.5272	0.0116509	<0.05	Supported
P15	Organizational Information Behavior -> Personal Information Behavior	0.4246	4.2537	0.0000230	<0.001	Supported
P16	Organizational Information Behavior -> Use Intention	-0.2385	2.3965	0.0167355	<0.05	Supported

4.2.2.3 Predictability Effect Sizes in the Estimated Structural Model

Another suggested test to verify the effectiveness of the estimated structural model on the level of construct validity was conducted in the procedure of data analysis in this study. It is associated with the predictability effect sizes of various antecedent constructs on their consequents in the model, which highlight the predictive power of the antecedent latent variables (Chin, 1998b).

In such evaluation the contributions of the independent variables can be tested through comparing the R^2 value of the dependent variable with and without the presence

of the independent variable. The following formula, Equation 4-1, is used to calculate the effect size score between the independent and dependent variable:

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

$R^2_{Included}$ and $R^2_{Excluded}$ are the variances explained in the dependent variable with the predictor variable included or omitted correspondingly

Equation 4-1: Predictability Effects Calculation

Cohen's (1988) suggested thresholds that could be used to compare the resulted f^2 value to, i.e. values of 0.02 small, 0.15 medium, and 0.35 large effect size at the structural level. Table 4-10, 4-11, and 4-12, show the effect sizes between the dependent and independent variables in the structural model after conducting the previously mentioned formula for all pairs of antecedent and consequent variables for the three rounds of evaluation.

As for the combined data, Table 4-10, the large effect sizes occur between Enterprise 2.0 ease of use on Enterprise 2.0 usefulness, Enterprise 2.0 richness on Enterprise 2.0 ease of use, Enterprise 2.0 sophistication on knowledge management environment and knowledge management environment on organizational information behavior. Going backward to the model it can be noticed that the above-mentioned variables have significant path coefficients presenting strong relationships between them. On the other hand it can be noticed that there is no observed effect between power distance on knowledge management environment, knowledge management environment on Enterprise 2.0 use intention, organizational information behavior on Enterprise 2.0 use intention, and personal information behavior on Enterprise 2.0 use intention which is also can be detected in the absence of significance in the paths coefficients of these variables.

However, the effect of long-term orientation on knowledge management environment noticed to has a small effect size although it was a Rejected path.

Table 4-10: Effect Sizes for the Estimated Structural Model (Combined Data)

Consequent	E2.0 Ease of Use		E2.0 Richness		E2.0 Usefulness		Knowledge Management Environment		Orgnizational Information Behavior		Personal Information Behaviour		E2.0 Use Intention	
Antecedent	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded
E2.0 Ease of Use					0.393	0.147								
					0.405 Large									
E2.0 Richness	0.395	0.000											0.484	0.350
	0.653 Large												0.260 Medium	
E2.0 Sophistication			0.216	0.000	0.393	0.371	0.355	0.102						
			0.276 Medium		0.036 Small		0.392 Large							
E2.0 Usefulness													0.484	0.404
													0.155 Medium	
Power distance							0.355	0.352			0.432	0.380		
							0.005				0.092 Small			
Long term Orientation							0.355	0.337						
							0.028 Small							
Knowledge Management Environment									0.354	0.000	0.432	0.350	0.484	0.484
									0.548 Large		0.144 Small		0.000	
Orgnizational Information Behavior											0.432	0.398	0.484	0.484
											0.060 Small		0.000	
Personal Information Behavior													0.484	0.483
													0.002	

Saudi Arabia data, Table 4-11, behaved in a similar way, large effect sizes occurred between Enterprise 2.0 richness on Enterprise 2.0 ease of use, Enterprise 2.0 sophistication on knowledge management environment, Enterprise 2.0 richness on Enterprise 2.0 use intention, and knowledge management environment on organizational information behavior. Examining the path coefficients in the model yields that these paths have a significant relationships between each other. As for the variables that showed none measurable effect; power distance on knowledge management environment, long-term orientation on knowledge management environment, knowledge management environment on Enterprise 2.0 use intention, organizational information behavior on

personal information behavior, and personal information behavior on Enterprise 2.0 use intention, it can be noticed that they are the paths that reacted insignificantly in the model evaluation.

As for the data gathered from other countries, Table 4-12, Enterprise 2.0 ease of use effect on Enterprise 2.0 usefulness was large as well the Enterprise 2.0 sophistication on Enterprise 2.0 richness, knowledge management environment on organizational information behavior and organizational information behavior on Enterprise 2.0 use intention. Similarly these variables path coefficients were significant when the model was tested.

Table 4-11: Effect Sizes for the Estimated Structural Model (Saudi Arabia)

Consequent	E2.0 Ease of Use		E2.0 Richness		E2.0 Usefulness		Knowledge Management Environment		Orgnizational Information Behavior		Personal Information Behaviour		E2.0 Use Intention	
Antecedent	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded
E2.0 Ease of Use					0.364	0.199								
					0.259 Medium									
E2.0 Richness	0.513	0.000											0.529	0.331
	1.053 Large												0.420 Large	
E2.0 Sophistication			0.176	0.000	0.364	0.321	0.400	0.080						
			0.214 Medium		0.068 Small		0.533 Large							
E2.0 Usefulness													0.529	0.478
													0.108 Medium	
Power distance							0.400	0.391			0.421	0.388		
							0.015				0.057 Small			
Long term Orientation							0.400	0.395						
							0.008							
Knowledge Management Environment									0.387	0.000	0.421	0.306	0.529	0.527
									0.631 Large		0.199 Medium		0.004	
Orgnizational Information Behavior											0.421	0.411	0.529	0.517
											0.017		0.025 Small	
Personal Information Behavior													0.529	0.520
													0.019	

The none measurable effects that also occurred were insignificantly reflected in the model as well which is the effect of knowledge management environment on Enterprise 2.0 use intention and the effect of sophistication on Enterprise 2.0 usefulness. Although the paths of knowledge management environment to personal information behavior and the path of power distance to knowledge management were not measurably significant when validating the model, it can be observed that there were a small effect size of these variables when calculating the previously mentioned equation.

Table 4-12: Effect Sizes for the Estimated Structural Model (Other Countries)

Consequent	E2.0 Ease of Use		E2.0 Richness		E2.0 Usefulness		Knowledge Management Environment		Orgnizational Information Behavior		Personal Information Behaviour		E2.0 Use Intention	
Antecedent	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded	R^2 included	R^2 Excluded
E2.0 Ease of Use					0.485	0.073								
					0.800 Large									
E2.0 Richness	0.242	0.000											0.511	0.350
	0.319 Medium												0.329 Medium	
E2.0 Sophistication			0.272	0.000	0.485	0.485	0.360	0.256						
			0.374 Large		0.000		0.163 Medium							
E2.0 Usefulness													0.511	0.431
													0.164 Medium	
Power distance							0.360	0.346			0.461	0.338		
							0.022 Small				0.228 Medium			
Long term Orientation							0.360	0.228						
							0.206 Medium							
Knowledge Management Environment									0.305	0.000	0.461	0.447	0.511	0.510
									0.439 Large		0.026 Small		0.002	
Orgnizational Information Behavior											0.461	0.345	0.511	0.479
											0.215 Medium		0.065 Small	
Personal Information Behavior													0.511	0.464
													0.096 Small	

4.2.2.4 Global Goodness of Fit of the Estimated Structural Model

In the past, there was a lack of a global validation of the component-based models (Tenenhaus et al., 2005). Which is not the case anymore, as many researchers have consulted the global criterion of goodness-of-fit (0 <= GoF <=1) to evaluate the model fit (Amato et al., 2004; Tenenhaus et al., 2005). This test is defined as the geometric mean of the average communality (same value of the AVE in PLS) and the average of the R^2 (for endogenous constructs) (Tenenhaus et al., 2005; Wetzels et al., 2009).

When calculating the average communality it should be calculated as a "weighted average" of communality (AVE) considering the number of items in each construct as its weight (Tenenhaus et al., 2005). Afterward, the calculation of the geometric mean of the average communality and the average R^2 will be followed according to the below formula:

$$GoF = \sqrt{\overline{AVE} * \overline{R^2}}$$

$\overline{AVE}$ and $\overline{R^2}$ are the weighted average of AVE and average R^2 respectively.

Equation 4-2: Global Criterion for Goodness-of-Fit Calculation

There were no specifications of heuristics for the GoF index by the original authors; however, some articles have inferred the heuristics for AVE and R^2 in order to reach a standard criterion for GoF (e.g. Wetzels et al., 2009). Since in the previous sections of validations the proposed cut-off value of 0.5 for AVE was used (Fornell and Larker, 1981) and effect sizes for R^2 the proposed values by Cohen (1988), i.e. small; 0.02, medium; 0.13, large; 0.26, the criteria of the GoF can be reached for small, medium, and large effect sizes of R^2 through substituting the minimum average AVE of 0.50 and the effect sizes for R^2 in the previous equation. That results in the following baseline values for GoF: $GoF_{small} = 0.1$; $GoF_{medium} = 0.25$; and $GoF_{large} = 0.36$ (Wetzels et al., 2009). After calculating

the GoF for a structural model it will be compared to the baseline values to infer the goodness of fit of a model.

Table 4-13: Calculation of the Global Criterion for Goodness-of-Fit (GoF) for the Structural Model

	Model Construct	Communality (Ave)	Variance Explained (R^2)	Number of Indicators
Combined	Enterprise 2.0 Ease of Use	0.816	0.483	4
	Knowledge Management Environment	0.768	0.348	4
	Organizational Information Behavior	0.898	0.354	2
	Personal Information Behavior	0.579	0.429	4
	Enterprise 2.0 Richness	0.706	0.216	4
	Enterprise 2.0 Use Intention	0.800	0.482	4
	Enterprise 2.0 Usefulness	0.772	0.403	6
	Weighted Average of AVE	0.754		
	Average R-Square	0.388		
	Goodness of Fit Index	0.541		
Saudi Arabia	Enterprise 2.0 Ease of Use	0.841	0.613	4
	Knowledge Management Environment	0.793	0.383	4
	Organizational Information Behavior	0.895	0.387	2
	Personal Information Behavior	0.615	0.414	4
	Enterprise 2.0 Richness	0.758	0.175	4
	Enterprise 2.0 Use Intention	0.826	0.520	4
	Enterprise 2.0 Usefulness	0.801	0.343	6
	Weighted Average of AVE	0.783		
	Average R-Square	0.405		
	Goodness of Fit Index	0.563		
Other Countries	Enterprise 2.0 Ease of Use	0.773	0.319	4
	Knowledge Management Environment	0.722	0.343	4
	Organizational Information Behavior	0.905	0.305	2
	Personal Information Behavior	0.507	0.460	4
	Enterprise 2.0 Richness	0.637	0.272	4
	Enterprise 2.0 Use Intention	0.746	0.465	4
	Enterprise 2.0 Usefulness	0.731	0.539	6
	Weighted Average of AVE	0.705		
	Average R-Square	0.386		
	Goodness of Fit Index	0.522		

Consulting the above Table 4-13, which presents the calculation of goodness of fit index for all the three rounds of the estimated structural model, the GoF values of 0.541, 0.563, and 0.522 exceed the cut-off value for large effect sizes of R^2 of 0.35. That infers that the structural model performs well in all three rounds compared to the baseline values defined earlier.

Chapter 5: Discussion & Conclusion

In the previous chapter, the findings and results from the quantitative data collection and analysis phase were provided. This chapter highlights the empirical research outputs, which answer the research questions that make up the foundation of this research study. This chapter emphasizes the contributions of this research, the limitations of the study, and the directions for future research. Finally, a culmination of the ideas, insights, and outcomes of this research is presented in the final section.

The objective of this research study was to investigate the different sociological and technological factors that influence employee behavior and practices when using Enterprise 2.0 technology for the purpose of knowledge management within the organization. Accordingly, the data analysis procedures conducted in the quantitative phase of investigation yield a multitude of sociological and technological factors. These, in many ways, affect knowledge management in organizations and in employees' intentions of using Enterprise 2.0 technologies for that objective. These factors were previously categorized under various themes presented in Chapter 3: *National Culture Traits, Enterprise 2.0 Technology Attributes, and Knowledge Management Context*. It has been found that the effects of the previously mentioned factors differed from one cultural context to another. Their behavior was slightly different when examined in various cultural settings, specifically when examined in the context of Saudi Arabia and compared to other countries.

5.1 National Cultural Traits, Knowledge Management Practices & Information Behaviors

It is evident from the results and data analysis procedures of this research study, that diverse cultural settings in different countries lead to an inconsistent impact of national culture factors on the environment and context where knowledge management is being practiced.

Several studies have shown that culture is considered to be a success factor leading to a better knowledge management context (Hasanali, 2002; Williams, 2008). Moreover, it has been identified that national culture is an important factor for specific knowledge management activities related to innovation and research and development (Shane, 1995; Kedia et al., 1992). However, that was not always the case in this study. This could be due to the different cultural settings in different countries leading to inconsistent representations and evaluations of such traits. Specifically, the study has examined countries with a high power distance and countries with a low power distance, as well as countries with a long-term orientation and those with a short-term orientation.

