

The impact of national culture on knowledge management processes in the context of an economic transition to a knowledge-based economy: the case of Qatar.

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THE IMPACT OF NATIONAL CULTURE ON KNOWLEDGE
MANAGEMENT PROCESSES IN THE CONTEXT OF AN ECONOMIC
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Abstract

In recent years, a global movement towards a knowledge-based economy through the provision of adequate and appropriate infrastructure and development programs for leveraging the potential of human capital has started. There has been tremendous cognitive development in the developed countries including the Arab countries, but in the developing countries, things are still slowly progressing towards a level of knowledge capture, creation, and dissemination that will allow them to rise to the level of developed countries. The central administration derived from the authoritative patriarchal structure of the Arab society significantly affects the motives of their qualified workforce in their quest to utilize their knowledge for the desired development towards a knowledge society.

The research investigates the influence of national culture on the progress of knowledge economy four pillars ranked by World Bank Knowledge Economy index, education, information and communication technology infrastructure, innovation, and adequacy of supporting institutional framework.

The research adopts Nonaka & Takeuchi's SECI knowledge management model to study the impact of national culture upon knowledge acquisition, transfer, creation, and dissemination as facilitated through Nonaka and Takeuchi's (1995) cyclical knowledge management model by People, Process, and Technology. Furthermore, the research introduces a conceptual framework and detailed analytical framework (Figure 6) illustrating relationships and mapping governing principles to the research aim and objective.

The research keeps a specific focus on the influence of Qatar's national culture on the knowledge management process prevalent in the country as the research aims to explore elements that may affect Qatar's transition towards a knowledge-based economy.

The research surveys a sample of Qatari nationals community to profiles Qatar National culture, interviews a sample of Qatari professionals to investigate the impact of cultural dimensions on knowledge management process, and validate the concluded analysis by identifying Qatar's ranking in relevant Knowledge Economy global indexes.

The research assert the possible influence of national culture on knowledge conversion processes as critical to the success of country's economic transition to knowledge economy.

Keywords: knowledge management, knowledge conversion, knowledge economy, National culture, cultural dimensions, economic transition, Arab countries, Qatar, patriarchal structure, knowledge economy pillars

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1 CHAPTER ONE: INTRODUCTION

1.1 Background

Heraclitus, a Greek philosopher, said, "Change is the only constant in life.". This Heraclitus quote was found in one of the more than 100 fragments of his writings, works that are believed to have been a part of his book. He was a theorist who created doctrines about the constant change and flux of life. He lived in Ephesus, near modern Kusadasi, Turkey, around 500 B.C.

Galbreath (1999) added that the only unchanged fact of the twenty-first century will remain to be the constant change that will keep happening in all walks of life.

This chapter introduces the research background and rationale for conducting the current research. It highlights the increasing importance of economic diversification and the need to transition to a knowledge-based economy that Qatar endeavors to attain through its National Vision. The chapter presents the research aims and objectives and gives an overview of the research process. The chapter gives a brief outline of the conceptualization of knowledge, knowledge management processes and drivers of the knowledge economy. It also details the research approach and expected outcomes.

1.1.1. Changing global economic landscape

In line with the above, the recent work of Botha, A., Kourie, D. and Snyman, R. (2014) stated that, as rapid change is a defining characteristic of the modern world, knowledge management is the latest in management tools to respond to economic challenges on the new millennium. This is aptly manifested in the global developments leading to liberalization of labor markets, economic globalization, international investment, and a rush toward knowledge societies.