First, the impact of the long-term orientation trait on the knowledge management environment was tested. For the various countries were evaluated, it was noticed that when employees believe and follow a long-term orientation as part of their national culture, it has a positive effect on the knowledge management environment in their organizations. In those countries, employees are willing to work to reach long-term goals and therefore benefit from nurturing a good knowledge management environment. However, the same relationship was not significant when examined in the country of Saudi Arabia. The reason could be that for Saudi employees, the concept of identifying

goals and plans for the future, in order to benefit from a supporting environment of knowledge and information sharing, is not very developed. They may not fully realize the advantages that can be yielded through job performance and tasks, if such a context is maintained. Lack of a strong system of future rewards and incentives in such countries could be the reason why employees do not foster the idea of a long-term initiative for knowledge exchange. A strong factor could be that the initiative of knowledge management in Saudi Arabia is not yet aligned with the values and beliefs of the national cultural. Knowledge management in Saudi Arabia needs more guidance in order to properly merge with the national cultural traits. Furthermore, there was no significant impact of the distribution of power between employees in the context of knowledge exchange. The reason could be that most of the countries examined are considered to be societies with high power distance, where the decision-making process is centralized at the top management level. Employees in such societies believe that their superiors should take action and therefore receive the credit when it is due. Employee perceptions of hierarchical bureaucracies, strong leaders, and a high regard for authority may lead to the flow of information and knowledge from the top down in organizations, making it difficult to exchange and share knowledge between all levels of the organization. That is also supported by the results obtained from the participants when examining their workplace features; most participants work in a hierarchical organizational structure with an authoritative corporate culture and controlled work practices.

Although the factor of power distance did not positively lead to a nurturing knowledge management environment, it did behave in a positive in supporting effective personal information behavior and practices. Even when examining the Saudi Arabian

context, where the level of power distance is high (Hofstede, 1984). It can be inferred that the centralized decision-making process witnessed by employees, and the top-down flow of information, do not affect the actions of employees when it comes to sharing and exchanging knowledge in the organizational context.

Another reason for previously inconsistent relations could be that the acceptance of power distribution between employees and a belief in a long-term orientation should be set as goals to reach, along with the creation of the most nurturing environment and context in which to practice knowledge management, instead of being prerequisites to such an atmosphere. The first priority should be to develop a strategy and interventions in order to align the dimensions of the national culture with the organizational culture, to achieve a better context for establishing effective knowledge management practices and policies.

Table 5-1: National Culture Traits Paths

Round of Validation	Model Path	Path Coefficients	Validation
Combined	Power Distance -> Personal Information Behavior	0.2349	Supported
	Power Distance -> Knowledge Management Environment	0.0735	Rejected
	Long Term Orientation -> Knowledge Management Environment	0.1846	Rejected
Saudi Arabia	Power Distance -> Personal Information Behavior	0.1871	Supported
	Power Distance -> Knowledge Management Environment	0.1349	Rejected
	Long Term Orientation -> Knowledge Management Environment	0.098	Rejected
Other	Power Distance -> Personal Information Behavior	0.3686	Supported
	Power Distance -> Knowledge Management Environment	-0.1574	Rejected
	Long Term Orientation -> Knowledge Management Environment	0.5057	Supported

5.2 Knowledge Management Environment & Information Behaviors

Detlor et al. (2006) have proven that a knowledge management environment has a positive and direct impact on the organizational information behavior and the personal information behavior of knowledge sharing (Detlor et al., 2006), which is mostly

supported by the results of this research. Furthermore, it has been demonstrated that organizational information behavior has a positive influence on personal information behavior (Detlor et al., 2006). However, an exception has been noted in the round of validation of the other countries. The impact of knowledge management environments on personal information behavior was not significant. A mediation test was performed on the knowledge management environment, the organizational information behavior and the personal information behavior. In that specific round, a full mediation existed, which might mean that personal information behavior in other countries may be reached by organizational information behavior.

Managing the policies and practices of information sharing on an organizational level, and showing a supportive attitude, also positively influences employees' personal behaviors of passing information and knowledge. It is recognized that this was also validated and highly supported in previous studies (Chen & Dahlman, 2005; Detlor et al., 2006). However, in the round of validating Saudi Arabia data, that relationship was not highly significant. A reasonable justification could be the immature knowledge management initiative in Saudi Arabia and the lack of proper standards and guidelines that govern such initiatives (Schulte & Al-Fehaid, 2004). Moreover, it could be due to the lack of a supportive organizational background of nurturing the individual practice of exchanging and sharing knowledge. That is also reflected when examining participants' answers about the culture of their workplace in Saudi Arabia. Participants working in Saudi Arabia perceive that their organizations do not highly value their individual creativity, giving the impression that it is a less supportive environment in which to be

innovative and exchange knowledge; these are all vital factors of a successful knowledge management initiative.

By examining the above relations, this study continues the research of Detlor et al. (2006), where the factors of the knowledge management environment and the organizational and personal information behaviors were situated and validated in a different research context. Moreover, this study extended the model created by Detlor et al. (2006) by presenting new relations and factors to its constructs.

Table 5-2: Knowledge Management Context Paths

Round of Validation	Model Path	Path Coefficients	Validation
Combined	Knowledge Management Environment -> Personal Information Behavior	0.3761	Supported
	Knowledge Management Environment -> Organizational Information Behavior	0.5951	Supported
	Organizational Information Behavior -> Personal Information Behavior	0.2392	Supported
Saudi Arabia	Knowledge Management Environment -> Personal Information Behavior	0.4596	Supported
	Knowledge Management Environment -> Organizational Information Behavior	0.6222	Supported
	Organizational Information Behavior -> Personal Information Behavior	0.1547	Rejected
Other Countries	Knowledge Management Environment -> Personal Information Behavior	0.1715	Rejected
	Knowledge Management Environment -> Organizational Information Behavior	0.5523	Supported
	Organizational Information Behavior -> Personal Information Behavior	0.4246	Supported

5.3 Enterprise 2.0 Technology Features & End-User Perceptions

With respect to the technologic attributes of Enterprise 2.0 that were tested in this research study, the employee's behavioral intention to use Enterprise 2.0 for knowledge management in an affirmative way was affected. It is more likely that employees continue using Enterprise 2.0 technologies at the workplace because they perceive that such technologies are useful in helping them enhance their job performance on many levels. Moreover, such tools give employees a satisfactory feeling of conducting a

successful communication with each other, using a wide range of diverse, mature, and easy-to-use technologies and tools. This was also supported in previous studies where the technologic factors have an important positive influence, which leads to greater actual use of the technology and an enhanced user experience (Davis & Bagozzi, 1989; Daft & Lengel, 1986; Ghobakhloo et al. 2011).

There was an exception in the validation of other countries, where the sophistication of Enterprise 2.0 tools did not have a significant impact on employee perception of Enterprise 2.0 technologies as useful job enhancing tools. The reason could be that the study examined different countries with diverse segmentations, where the affordability and availability of Enterprise 2.0 technologies differ. Enterprise 2.0 technologies in those areas might not be as mature or as varied. Furthermore, it could be due to the policies and regulations for Internet access in certain countries; those rules could decrease the chance of employees efficiently using Enterprise 2.0 tools.

Additionally, it has been proven in this research, in accordance with previous research (Davis & Bagozzi, 1989; Daft & Lengel, 1986; Ghobakhloo et al. 2011), that technology attributes of usefulness and richness have a positive impact on employee's cognitive, affective, and behavioral responses towards Enterprise 2.0 technologies. When employees perceive that a specific system is useful to enhance their performance and help them reach their goals, there is a positive impact on the employees' intentions to continue using that system. Besides, having a rich medium of communication, which conveys multiple types of information and ensures effective interaction, enhances employees' collaboration and overall use of Enterprise 2.0 technologies.

It has also been apparent in this research that the availability of such varied and advanced technologies in organizations leads to a more nurtured environment for practicing knowledge management, by enabling effective communication. In many ways, this allows employees to show positive behaviors of sharing and exchanging information, and supporting the idea on an organizational level as well.

Table 5-3: Technology Attributes Paths

Round of Validation	Model Path	Path Coefficients	Validation
Combined	Sophistication -> Knowledge Management Environment	0.5098	Supported
	Sophistication -> Richness	0.4651	Supported
	Sophistication -> Usefulness	0.1653	Supported
	Richness -> Ease of Use	0.6285	Supported
	Richness -> Use Intention	0.4414	Supported
	Ease of Use -> Usefulness	0.5436	Supported
	Usefulness -> Use Intention	0.3387	Supported
Saudi Arabia	Sophistication -> Knowledge Management Environment	0.5702	Supported
	Sophistication -> Richness	0.4197	Supported
	Sophistication -> Usefulness	0.2558	Supported
	Richness -> Ease of Use	0.7161	Supported
	Richness -> Use Intention	0.5433	Supported
	Ease of Use -> Usefulness	0.4515	Supported
	Usefulness -> Use Intention	0.2794	Supported
Other Countries	Sophistication -> Knowledge Management Environment	0.3359	Supported
	Sophistication -> Richness	0.522	Supported
	Sophistication -> Usefulness	0.0274	Rejected
	Richness -> Ease of Use	0.492	Supported
	Richness -> Use Intention	0.3978	Supported
	Ease of Use -> Usefulness	0.687	Supported
	Usefulness -> Use Intention	0.3336	Supported

In previous research, it was found that varied and mature tools of communication led to a better processing of information and knowledge (Chen & Dahlman, 2005). This is also proven when examining the supported path of Enterprise 2.0 sophistication to the knowledge management environment. It demonstrates that the more diverse and mature the Enterprise 2.0 technologies are, the more they support an environment of creating,

transferring and sharing knowledge. The technographic results from the quantitative phase also support the claim that participants agree that when Enterprise 2.0 tools are used for internal collaboration and communication, it may lead to knowledge exchange and sharing.

5.4 Knowledge Management Environment, Information Behaviors & the Use of Enterprise 2.0 Technologies

Examining the impact of the knowledge management context on employees' behavioral intention to use Enterprise 2.0 technologies provided inconsistent significance levels. As it was shown, each cultural setting impacts the use intentions of Enterprise 2.0 technologies in a different way. The reason for such irregularity could be that the knowledge management initiative varies from one country to another, according to its segmentation. Whether the country is developed or developing is found to affect the overall knowledge management environment and its associated policies, as does the introduction of Enterprise 2.0 technologies for the specific purpose of knowledge management, even if it is considered to be a new worldwide solution. Furthermore, it could be because of the limited research conducted to study the various factors related to Enterprise 2.0 usage and adoption. It is a new era of technology, and there should be more grounded modeling to explain the effect of many factors on Enterprise 2.0's adoption (Steers et al., 2008).

When it comes to the employees' individual actions of sharing information and supporting organizational behaviors, they were found to be a key enabler of the employees' behavioral intention to use Enterprise 2.0 technologies for various segments of countries.

As for Saudi Arabia, employees' individual behavior of exchanging knowledge is not a factor that leads to a behavioral intention of using Enterprise 2.0 technologies. Saudi employees are not motivated enough to transfer the use of social media tools from personal to corporate contexts. As explained previously, organizations in Saudi Arabia, according to the participant responses about their workplace, exercise greater control over technology. Employees don't have the flexibility to use such tools without organizational backing and support. Furthermore, when examining the time that employees spent on Enterprise 2.0 technologies for work-related purposes, Saudis only used them 1-4 hours per week.

In other countries, the opposite is true; employees sharing knowledge and supporting organizational practices positively impacted their intention to use Enterprise 2.0 technologies. It can be inferred that employees' individual preferences influence their use of technology in the organizations. This is also reinforced when examining the organizational setting and context where participants of other countries spent 10 hours or more using Enterprise 2.0 technologies to conduct work related tasks.

As for the impact of the knowledge management environment on the cognitive intention of employees to use Enterprise 2.0 technologies for knowledge management, it can be noticed that the relation between these two factors was not significant in all rounds of validation. In an effort to investigate the reasons for such a lack of correlation, a revision and examination of all possible factors from the remaining part of the collected data was conducted in order to conceptualize the causes.

First, the types of industry that the participating employees worked in were not highly knowledge-based organizations, nor highly Enterprise 2.0 driven institutions. In

all participant responses, the dominant industry was *Educational Services* (Chapter 5), and it can be inferred that in such institutions worldwide, the use of Enterprise 2.0 technology is still in its infancy and requires additional efforts in order to develop a better knowledge-based initiative (Highlighted in Chapter1 & Chapter2). Second, the personal evaluation of participants concerning the degree of technology advancement (Chapter 5) showed that being an advanced technology user did not rank as the highest criteria, which could, in many ways, affect their intention to use Enterprise 2.0 technologies as a primary way of practicing knowledge management. Third, a possible justification could be that there are no customized Enterprise 2.0 technologies for specific work purposes at the employees' organizations, as that dimension did not have a high rank when employees assessed the norms and policies that guide Enterprise 2.0 technologies in their workplace (Chapter 5).

A final justification could refer to the cautious application of such technologies by organizations, despite the noticeable benefits and advantages of employing these tools for work and knowledge related purposes (Wagner, 2003; Desouza & Awazu, 2004; Serrat, 2009; Jarvenpaa & Majchrzak, 2010;Vadari & Kummamuru, 2010; Yates& Paquette, 2011).

Accordingly, it can be concluded that most of the results obtained in this study are consistent with the theoretical background that was used to form the study's proposed theoretical model (Hofstede's National Culture Dimensions (NCD), Davis and Bagozzi's Technology Acceptance Model (TAM), Daft and Lengel's Media Richness Theory (MRT), DeLone and McLean's Information System (IS) Success Model, and Detlor et al.'s Knowledge Management Context model (KMC),). Furthermore, it can be observed

that some of the newly proposed relations were supported, while others were not. The justification for such low significant results might be that the subject of the relationship between Enterprise 2.0 technologies and knowledge management receives little scholarly attention.

Table 5-4: Knowledge Management Environment, Information Behaviors & Enterprise 2.0 Technology Use Paths

Round of validation	Model Path	Path Coefficients	Validation
Combined	Knowledge Management Environment -> Use Intention	-0.0107	Rejected
	Personal Information Behavior -> Use Intention	0.0415	Rejected
	Organizational Information Behavior -> Use Intention	0.0141	Rejected
Saudi Arabia	Knowledge Management Environment -> Use Intention	0.0421	Rejected
	Personal Information Behavior -> Use Intention	-0.1263	Rejected
	Organizational Information Behavior -> Use Intention	0.148	Supported
Other Countries	Knowledge Management Environment -> Use Intention	-0.0357	Rejected
	Personal Information Behavior -> Use Intention	0.2828	Supported
	Organizational Information Behavior -> Use Intention	-0.2385	Supported

5.5 Differences among Technographics and Work Atmosphere Characteristics

Examining the technographics and the work atmosphere characteristics in chapter 4 further highlights the many differences present between a Saudi Arabian organizational culture and Enterprise 2.0 use practices, compared to other countries also tested in this research. It can be inferred that many aspects of the Saudi Arabia organizational culture have lead to it being labeled a rigid culture. Saudi work culture is lacking flexibility and responsiveness to creativity, which in many ways affect employees' behaviors in the way they share and exchange information on a personal level.

That claim is supported by participant responses stating that in Saudi Arabia, employees do not perceive that the organization where they work values their individual creativity, unlike in the other countries that were examined, where a high agreement rate

was witnessed. In those countries, organizations encourage employees to innovate and create more opportunities by presenting a more flexible work culture.

The rigidity of Saudi Arabia's organizational culture also shapes employee behavior toward technology, specifically Enterprise 2.0 tools, used in work settings. In Saudi Arabia, employees are used to following orders and specific regulations in the workplace for all work-related aspects. They are used to being told what to do and how to do it. That is also reflected in their perception of the norms and policies that govern their use of Enterprise 2.0 tools. In the workplace, they do not have clearly defined guidelines for the use of such tools, and the degree of freedom that they have for that use is very limited. That infers that the use of these tools in Saudi Arabian workplaces is in its infancy stage, and employees and organizations both need more assistance in order to take the use of Enterprise 2.0 tools to the next level of development. In other tested countries, however, that was not the case. Employees have a higher degree of freedom to use Enterprise 2.0 tools at the workplace, with clearly defined rules and regulations to help them benefit from the existence of these tools. There is collaboration between the supportive organizational background and the employees' personal actions and behaviors, in order to achieve a behavioral intention of using these technologies at the workplace, as a nurturer of knowledge management.

5.6 Contributions to Theory and Practice

Answering the research questions was an important objective in allocating the scope of this research study, however the empirical results and findings from the study's quantitative data collection and analysis yield several theoretical and practical implications emphasized in the upcoming section.

5.6.1 Contributions to Theory

On a theoretical level, this study provides empirical evidence that addresses multiple themes concerned with Enterprise 2.0 technology uses, for the purpose of knowledge management. It revealed many important sociological and technological antecedents that affect the intersection of both the knowledge management context in organizations of different cultural contexts, with different industrial settings, and the usage patterns of Enterprise 2.0 technologies. According to the results and findings of this study, the national culture attributes in different countries had a different impact on nurturing a better knowledge management environment and practices. In Saudi Arabia, the distribution of power between employees leads to more personal behaviors of knowledge management practices. The future-oriented culture in other countries nurtures a better environment of exchanging and sharing knowledge.

Furthermore, how employees perceive the use of Enterprise 2.0 technologies in the workplace impacts the overall way they exchange and share knowledge positively, in all examined cultural settings. As for the theme of the Enterprise 2.0 technology attributes, they were also perceived as an effective driver, leading to a better knowledge management environment and at the same time supporting the behavioral intention of using Enterprise 2.0 technologies.

This research study is considered as an application of different theoretical backgrounds examined in different circumstances and conditions, as was requested in those previous studies. In this study, the national culture dimension of Hofstede (1984), represented by the construct of power distance, was applied to countries that had already been ranked, but also some that had not. The same case was noted in long-term

orientation; in Hofstede's study it was not applied to Saudi Arabia in particular, where here it was. Similarly Davis and Bagozzi's Technology Acceptance Model (TAM), Daft and Lengel's Media Richness Theory (MRT), DeLone and McLean's Information System (IS) Success Model, were adopted and applied in a slightly altered and merged approach to fit the objectives of this research study. The construct of richness preceding the construct of Enterprise 2.0 behaved positively, leading to the desired net benefit of the use intention. Also, introducing the new construct of sophistication acted in a similar way, where it strengthens the role and effectiveness of the subsequent constructs.

As for Detlor et al.'s Knowledge Management Context model (KMC), it was considered what has been called for in other institutional settings, and was related to more extensive factors. Additionally, this research witnessed an improvement on the Detlor et al. model construct coefficients of determinations (R^2).

Table 5-5: Improved Coefficients of Determinations (R^2)

Latent Variables	Coefficients of Determination (R2)			
	Combined	Saudi Arabia	Other Countries	Detlor et. al
Knowledge Management Environment	0.355	0.400	0.360	Exogenous Variable
Organizational Information Behavior	0.354	0.387	0.305	0.172
Personal Information Behavior	0.432	0.421	0.461	0.191

Moreover, on the theoretical and academic level, this research contributes to the scarce literature on the intersection of the two important concepts of knowledge management and Enterprise 2.0 technology usage for the purpose of leveraging knowledge management. Ideally, it will enrich the knowledge management literature, particularly in Saudi Arabia. It has also emphasized the Enterprise 2.0 tools types and use patterns in Saudi Arabia.

5.6.2. Contributions to Practice

In addition to the contributions that the study makes to theory, the findings and results could be inferred to practitioners in organizations that are implementing the use of Enterprise 2.0 technologies for knowledge management. First, organizations (and specifically managers) should identify the required goals of using Enterprise 2.0 technologies for knowledge sharing and exchange between their employees. They should bear in mind that the human factor and technology features are critical to task performance and organizational success within the realm of knowledge management. After, as observed in this study's results, organizations have to work hard to create and maintain a supportive and suitable context to manage the knowledge assets that they are seeking. Concerning the national culture dimension, the power distribution between managers and employees, and the employee perception of future plans and goals should be taken into consideration as an anticipated objective, which nurtures the context of knowledge management. Managers of organizations that operate in multicultural environments should make decisions based on the country's customs and values. This could be provided through training programs to educate employees on cultural differences.

Since the Enterprise 2.0 tools are perceived as a novel and part of the new era of technology, as has been observed from the participants' comments in this study, organizations should work on presenting rich, easy, useful and sophisticated tools in order to engage employees in the process of using these tools. That is highly supported by previously discussed outcomes. These tools should be implemented as the infrastructure of the knowledge management initiative in organizations, in order to make them succeed

in delivering the desired results. Awareness should be raised among employees about the benefits of using these tools. Encouragement and incentive may work well in that role. Once the suitable culture and context are created, hand in hand, and once the suitable tools are implemented with the needed formulized practices, employees will see the between such usage and the knowledge management objectives.

5.7 Limitations of the Study & Directions for Future Research

Several limitations have been found to constrain the findings of this research study. They are highlighted in this section, followed by suggestions for future studies to extend and corroborate the results of this study.

5.7.1 Limitations of the Study and Solutions for Future Research

The first limitation that was encountered in this study was the large number of partially completed surveys, approximately 171. They were discarded because they did not provide any valuable information that could address the objectives of this study. For future studies, the survey component should be modified to entice participants to fully complete the survey.

Second, the treatment of missing data was an issue of concern; the mean substitution was the procedure used in this research study. The concern is that this procedure tends to reduce variability and can artificially increase R^2 and decrease standard errors (Allison, 2002). It was used since the percentage of missing data was not that high, however, other alternatives and more advanced solutions should be taken into consideration for future studies.

Third, the sampling procedure used in the web-base survey was an issue. The sample was collected on a non-random, self-selected, convenience basis. That could be

perceived as potentially confounding in the justifications of interpretive consistency (Collins et al., 2007). It is true that these procedures allow the investigator to collect data quickly and effectively, however it is less reliable than other sampling methods, since the results cannot be generalized to the population (Chung & Tan, 2004). Furthermore, self-selected samples are almost always biased, since the participants who engaged in the study are more interested in the subject than are the other members of the study population (Keller, 2007). Moreover, in previous related studies, the self-reported measures were found to be different than actual use, thus both should be considered in empirical research (Delon & McLean, 2003; Straub et al., 1995). In this study the investigator had guaranteed anonymity to the participants and due to some privacy issues, the use of such information for research purposes was prevented. However, that could be eliminated in future research where investigators may gain access to objective data to compare it to this study.

Fourth, generalizing the research findings was also a concern. Going back to the quantitative data collection and analysis, it was noticed that the dominant type of industry in all rounds of validation was “Educational Services”. Therefore, the findings of this research study cannot be generalized to all industrial settings. Similarly, the multicultural dimension that was anticipated in the study was not fully attained, and the results were divided according to the high rate of Saudi participants in a comparison to other countries. That eliminates the possibility of generalizing the results to all multicultural settings. Future research should attempt to gather empirical evidence in new and more focused settings, specifically organizations that are implemented properly with Enterprise 2.0 technologies to apply the initiative of knowledge management.

The last limitation observed in this study is the dropping of some survey items from the analysis procedures, due to their low loading on the measurement scale. They were: the third item of organizational information behavior, and the fifth and sixth items of power distance and long-term orientation. Therefore, in future research these items need to be refined to correctly measure the related constructs.

5.7.2 Suggestions for Improvement and Future Directions

As for future directions and improvement, a qualitative data collection and analysis might be used to reveal the practical constructs that affect the use of Enterprise 2.0 technologies for the purpose of knowledge management. That could be achieved by focusing the study sample and targeted population to the knowledge-driven organizations, which at the same time implement a strong infrastructure of Enterprise 2.0 tools in its business processes and procedures. Moreover, an extension of the conceptual and structural model could be made by introducing more factors and constructs which might be effective to leverage Enterprise 2.0 tools for knowledge management. Specifically, introduce constructs on all of the studied themes: cultural, technological and sociological. Additionally, a focused investigation could also help reveal the reason for the rejected paths from the context and environment of knowledge management and practices leading to the behavioral intention of using Enterprise 2.0 tools.

Other opportunities for different and further data analysis exist as well. Cluster analysis could be conducted to highlight the relationship between different types of clusters; it could also be used to reveal the shared characteristics of the studied objectives (Mooi & Sarstedt, 2011).

Finally, a critical issue of concern in this study is privacy. Since the objective of using Enterprise 2.0 technologies is to increase communication and collaboration, it will definitely involve some confidential data for some organizations, which is where the issue of privacy arises. Becoming familiar with privacy rules and legislation would provide a better opportunity for future research.

5.8 Conclusion

The objective of the research study was to emphasize the role of the various cultural, organizational and technological factors as the best determinants of successful knowledge management behaviors in different industries, focusing on Saudi Arabia while comparing it to other countries. To achieve this goal, the study utilized quantitative methods to collect and analyze data. A conceptual framework with the previous factors was formulated to instantiate the research's investigation. The concept of national culture involved national, cultural traits of power distance and long term-orientation, and the concept of technology covered the perceived ease of use of Enterprise 2.0, Enterprise 2.0 usefulness, Enterprise 2.0 richness, and Enterprise 2.0 sophistication. As for the knowledge management context, the main concepts of a knowledge management environment and the effects of information management behaviors on organizational and personal levels were the behavioral components leading to the downstream construct of Enterprise 2.0 use intention.

The quantitative phase of investigation was concerned with testing the salient constructs and relational propositions. Furthermore, it provided qualified descriptions of the differential effects of various factors on employees' intention to use Enterprise 2.0 for knowledge management in their organization. The structure dimensionality of various

factors was tested by using the techniques of exploratory factor analysis, while structural equation modeling was used to test the proposed theoretical model and to depict the relationships between these factors. Most propositions in the structural model were supported. The exceptions were explained in terms of the mediation effects of intervening variables on the consequent variable, as well as referring back to some estimated reasoning from other features and characteristics of data behavior.

The research study provides implications on a theoretical and practical level. On a theoretical level this research study contributes to the scarce literature on the intersection of knowledge management and the use of Enterprise 2.0 technologies, and provides empirical evidence by revealing many important sociological and technological antecedents affecting that intersection. Moreover, it works as an application of previous theoretical backgrounds in new contexts and circumstances. On the practical level, this research study provides guiding principles and recommendations to practitioners in organizations that are implementing the use of Enterprise 2.0 technologies for knowledge management. Based on the quantitative results, it is recommended that such organizations give priority to the context and the environment in which that knowledge is being exchanged, as well as enhance the technological infrastructures that maintain a behavioral initiative to use Enterprise 2.0 technologies for knowledge management.

This research study is an attempt to understand and elucidate sociological and technological factors that positively influence knowledge management practices in organizations, along with the usage patterns of Enterprise 2.0. The aim was also to provide guiding principles and actionable recommendations for employees to implement a knowledge management approach. It is recommended that future researchers continue

investigating the determinants of effective knowledge management examined in this study, in different cultural contexts and industrial settings. It is advised that other useful, cultural contexts and industrial setting constructs be integrated, which could help explain the behavioral intention of using Enterprise 2.0 technologies for the purpose of knowledge management.

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Appendix A
Research Survey Questionnaire

Demographics

The first set of questions asks for some demographic information about participants.

1. What is Your Gender?

- Female
- Male

2. Please indicate your age group:

- 18- 20
- 21-29
- 30-39
- 40-49
- 50-59
- 60 or older

3. What is your highest education level (obtained or in-progress)?

- Primary School
- Secondary (High) School
- College
- Undergraduate (Bachelor's Degree)
- Graduate (Master's / Professional/ Doctoral Degree)

4. What is your Country of Residence?

5. Indicate your agreement or disagreement with the following statements about yourself:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
I consider myself an advanced technology user	○	○	○	○	○	○	○	○
I like to explore and learn new technology applications	○	○	○	○	○	○	○	○

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
Usually I am one of the first among my peers to try out new information and communication technologies	○	○	○	○	○	○	○	○

Work Atmosphere

The following questions are related to basic information about your job role and the work environment in your organization.

1.What managerial level best describes your current position in your organization?

○ Entry Level (Analyst)
○ Middle Management (Associate)
○ Executive (Director / VP)
○ Senior Executive (President / CEO / Owner / Founder)
○ Other (Please Specify)

2.What type of work does your current job primarily entail?

○ Customer facing or Front office (e.g. marketing, sales, service)
○ Internal facing or Back office (e.g. administration, operations, accounting)

3.What is the principal industry of your organization?

○ Agriculture, Forestry, Fishing and Hunting
○ Mining, Quarrying, and Oil and Gas Extraction
○ Utilities
○ Construction
○ Manufacturing
○ Wholesale Trade
○ Retail Trade
○ Transportation and Warehousing
○ Information
○ Finance and Insurance
○ Real Estate and Rental and Leasing
○ Professional, Scientific, and Technical Services

- Management of Companies and Enterprises
- Administrative and Support and Waste Management and Remediation Services
- Educational Services
- Health Care and Social Assistance
- Arts, Entertainment, and Recreation
- Accommodation and Food Services
- Other Services (except Public Administration)
- Public Administration

4.How many employees does your organization consist of?

- < 50
- 51 - 100
- 101 - 250
- 251 - 500
- 501 - 1000
- 1000+
- Not Sure

5.Indicate the type of organizational structure in your company (on a scale from Flat to Hierarchical):

	1 Flat	2	3	4	5	6	7 Hierarchical	N/A
Choose your answer								

6.Please indicate the type of corporate culture in your company (on a scale from Diplomatic to Authoritative):

	1 Diplomatic	2	3	4	5	6	7 Authoritative	N/A
Choose your answer								

7. Please indicate the nature of work practices in your company (on a scale from Flexible to Controlled):

	1 Flexible	2	3	4	5	6	7 Controlled	N/A
Choose your answer								

Indicate your agreement or disagreement with the following statements about your workplace culture:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
The corporate culture at my workplace is supportive and friendly	○	○	○	○	○	○	○	○
My workplace environment is conflict-free and pleasant to work in	○	○	○	○	○	○	○	○
My organization values my individual creativity	○	○	○	○	○	○	○	○
My organization is responsive and adapts to changes easily	○	○	○	○	○	○	○	○
The views and recommendations of customers often lead to changes in my company	○	○	○	○	○	○	○	○

Technographics

The following questions are related to the nature and frequency of use of various Enterprise 2.0 tools and applications in your organization.

1.Please indicate your frequency of use of the following Enterprise 2.0 tools for work purposes

	1 (Use Rarely)	2	3	4 (Use Sometimes)	5	6	7 (Use Frequently)	N/A
Social Networking Sites (e.g. Facebook)	○	○	○	○	○	○	○	○
Blogs	○	○	○	○	○	○	○	○
Wikis	○	○	○	○	○	○	○	○
Discussion Forums	○	○	○	○	○	○	○	○
Content Feeds (e.g. RSS)	○	○	○	○	○	○	○	○
Collaborative Document Editing	○	○	○	○	○	○	○	○
Collaborative Content Tagging	○	○	○	○	○	○	○	○
Social Bookmarking	○	○	○	○	○	○	○	○
Mashups	○	○	○	○	○	○	○	○
Instant Messaging	○	○	○	○	○	○	○	○
Microblogs (e.g. Twitter)	○	○	○	○	○	○	○	○
Polls & Voting Tools	○	○	○	○	○	○	○	○
Widgets	○	○	○	○	○	○	○	○

	1 (Use Rarely)	2	3	4 (Use Sometimes)	5	6	7 (Use Frequently)	N/A
File Sharing (Repositories)	○	○	○	○	○	○	○	○
Podcasts	○	○	○	○	○	○	○	○
Video Sharing	○	○	○	○	○	○	○	○
Virtual Worlds	○	○	○	○	○	○	○	○
Online games	○	○	○	○	○	○	○	○
Social News	○	○	○	○	○	○	○	○

***(Optional) Are there any other social media tools or features (not included in the list above) that you use on a frequent basis for work related purposes? Please specify:**

2. How many Hours per week do you spend on Enterprise 2.0 tools for work related purposes?

- ○ Less that 1 Hour per week
- ○ 1 - 4 Hours per week
- ○ 5 - 9 Hours per week
- ○ 10 Hours or more per week
- ○ Prefer not to say

3. How many Hours per week do you spend using social media tools for personal purposes at the workplace?

- ○ Less that 1 Hour per week
- ○ 1 - 4 Hours per week
- ○ 5 - 9 Hours per week
- ○ 10 Hours or more per week
- ○ Prefer not to say

4. Indicate your agreement or disagreement with the following statements about the use of Enterprise 2.0 tools in your organization.

5.Use of Enterprise 2.0 tools helps:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
Improve the quality of business decisions	○	○	○	○	○	○	○	○
Decrease cycle times involved with making business decisions	○	○	○	○	○	○	○	○
Improve customer satisfaction	○	○	○	○	○	○	○	○
Improve employee productivity	○	○	○	○	○	○	○	○
Leverage corporate resources better	○	○	○	○	○	○	○	○

6.Which of the following best describes the use of Enterprise 2.0 tools in your organization. Please rank the following uses of enterprise social computing tools on a scale of 1 to 4 (4 being the most common use).

	1 (Least Common Use)	2 (Infrequent Use)	3	4 (Most Common Use)
Internal Communications	○	○	○	○
Internal Collaboration	○	○	○	○
External Communication	○	○	○	○
External Collaboration	○	○	○	○

<u>Technological Attributes</u>

The following questions are related to the nature and frequency of use of various Enterprise 2.0 tools and applications in your organization.

1. Indicate your agreement or disagreement with the following statements about the norms and policies of using Enterprise 2.0 tools in your organization:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
I have a lot of freedom in how I use online social networks at work	○	○	○	○	○	○	○	○
Managers and Executives in my organization are regular users of social software	○	○	○	○	○	○	○	○
My organization has customized social media	○	○	○	○	○	○	○	○

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
tools for work purposes								
My organization restricts the use of social media tools for personal purposes	○	○	○	○	○	○	○	○
We have clearly defined guidelines for the use of social media tools at the workplace	○	○	○	○	○	○	○	○
In my organization, social media tools are used for internal communication and collaboration among employees	○	○	○	○	○	○	○	○
In my organization, social media tools are used for external communication with customers	○	○	○	○	○	○	○	○
In my organization, social media tools are used for external communication with business partners	○	○	○	○	○	○	○	○

2.Indicate your agreement or disagreement with the following statements about your experience with Enterprise 2.0 tools:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
I find it easy to get Enterprise 2.0 tools to do what I want them to do	○	○	○	○	○	○	○	○
It is easy for me to become skillful at using Enterprise 2.0 tools	○	○	○	○	○	○	○	○
I find Enterprise 2.0 tools easy to use	○	○	○	○	○	○	○	○

3.Indicate your agreement or disagreement with the following statements about your experience with Enterprise 2.0 tools.

Using Enterprise 2.0 tools:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
Allows me to accomplish tasks more quickly	○	○	○	○	○	○	○	○
Improves my job performance	○	○	○	○	○	○	○	○
Increases my productivity	○	○	○	○	○	○	○	○
Enhances my effectiveness on the job	○	○	○	○	○	○	○	○

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
Makes it easier to do my job	○	○	○	○	○	○	○	○
Overall, I find Enterprise 2.0 useful in my job	○	○	○	○	○	○	○	○

4.Indicate your agreement or disagreement with the following statements about the availability of Enterprise 2.0 tools at your workplace:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
I have access to a wide variety of Enterprise 2.0 tools at my workplace	○	○	○	○	○	○	○	○
I have all the essential Enterprise 2.0 tools at my workplace	○	○	○	○	○	○	○	○

5.Indicate your agreement or disagreement with the following statements about the features of Enterprise 2.0 tools.

Enterprise 2.0 tools allow me to:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
Tailor interactions according to my personal requirements and preferences	○	○	○	○	○	○	○	○
Communicate a variety of different cues (such as emotional tone, attitude, or formality) during communication	○	○	○	○	○	○	○	○
Use varied and rich language during communication	○	○	○	○	○	○	○	○
Convey multiple types of information	○	○	○	○	○	○	○	○

6.Indicate your agreement or disagreement with the following statements about your expected use of Enterprise 2.0 tools:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
If I have access to Enterprise 2.0 tools, I predict that I would use it	○	○	○	○	○	○	○	○
I intend to use Enterprise 2.0 tools as often as needed	○	○	○	○	○	○	○	○

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
I intend to continue using Enterprise 2.0 tools for social interactions	○	○	○	○	○	○	○	○
I intend to continue using Enterprise 2.0 tools for information exchange	○	○	○	○	○	○	○	○

Knowledge Management Context

The following questions are related to the norms and practices of knowledge sharing in your organization.

1.Indicate your agreement or disagreement with the following statements about the norms and policies of knowledge sharing in your organization:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
My organization has a culture intended to promote knowledge and information sharing.	○	○	○	○	○	○	○	○
Knowledge and information in my organization is available and organized to make it easy to find what I need.	○	○	○	○	○	○	○	○
Information about good work practices, lessons learned, and knowledgeable persons is easy to find in my organization.	○	○	○	○	○	○	○	○
My organization makes use of information technology to facilitate knowledge and information sharing.	○	○	○	○	○	○	○	○

2.Indicate your agreement or disagreement with the following statements about collaborative information sharing behaviors in your organization:

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
The people I work with regularly share information on errors or failures openly.	○	○	○	○	○	○	○	○
The people I work with regularly use information on failures or errors to address problems constructively.	○	○	○	○	○	○	○	○

	1 (Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
Among the people I work with regularly, it is normal for individuals to keep information to themselves.	○	○	○	○	○	○	○	○

3.Indicate your agreement or disagreement with the following statements about personal information behaviors in your organization:

	1(Strongly Disagree)	2	3	4	5	6	7 (Strongly Agree)	N/A
I often exchange information with the people with whom I work regularly.	○	○	○	○	○	○	○	○
I often exchange information with people outside of my regular work unit but within my organization.	○	○	○	○	○	○	○	○
I often exchange information with citizens, customers, or clients outside my organization.	○	○	○	○	○	○	○	○
I often exchange information with partner organizations.	○	○	○	○	○	○	○	○

Values and Beliefs

The following questions are related to the values and beliefs that underlie your day-to-day undertakings, interactions and behavior.

1.For the next question, disregard your current job and think of an ideal job and work environment. Indicate the importance of these various factors in your ideal job:

	1 (Not Important)	2	3	4 (Somewhat Important)	5	6	7 (Very Important)	N/A
Having a good working relationship with your direct superior	○	○	○	○	○	○	○	○
Being consulted by your direct superior in his/her decisions	○	○	○	○	○	○	○	○
Being consulted by your boss in decisions involving your work	○	○	○	○	○	○	○	○
Relations between a superior and subordinates are open & friendly	○	○	○	○	○	○	○	○
Authority to match position or role in the hierarchy	○	○	○	○	○	○	○	○

	1 (Not Important)	2	3	4 (Somewhat Important)	5	6	7 (Very Important)	N/A
Authority to match competencies	○	○	○	○	○	○	○	○

2.How important are the following factors in your own life - whether in personal or professional circumstances:

	1(Not Important)	2	3	4 (Somewhat Important)	5	6	7 (very Important)	N/A
Working toward future goals	○	○	○	○	○	○	○	○
Working for future life	○	○	○	○	○	○	○	○
Saving money for future	○	○	○	○	○	○	○	○
Persistence (perseverance)	○	○	○	○	○	○	○	○
Steadiness and stability	○	○	○	○	○	○	○	○
Respect for tradition	○	○	○	○	○	○	○	○

Appendix B

Participants Demographics, Work Atmosphere Characteristics, and Technographics

B.1 Participants Demographics

Table B-1: Participants Demographics

Demographics	Saudi		Other Countries	
Gender	Number	Percentage	Number	Percentage
Female	31	43.66	25	39.68
Male	39	54.93	38	60.32
Unspecified	1	1.41		
Age				
18-20	4	5.63	1	1.59
21-29	20	28.17	16	25.40
30-39	29	40.85	24	38.10
40-49	12	16.90	13	20.63
50-59	6	8.45	7	11.11
60 or older	0	0.00	2	3.17
Education Level				
Graduate	26	36.62	30	47.62
Undergraduate	28	39.44	23	36.51
College	9	12.68	9	14.29
Secondary (High) School	5	7.04	1	1.59
Primary School	2	2.82	0	0.00
Unspecified	1	1.41		

B.2 Participants Work Atmosphere Characteristics

Table B-2: Participants Work Atmosphere Characteristics

Work Atmosphere	Saudi		Other Countries	
Managerial Level	Number	Percentage	Number	Percentage
Entry Level (Analyst)	9	12.68	13	20.63
Middle Management (Associate)	26	36.62	28	44.44
Executive (Director / VP)	12	16.90	9	14.29
Senior Executive (President / CEO / Owner / Founder)	12	16.90	5	7.94
Other	7	9.86	7	11.11
Unspecified	5	7.04	1	1.59
Type of Work				
Internal facing or Back office (e.g. administration, operations, accounting)	41	57.75	33	52.38
Customer facing or Front office (e.g. marketing, sales, service)	26	36.62	29	46.03
Unspecified	4	5.63	1	1.59
Number of Employees				
< 50	13	18.31	14	22.22
51 - 100	11	15.49	6	9.52
101 - 250	3	4.23	5	7.94
251 - 500	6	8.45	10	15.87

501 - 1000	10	14.08	5	7.94
1000+	24	33.80	20	31.75
Not Sure	4	5.63	3	4.76

Participants Type of Industry

Type of Industry		
Saudi	Number	Percentage
Agriculture, Forestry, Fishing and Hunting	1	1.41
Utilities	1	1.41
Manufacturing	9	12.68
Wholesale Trade	1	1.41
Transportation and Warehousing	2	2.82
Information	4	5.63
Finance and Insurance	5	7.04
Professional, Scientific, and Technical Services	3	4.23
Management of Companies and Enterprises	2	2.82
Educational Services	25	35.21
Health Care and Social Assistance	2	2.82
Arts, Entertainment, and Recreation	1	1.41
Other Services (except Public Administration)	8	11.27
Public Administration	5	7.04
Unspecified	2	2.82
Other Countries		
Mining, Quarrying, and Oil and Gas Extraction	1	1.59
Construction	2	3.17
Manufacturing	2	3.17
Retail Trade	1	1.59
Information	9	14.29
Finance and Insurance	8	12.70
Professional, Scientific, and Technical Services	9	14.29
Management of Companies and Enterprises	1	1.59
Administrative and Support and Waste Management and Remediation Services	1	1.59
Educational Services	13	20.63
Health Care and Social Assistance	3	4.76
Arts, Entertainment, and Recreation	1	1.59
Accommodation and Food Services	2	3.17
Other Services (except Public Administration)	6	9.52
Public Administration	2	3.17
Unspecified	2	3.17

Participants General Work Environment

Work Place Culture	Saudi	Other Countries
The corporate culture at my workplace is supportive and friendly	4.35	5.29
My workplace environment is conflict-free and pleasant to work in	4.01	4.93
My organization values my individual creativity	3.74	5.23
My organization is responsive and adapts to changes easily	3.75	4.46
The views and recommendations of customers often lead to changes in my company	3.68	4.60
Work Place Features		
Hierarchical Organizational Structure	4.51	4.97

Authoritative Corporate Culture	4.39	3.88
Controlled Work Practices	3.93	3.60

B.3 Participants Technographics

Table B.3: Participants Technographics

Personal Perspective	Saudi	Other Countries
Advanced Technology User	5.07	5.52
Like to Explore and Learn New Technology Applications	5.21	5.54
One of the First among my peers to Try out New Information and Communication Technologies	4.81	4.98
Type of Enterprise 2.0 Technology		
Social Networking Sites	4.19	4.66
Blogs	2.67	4.22
Wikis	3.00	4.05
Discussion Forums	3.87	4.16
Content Feeds	2.55	3.56
Collaborative Document Editing	3.08	4.36
Collaborative Content Tagging	3.47	3.17
Social Bookmarking	3.42	3.32
Mashups	3.22	3.00
Instant Messaging	4.33	4.89
Microblogs	3.79	3.93
Polls & Voting Tools	3.74	3.65
Widgets	2.93	3.27
File Sharing (Repositories)	4.21	5.25
Podcasts	3.90	3.34
Video Sharing	3.78	3.86
Virtual Worlds	3.24	2.60
Online games	2.94	2.48
Social News	4.44	3.75
Purpose of Use		
Internal Communication	2.80	2.94
Internal Collaboration	2.61	2.95
External Communication	2.49	2.79
External Collaboration	2.31	2.41
Use Practices		
Improve the quality of business decisions	4.64	5.17
Decrease cycle times involved with making business decisions	4.39	5.17
Improve customer satisfaction	4.77	5.32
Improve employee productivity	4.60	5.52
Leverage corporate resources better	4.58	5.56
Norms and Policies of Use		
I have a lot of freedom in how I use online social networks at work	4.23	5.10
Managers and Executives in my organization are regular users of social software	4.32	4.15
My organization has customized social media tools for work purposes	3.84	4.17
My organization restricts the use of social media tools for personal purposes	3.82	3.70
We have clearly defined guidelines for the use of social media tools at the workplace	3.67	4.51
In my organization, social media tools are used for internal communication and collaboration among employees	4.21	4.78

In my organization, social media tools are used for external communication with customers	3.88	4.58
In my organization, social media tools are used for external communication with business partners	3.89	4.23

* The above data was reached through Mean Calculation

Time Spent on Enterprise 2.0 Technologies

Time Spent on Enterprise2.0	Saudi		Other Countries	
At work place for Work Purposes	Number	Percentage	Number	Percentage
Less that 1 Hour per week	17	23.94	9	14.29
1 - 4 Hours per week	21	29.58	17	26.98
5 - 9 Hours per week	17	23.94	16	25.40
10 Hours or more per week	11	15.49	18	28.57
Prefer not to say	4	5.63	2	3.17
Unspecified	1	1.41	1	1.59
At work place for Personal Purposes				
Less that 1 Hour per week	11	15.49	21	33.33
1 - 4 Hours per week	19	26.76	20	31.75
5 - 9 Hours per week	16	22.54	11	17.46
10 Hours or more per week	19	26.76	8	12.70
Prefer not to say	5	7.04	3	4.76
Unspecified	1	1.41		

Appendix C

Research Theoretical Structural Model Variables Data

C.1 Enterprise 2.0 Technology Attributes

C.1.1 Perceived Ease of using Enterprise 2.0

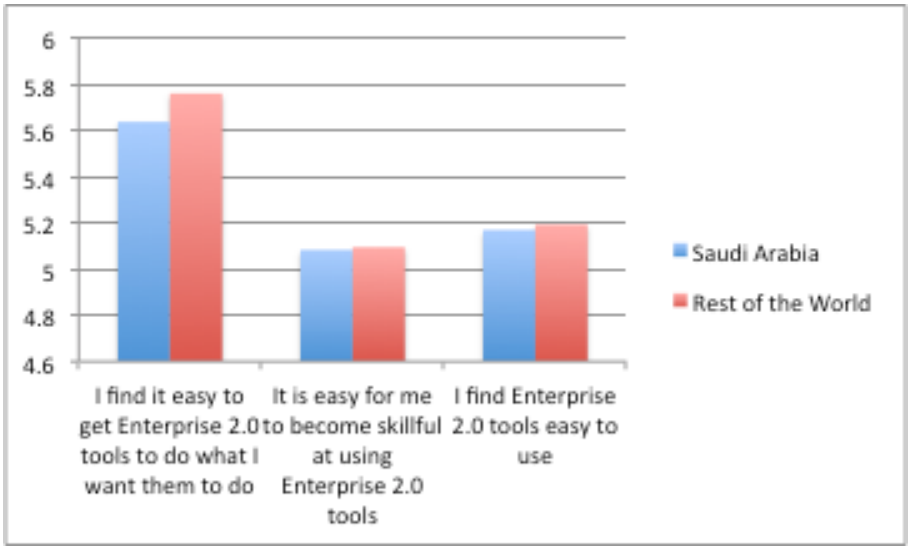

Figure C.1: Perceived Ease of using Enterprise 2.0 Survey Items Means

C.1.2 Enterprise 2.0 Perceived Usefulness

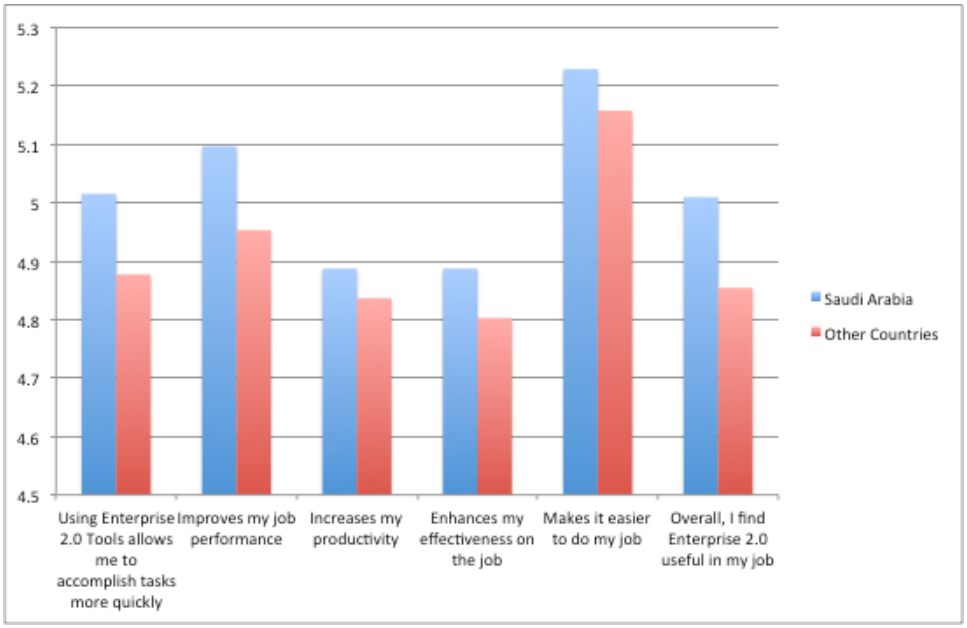

Figure C.2: Enterprise 2.0 Perceived Usefulness Survey Items Means

C.1.2 Enterprise 2.0 Sophistication

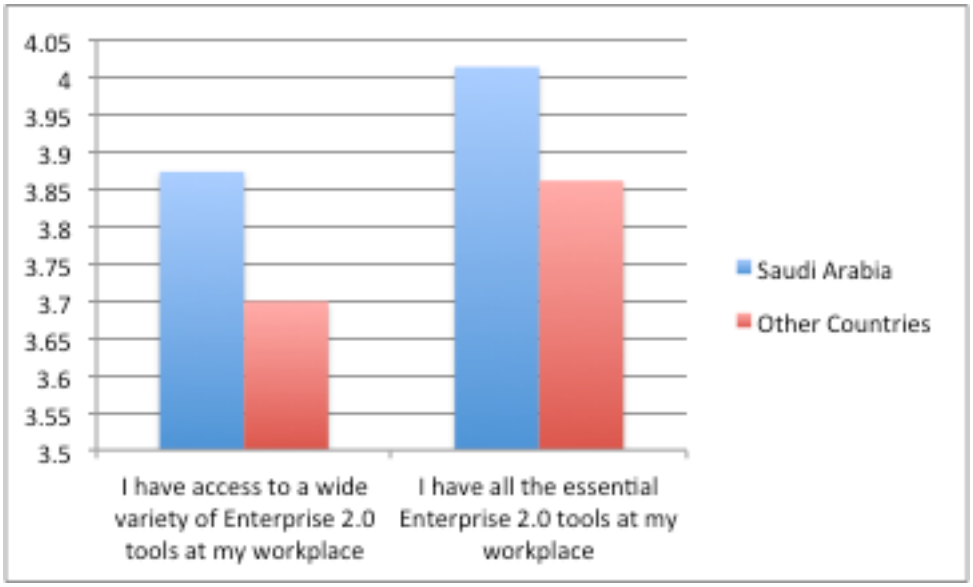

Figure C.3: Enterprise 2.0 Sophistication Survey Items Means

C.1.3 Enterprise 2.0 Richness

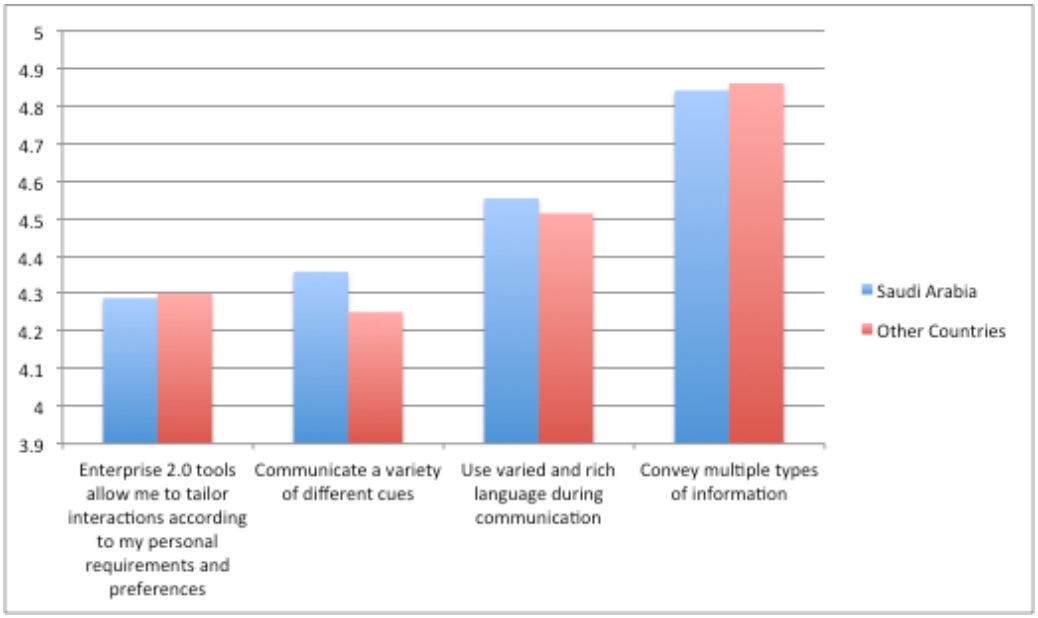

Figure C.4: Enterprise 2.0 Richness Survey Items Means

C.2 Knowledge Management Context

C.2.1 Knowledge Management Environment

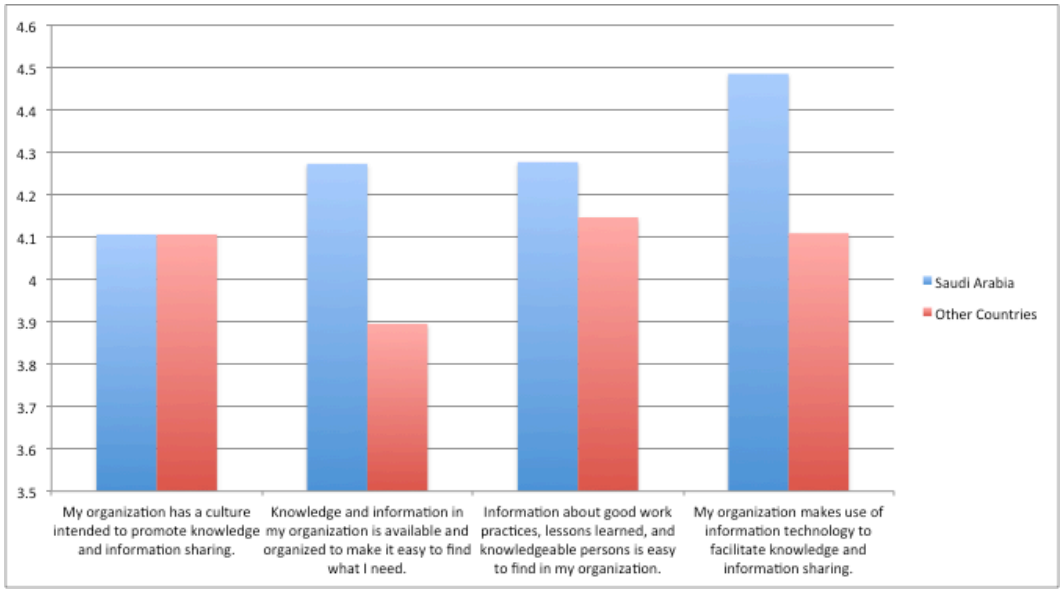

Figure C.5: Knowledge Management Environment Survey Items Means

C.2.1 Organizational Information Behavior

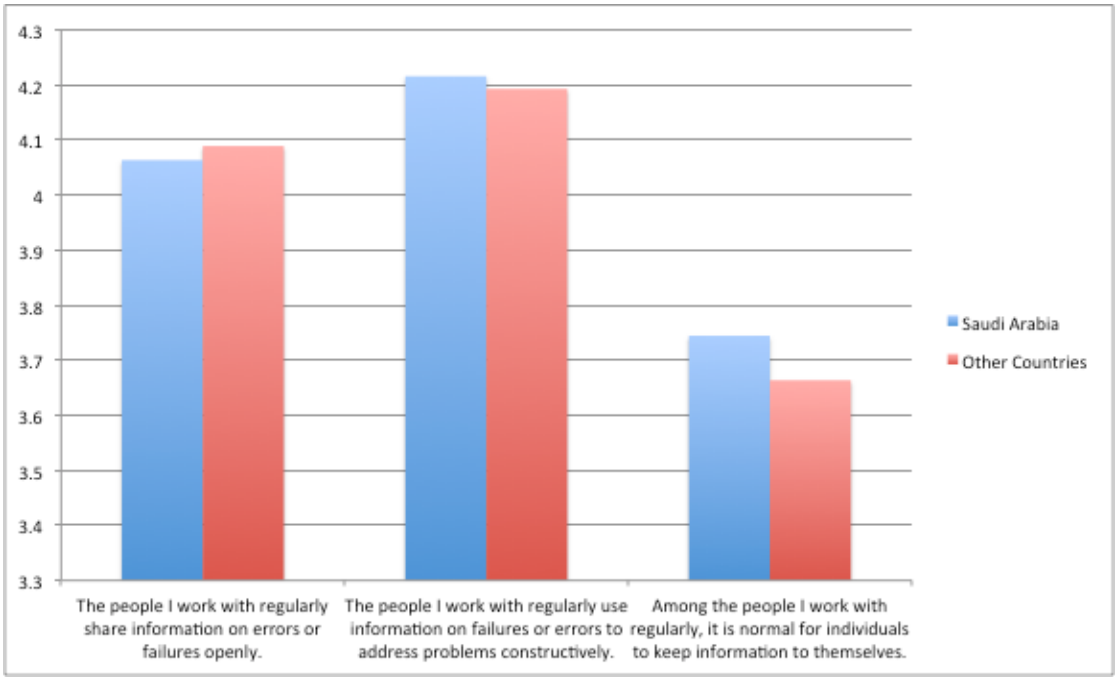

Figure C.6: Organizational Information Behavior Survey Items Means

C.2.3 Personal Information Behavior

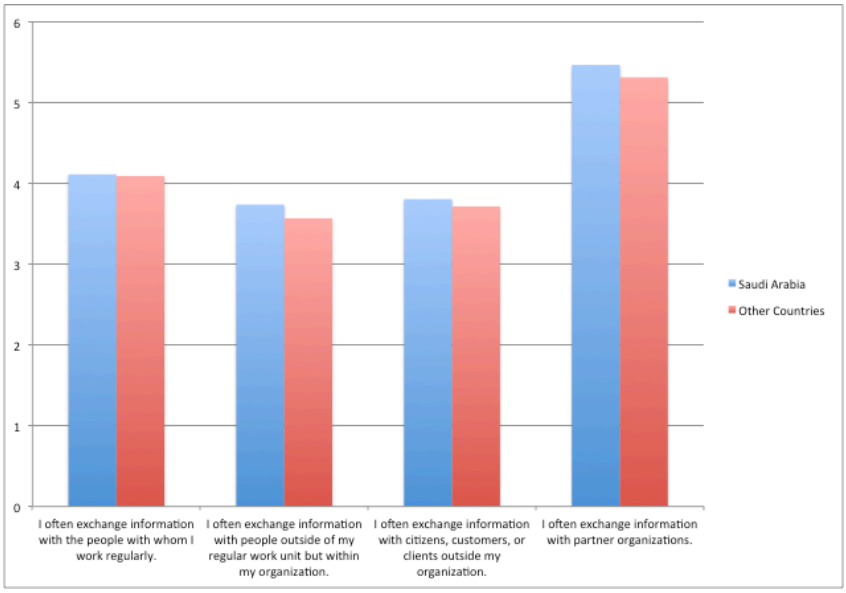

Figure C.7: Personal Information Behavior Survey Items Means

C.3 National Culture Traits

C.3.1 Power Distance

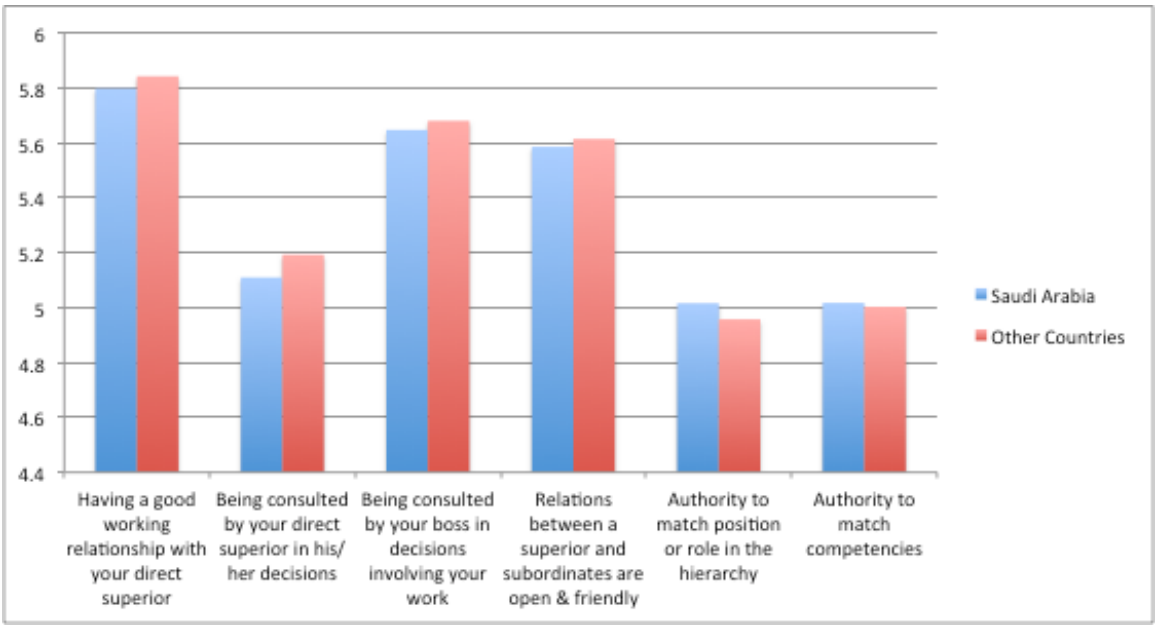

Figure C.8: Power Distance Survey Items Means

C.3.2 Long Term Orientation

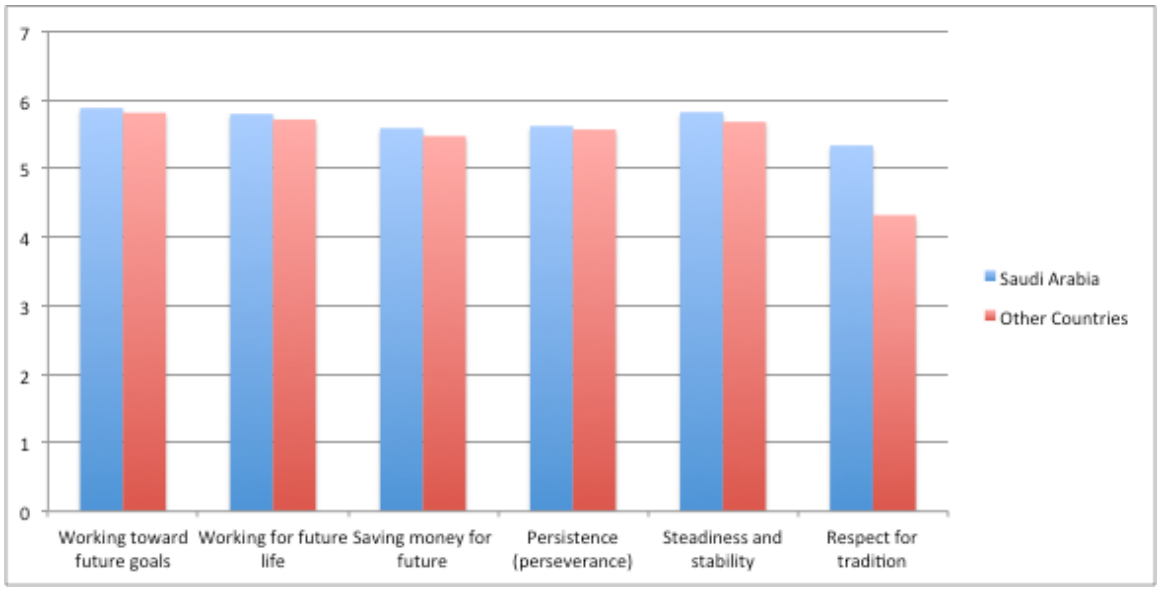

Figure C.9: Long-Term Orientation Survey Items Means

Behavioral Intention to Use Enterprise 2.0 Technologies

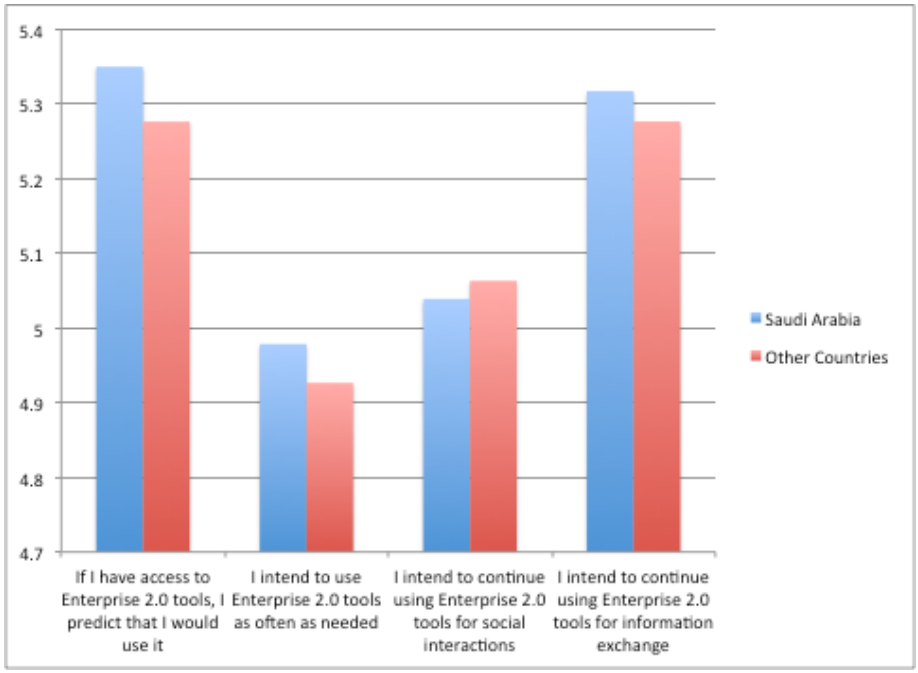

Figure C.10: Behavioral Intention to Use Enterprise 2.0 Technologies Survey Items Means

Appendix D

Correlation Analysis and Descriptive Statistics

D.1 Correlation Analysis and Descriptive Statistics of Combined Data of all Participants

Table D-1: Correlation Analysis and Descriptive Statistics of Combined Data of all Participants

Enterprise 2.0 Ease of Use -E2.0EOU	E2.0EOU1	E2.0EOU2	E2.0EOU3				Mean	Std. Deviation
E2.0EOU1 / I find it easy to get Enterprise 2.0 tools to do what I want them to do	1.000						4.7281	1.70084
E2.0EOU2 / It is easy for me to become skillful at using Enterprise 2.0 tools	.723	1.000					5.1824	1.67422
E2.0EOU3 / I find Enterprise 2.0 tools easy to use	.613	.833	1.000				5.2637	1.63672
Enterprise 2.0 Usefulness - E2.0U	E2.0U1	E2.0U2	E2.0U3	E2.0U4	E2.0U5	E2.0U6		
E2.0U1/ Using Enterprise 2.0 tools: Allows me to accomplish tasks more quickly	1.000						5.0243	1.56303
E2.0U2 / Improves my job performance	.826	1.000					5.0806	1.58279
E2.0U3 / Increases my productivity	.745	.813	1.000				4.9099	1.57042
E2.0U4 / Enhances my effectiveness on the job	.689	.763	.805	1.000			5.0654	1.60235
E2.0U5 / Makes it easier to do my job	.647	.691	.764	.776	1.000		5.2030	1.47133
E2.0U6 / Overall, I find Enterprise 2.0 useful in my job	.627	.680	.635	.688	.732	1.000	5.2336	1.57570
Enterprise 2.0 Sophistication - E2.0S	E2.0S1	E2.0S2						
E2.0S1 / I have access to a wide variety of Enterprise 2.0 tools at my workplace	1.000						4.3119	1.94826
E2.0S2 / I have all the essential Enterprise 2.0 tools at my workplace	.754	1.000					4.1790	1.84771
Enterprise2.0 Richness - E2.0R	E2.0R1	E2.0R2	E2.0R3	E2.0R4				
E2.0R1 / Enterprise 2.0 tools allow me to: Tailor interactions according to my personal requirements and preferences	1.000						4.5985	1.61133
E2.0R2 / Communicate a variety of different cues (such as emotional tone, attitude, or formality) during communication	.504	1.000					4.3412	1.77773
E2.0R3 / Use varied and rich language during communication	.562	.707	1.000				4.5037	1.66510
E2.0R4 / Convey multiple types of information	.540	.585	.749	1.000			4.9099	1.64067
Enterprise 2.0 Use Intention - E2.0UI	E2.0UI1	E2.0UI2	E2.0UI3	E2.0UI4				
E2.0UI1 / If I have access to Enterprise 2.0 tools, I predict that I would use it	1.000						5.3654	1.65708
E2.0UI2 / I intend to use Enterprise 2.0 tools as often as needed	.839	1.000					5.1858	1.63775
E2.0UI3 / I intend to continue using Enterprise 2.0 tools for social interactions	.736	.619	1.000				5.1030	1.73781
E2.0UI4 / I intend to continue using Enterprise 2.0 tools for information exchange	.716	.770	.712	1.000			5.4569	1.70693
Knowledge Management Environment - KME	KME1	KME2	KME3	KME4				
KME1 / My organization has a culture intended to promote knowledge and information sharing.	1.000						4.7561	1.85049

KME2 / Knowledge and information in my organization is available and organized to make it easy to find what I need.	.665	1.000					4.4206	1.87325
KME3 / Information about good work practices, lessons learned, and knowledgeable persons is easy to find in my organization.	.646	.844	1.000				4.4045	1.79464
KME4 / My organization makes use of information technology to facilitate knowledge and information sharing.	.649	.679	.658	1.000			4.8836	1.87836
Organizational Information Behavior - OIB	OIBI	OIB2	OIB3					
OIB1 / The people I work with regularly share information on errors or failures openly.	1.000						4.2418	1.78705
OIB2 / The people I work with regularly use information on failures or errors to address problems constructively.	.797	1.000					4.2955	1.78418
Personal Information Behavior-PIB	PIB1	PIB2	PIB3	PIB4				
PIB1 / I often exchange information with the people with whom I work regularly.	1.000						5.3412	1.55192
PIB2 / I often exchange information with people outside of my regular work unit but within my organization.	.535	1.000					4.5763	1.76543
PIB3 / I often exchange information with citizens, customers, or clients outside my organization.	.246	.405	1.000				3.9424	1.88504
PIB4/ I often exchange information with partner organizations.	.265	.494	.725	1.000			4.0824	1.90601
Power Distance -PD	PD1	PD2	PD3	PD4				
PD1 / Having a good working relationship with your direct superior	1.000						5.9367	1.39681
PD2 / Being consulted by your direct superior in his/her decisions	.593	1.000					5.2301	1.53732
PD3 / Being consulted by your boss in decisions involving your work	.637	.710	1.000				5.7301	1.42698
PD4/ Relations between a superior and subordinates are open & friendly	.616	.537	.510	1.000			5.8673	1.33417
Long Term Orientation - LTO	LTO1	LTO2	LTO3	LTO4				
LTO1 / Working toward future goals	1.000						5.8604	1.48549
LTO2 / Working for future life	.728	1.000					5.7796	1.58429
LTOI3 / Saving money for future	.540	.646	1.000				5.6237	1.56399
LTO4 / Persistence (perseverance)	.557	.586	.434	1.000			5.7128	1.42206

D.2 Correlation Analysis and Descriptive Statistics of Saudi Participants

Table D-2: Correlation Analysis and Descriptive Statistics of Saudi Participants

Enterprise 2.0 Ease of Use -E2.0EOU	E2.0EOU1	E2.0EOU2	E2.0EOU3				Mean	Std. Deviation
E2.0EOU1 / I find it easy to get Enterprise 2.0 tools to do what I want them to do	1.000						4.597	1.883
E2.0EOU2 / It is easy for me to become skillful at using Enterprise 2.0 tools	.813	1.000					5.074	1.839
E2.0EOU3 / I find Enterprise 2.0 tools easy to use	.634	.832	1.000				5.194	1.775
Enterprise 2.0 Usefulness - E2.0U	E2.0U1	E2.0U2	E2.0U3	E2.0U4	E2.0U5	E2.0U6		

E2.0U1/ Using Enterprise 2.0 tools :Allows me to accomplish tasks more quickly	1.000						5.000	1.656
E2.0U2 / Improves my job performance	.769	1.000					5.046	1.694
E2.0U3 / Increases my productivity	.724	.839	1.000				4.828	1.728
E2.0U4 / Enhances my effectiveness on the job	.695	.834	.856	1.000			4.812	1.780
E2.0U5 / Makes it easier to do my job	.696	.813	.861	.875	1.000		5.125	1.608
E2.0U6 / Overall, I find Enterprise 2.0 useful in my job	.604	.697	.663	.694	.766	1.000	4.939	1.756
Enterprise 2.0 Sophistication - E2.0S	E2.0S1	E2.0S2						
E2.0S1 / I have access to a wide variety of Enterprise 2.0 tools at my workplace	1.000						3.939	2.056
E2.0S2 / I have all the essential Enterprise 2.0 tools at my workplace	.738	1.000					3.985	1.975
Enterprise2.0 Richness - E2.0R	E2.0R1	E2.0R2	E2.0R3	E2.0R4				
E2.0R1 / Enterprise 2.0 tools allow me to: Tailor interactions according to my personal requirements and preferences	1.000						4.288	1.730
E2.0R2 / Communicate a variety of different cues (such as emotional tone, attitude, or formality) during communication	.569	1.000					4.358	1.818
E2.0R3 / Use varied and rich language during communication	.629	.750	1.000				4.554	1.773
E2.0R4 / Convey multiple types of information	.588	.700	.811	1.000			4.841	1.791
Enterprise 2.0 Use Intention - E2.0UI	E2.0UI1	E2.0UI2	E2.0UI3	E2.0UI4				
E2.0UI1 / If I have access to Enterprise 2.0 tools, I predict that I would use it	1.000						5.242	1.860
E2.0UI2 / I intend to use Enterprise 2.0 tools as often as needed	.827	1.000					4.939	1.804
E2.0UI3 / I intend to continue using Enterprise 2.0 tools for social interactions	.790	.675	1.000				4.924	1.915
E2.0UI4 / I intend to continue using Enterprise 2.0 tools for information exchange	.750	.834	.730	1.000			5.254	1.862
Knowledge Management Environment - KME	KME1	KME2	KME3	KME4				
KME1 / My organization has a culture intended to promote knowledge and information sharing.	1.000						4.106	1.928
KME2 / Knowledge and information in my organization is available and organized to make it easy to find what I need.	.743	1.000					4.273	2.115
KME3 / Information about good work practices, lessons learned, and knowledgeable persons is easy to find in my organization.	.735	.850	1.000				4.277	1.960
KME4 / My organization makes use of information technology to facilitate knowledge and information sharing.	.610	.721	.685	1.000			4.485	2.226
Organizational Information Behavior - OIB	OIBI	OIB2	OIB3					
OIB1 / The people I work with regularly share information on errors or failures openly.	1.000						4.031	1.927
OIB2 / The people I work with regularly use information on failures or errors to address problems constructively.	.791	1.000					4.146	1.956

Personal Information Behavior-PIB	PIB1	PIB2	PIB3	PIB4		
PIB1 / I often exchange information with the people with whom I work regularly.	1.000				5.200	1.750
PIB2 / I often exchange information with people outside of my regular work unit but within my organization.	.498	1.000			4.231	1.811
PIB3 / I often exchange information with citizens, customers, or clients outside my organization.	.280	.556	1.000		3.714	1.916
PIB4/ I often exchange information with partner organizations.	.303	.623	.714	1.000	3.790	1.943
Power Distance -PD	PD1	PD2	PD3	PD4		
PD1 / Having a good working relationship with your direct superior	1.000				5.797	1.514
PD2 / Being consulted by your direct superior in his/her decisions	.639	1.000			5.109	1.596
PD3 / Being consulted by your boss in decisions involving your work	.686	.731	1.000		5.646	1.497
PD4/ Relations between a superior and subordinates are open & friendly	.582	.601	.564	1.000	5.584	1.511
Long Term Orientation - LTO	LTO1	LTO2	LTO3	LTO4		
LTO1 / Working toward future goals	1.000	.851	.742	.638	5.866	1.629
LTO2 / Working for future life	.851	1.000	.816	.701	5.812	1.664
LTOI3 / Saving money for future	.742	.816	1.000	.604	5.634	1.624
LTO4 / Persistence (perseverance)	.638	.701	.604	1.000	5.588	1.696

D.3 **Correlation Analysis and Descriptive Statistics of Other Countries Participants**

Table D-3: Correlation Analysis and Descriptive Statistics of Other Countries Participants

Enterprise 2.0 Ease of Use -E2.0EOU	E2.0EOU1	E2.0EOU2	E2.0EOU3				Mean	Std. Deviation
E2.0EOU1 / I find it easy to get Enterprise 2.0 tools to do what I want them to do	1.000						4.879	1.471
E2.0EOU2 / It is easy for me to become skillful at using Enterprise 2.0 tools	.558	1.000					5.305	1.473
E2.0EOU3 / I find Enterprise 2.0 tools easy to use	.575	.834	1.000				5.345	1.476
Enterprise 2.0 Usefulness - E2.0U	E2.0U1	E2.0U2	E2.0U3	E2.0U4	E2.0U5	E2.0U6		
E2.0U1/ Using Enterprise 2.0 tools: Allows me to accomplish tasks more quickly	1.000						5.051	1.464
E2.0U2 / Improves my job performance	.910	1.000					5.119	1.460
E2.0U3 / Increases my productivity	.783	.769	1.000				5.000	1.380
E2.0U4 / Enhances my effectiveness on the job	.707	.665	.716	1.000			5.339	1.339
E2.0U5 / Makes it easier to do my job	.574	.498	.590	.610	1.000		5.288	1.308
E2.0U6 / Overall, I find Enterprise 2.0 useful in my job	.697	.679	.582	.654	.685	1.000	5.559	1.286
Enterprise 2.0 Sophistication - E2.0S	E2.0S1	E2.0S2						

E2.0S1 / I have access to a wide variety of Enterprise 2.0 tools at my workplace	1.000				4.729	1.749
E2.0S2 / I have all the essential Enterprise 2.0 tools at my workplace	.768	1.000			4.403	1.684
Enterprise2.0 Richness - E2.0R	E2.0R1	E2.0R2	E2.0R3	E2.0R4		
E2.0R1 / Enterprise 2.0 tools allow me to: Tailor interactions according to my personal requirements and preferences	1.000				4.964	1.402
E2.0R2 / Communicate a variety of different cues (such as emotional tone, attitude, or formality) during communication	.452	1.000			4.322	1.745
E2.0R3 / Use varied and rich language during communication	.495	.652	1.000		4.448	1.547
E2.0R4 / Convey multiple types of information	.478	.425	.657	1.000	4.984	1.465
Enterprise 2.0 Use Intention - E2.0UI	E2.0UI1	E2.0UI2	E2.0UI3	E2.0UI4		
E2.0UI1 / If I have access to Enterprise 2.0 tools, I predict that I would use it	1.000				5.500	1.397
E2.0UI2 / I intend to use Enterprise 2.0 tools as often as needed	.871	1.000			5.457	1.395
E2.0UI3 / I intend to continue using Enterprise 2.0 tools for social interactions	.631	.502	1.000		5.300	1.506
E2.0UI4 / I intend to continue using Enterprise 2.0 tools for information exchange	.646	.639	.670	1.000	5.683	1.497
Knowledge Management Environment - KME	KME1	KME2	KME3	KME4		
KME1 / My organization has a culture intended to promote knowledge and information sharing.	1.000				5.459	1.487
KME2 / Knowledge and information in my organization is available and organized to make it easy to find what I need.	.557	1.000			4.583	1.558
KME3 / Information about good work practices, lessons learned, and knowledgeable persons is easy to find in my organization.	.517	.830	1.000		4.541	1.592
KME4 / My organization makes use of information technology to facilitate knowledge and information sharing.	.675	.588	.625	1.000	5.328	1.266
Organizational Information Behavior - OIB	OIBI	OIB2	OIB3			
OIB1 / The people I work with regularly share information on errors or failures openly.	1.000				4.467	1.601
OIB2 / The people I work with regularly use information on failures or errors to address problems constructively.	.811	1.000			4.450	1.570
Personal Information Behavior-PIB	PIB1	PIB2	PIB3	PIB4		
PIB1 / I often exchange information with the people with whom I work regularly.	1.000				5.492	1.290

PIB2 / I often exchange information with people outside of my regular work unit but within my organization.	.587	1.000			4.950	1.650
PIB3 / I often exchange information with citizens, customers, or clients outside my organization.	.169	.170	1.000		4.186	1.836
PIB4/ I often exchange information with partner organizations.	.178	.294	.719	1.000	4.390	1.832
Power Distance -PD	PD1	PD2	PD3	PD4		
PD1 / Having a good working relationship with your direct superior	1.000				6.080	1.248
PD2 / Being consulted by your direct superior in his/her decisions	.520	1.000			5.355	1.471
PD3 / Being consulted by your boss in decisions involving your work	.559	.670	1.000		5.820	1.350
PD4/ Relations between a superior and subordinates are open & friendly	.677	.432	.415	1.000	6.159	1.035
Long Term Orientation - LTO	LTO1	LTO2	LTO3	LTO4		
LTO1 / Working toward future goals	1.000				5.855	1.318
LTO2 / Working for future life	.540	1.000			5.746	1.502
LTOI3 / Saving money for future	.240	.416	1.000		5.613	1.506
LTO4 / Persistence (perseverance)	.391	.392	.123	1.000	5.848	1.029

Appendix E

Internal Consistency Reliability Test

E.1 (Saudi Arabia and Other Countries Combined)

Cronbach's Alpha; .942

Ease of Use Cronbach's Alpha	.886		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0EOU1	0.8608	0.698	0.909
E2.0EOU2	0.9408	0.865	0.76
E2.0EOU3	0.9069	0.778	0.839
Usefulness Cronbach's Alpha	.941		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0U1	0.8676	.797	.932
E2.0U2	0.9085	.861	.924
E2.0U3	0.9033	.858	.925
E2.0U4	0.8944	.846	.926
E2.0U5	0.8705	.817	.930
E2.0U6	0.8239	.750	.938
Sophistication Cronbach's Alpha	.859		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0S1	0.936	.754	
E2.0S2	0.9369	.754	
Richness Cronbach's Alpha	.861		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0R1	0.7877	.603	.863
E2.0R2	0.8086	.694	.829
E2.0R3	0.8926	.808	.780
E2.0R4	0.868	.732	.813
Use Intention Cronbach's Alpha	.916		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0UI1	0.9255	.853	.875
E2.0UI2	0.9035	.821	.886
E2.0UI3	0.8552	.748	.911
E2.0UI4	0.8913	.809	.890
Survey Item			
Knowledge Management Environment Cronbach's Alpha	.871		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted

KME1	0.8349	.646	.866
KME2	0.9147	.778	.813
KME3	0.8989	.772	.816
KME4	0.855	.722	.841
Organizational Information Behavior Cronbach's Alpha	. 887		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
OIBI	0.9422	.573	.286
OIB2	0.9533	.652	.155
Personal Information Behavior Cronbach's Alpha	.766		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
PIB1	0.739	.412	.782
PIB2	0.8162	.601	.692
PIB3	0.7173	.602	.691
PIB4	0.7662	.660	.657
Power Distance Cronbach's Alpha	.857		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
PD1	0.8488	.721	.810
PD2	0.8555	.722	.811
PD3	0.8651	.734	.804
PD4	0.7766	.633	.845
Long Term Orientation Cronbach's Alpha	.848		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
LTO1	0.8629	.726	.790
LTO2	0.8849	.797	.757
LTO3	0.8012	.628	.833
LTO4	0.7626	.603	.841

Table E-1: Internal Consistency Reliability Test (Combined Data)

E.2 Internal Consistency Reliability Test (Saudi Arabia)

Cronbach's Alpha; .944

Table E-2: Internal Consistency Reliability Test (Saudi Arabia)

Ease of Use Cronbach's Alpha	.904		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0EOU1	0.8853	.758	.908
E2.0EOU2	0.9606	.910	.775
E2.0EOU3	0.9029	.768	.897
Usefulness Cronbach's Alpha	.949		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted

E2.0U1	0.845	.765	.949
E2.0U2	0.9254	.886	.935
E2.0U3	0.9226	.884	.935
E2.0U4	0.9236	.887	.935
E2.0U5	0.9314	.904	.933
E2.0U6	0.8145	.748	.951
Sophistication Cronbach's Alpha	.849		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0S1	0.9236	.738	
E2.0S2	0.9403	.738	
Richness Cronbach's Alpha	.893		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0R1	0.7891	.651	.902
E2.0R2	0.8631	.761	.863
E2.0R3	0.9217	.846	.830
E2.0R4	0.9025	.800	.848
Use Intention Cronbach's Alpha	.929		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0UI1	0.931	.866	.897
E2.0UI2	0.9181	.849	.903
E2.0UI3	0.8773	.786	.924
E2.0UI4	0.9083	.839	.906
Knowledge Management Environment Cronbach's Alpha	.911		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
KME1	0.8447	.760	.898
KME2	0.9378	.869	.859
KME3	0.9232	.848	.869
KME4	0.8531	.730	.912
Orgnizational Information Behavior Cronbach's Alpha	. 883		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
OIBI	0.9394	.554	.331
OIB2	0.9526	.675	.125
Personal Information Behavior Cronbach's Alpha	.799		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
PIB1	0.7386	.411	.837
PIB2	0.8532	.708	.702
PIB3	0.7494	.649	.730
PIB4	0.7902	.696	.705
Power Distance Cronbach's Alpha	.874		
Survey Item	Factor	Item-Total	Cronbach's Alpha if Item

	Loading	Correlation	Deleted
PD1	0.858	.731	.838
PD2	0.8731	.763	.825
PD3	0.8855	.770	.823
PD4	0.7883	.655	.867
Long Term Orientation Cronbach's Alpha	.913		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
LTO1	0.9161	.829	.878
LTO2	0.9419	.896	.853
LTO3	0.898	.795	.890
LTO4	0.805	.695	.925

E.3 Internal Consistency Reliability Test (Other Countries)

Cronbach's Alpha; .935

Table E-3: Internal Consistency Reliability Test (Other Countries Combined)

Ease of Use Cronbach's Alpha	.851		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0EOU1	0.8128	.591	.910
E2.0EOU2	0.9039	.785	.730
E2.0EOU3	0.9165	.799	.716
Usefulness Cronbach's Alpha	.926		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0U1	0.9159	.873	.900
E2.0U2	0.8862	.831	.906
E2.0U3	0.8616	.806	.910
E2.0U4	0.8449	.778	.914
E2.0U5	0.7673	.668	.927
E2.0U6	0.8455	.762	.916
Sophistication Cronbach's Alpha	.869		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0S1	0.9523	.768	
E2.0S2	0.927	.768	
Richness Cronbach's Alpha	.815		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0R1	0.8167	.559	.800
E2.0R2	0.7268	.614	.782

E2.0R3	0.8374	.761	.705
E2.0R4	0.8079	.621	.773
Use Intention Cronbach's Alpha	.884		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
E2.0UI1	0.9167	.830	.821
E2.0UI2	0.877	.761	.847
E2.0UI3	0.7995	.669	.882
E2.0UI4	0.8584	.741	.854
Knowledge Management Environment Cronbach's Alpha	.871		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
KME1	0.8358	.646	.866
KME2	0.8586	.778	.813
KME3	0.8469	.772	.816
KME4	0.857	.722	.841
Orgnizational Information Behavior Cronbach's Alpha	.896		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
OIBI	0.9453	.595	.172
OIB2	0.9575	.607	.158
Personal Information Behavior Cronbach's Alpha	.686*		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
PIB1	0.7555	.388	.671
PIB2	0.7823	.417	.653
PIB3	0.6134	.506	.597
PIB4	0.6857	.585	.537
Power Distance Cronbach's Alpha	.823		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
PD1	0.8331	.696	.756
PD2	0.8329	.658	.778
PD3	0.8354	.676	.764
PD4	0.7404	.589	.807
Long Term Orientation Cronbach's Alpha	.680*		
Survey Item	Factor Loading	Item-Total Correlation	Cronbach's Alpha if Item Deleted
LTO1	0.7787	.523	.575
LTO2	0.8166	.638	.481
LTO3	0.6006	.347	.699
LTO4	0.6667	.385	.664

- The reason of the Low Cronbach's alpha in these two variables is due to the low items loadings