1.1.2. Knowledge process and the human factor

Constructivism is a psychology theory. It suggests that people construct their knowledge and understanding of the world, through active learning by experiencing new things and reflecting on those experiences. Vygotsky's Social Development theory as one of the foundations of constructivism explains changes in the structure of society and that societies sense new chances for progress and develop new orders to exploit these new opportunities. Vygotsky believed that social interaction, culture, and language are variables that may affect how individuals learn knowledge, Powell, K.C. and Kalina, C.J. (2009. p.241). In turn, Glion (2005) proposed that physical power or manual work has become of little value in the accumulation of wealth and economic surpluses as the progress of societies are now measured by technology infrastructure and the ability to acquire and share knowledge. Nonaka et al. (2008, p.7) elaborated, that the most prominent feature of knowledge as compared to physical resources and information, is that it is the outcome of human interaction. It is not a substance waiting to be revealed and collected. It is created by people as they interact with each other in their environment. As such, the role of knowledge in the social re-formation process grew; and new economic systems

created based on ample knowledge valuation equivalent to or exceed the value of physical assets such as natural resources, financial capital, and raw materials.

1.2 Research background/rationale

1.2.1 Transitioning to knowledge economy

Traced back by Brewer (1991), the initial thoughts of endogenous growth theory goes back to Rae (1834). “New growth theory” addresses the continuing shift from a resource-based rentier economy to a knowledge-based economy. It echoes the fundamental role of knowledge and technology in driving productivity and economic development. It resonates that knowledge drives growth and reflects that efficient and effective knowledge transfer processes, through formal and informal networks, contribute to strong economic performance and underscores the importance of investing in new knowledge creation to sustain development. Therefore, promoting and investing in research and development, education, ICT infrastructure, and institutional regimes and business environment are crucial. The theory argues that innovation and new technologies development depends on people seeking out innovations and technologies, and how successfully they acquire, and implement them.

“New growth theory” clearly states that the progress of societies is measured by technology infrastructure and the ability to acquire, create, and share knowledge. Dimitar Tchurovsky (2015) further explains that the engine of social evolution is knowledge and Society has three subsystems: social consciousness, economics, and governance. As societies changing from industrial into information societies, in which the creation and dissemination of knowledge are of paramount importance, the progress of societies is now measured by technology infrastructure and the ability to acquire and share knowledge, the European Round Table of industrialist ERT (1997).

1.2.2 Knowledge economy

"Knowledge economy" is where knowledge is becoming the most important element in a country's capital and most critical factor in achieving an economic surplus. Physical labor or manual work becomes of much lesser value in the accumulation of wealth and economic surpluses. “Knowledge” has become a term that means the good use of information in the economy - the more accumulated knowledge, the more accumulated wealth, Lemoine et al. (2016). The knowledge economy is a mature and developed stage of the information economy, focusing on the value of the intellectual capacity of individuals. Knowledge economy looks at the human intellectual capital as a producer of knowledge. In the context of this economy, knowledge is a major source of wealth, and it is far more important than traditional forms of wealth such as land, labor, and capital.

1.2.3 Knowledge management

Knowledge management includes practices and procedures, as well as the people and systems, that support societies' information and knowledge needs, and an essential objective to excel if a country aims to make the transition to a knowledge economy, Rhem, (2016). The knowledge economy is where knowledge, such as the tacit and implicit know-how and know-who knowledge, are critical economic resources that need to be managed.

According to Holden (2002), organizations and countries do not operate in a vacuum, instead, a plethora of factors like diversity, cultural context, language, ethnicity among others play a pivotal role in the success or failure of such programs. Other researchers agree that ignoring the regional and national culture in any effort towards a transition to a knowledge economy; can only lead to failures, Pauleen and Murphy (2005).

1.2.4 Knowledge management and culture

Glisby and Holden (2003) argue that what is assumed about knowledge management in a Western industrialized context or in the context of a specific culture (as the work of Nonaka and Takeuchi was based on Japanese culture) may not necessarily be translated to other cultural settings where much more knowledge is held tacitly. Glisby and Holden (2003) and Holden (2002) further proffer that there is need to understand how knowledge is constructed and constituted outside of Japan and the Western world. Pauleen and Murphy (2005) agree that knowledge management models excluding the influence of national culture severely weaken their potential effectiveness, particularly in global applications. They further suggest that knowledge management research and development are dominated by Western assumptions about knowledge and information management and the cultural bias in databases.

1.2.5 Knowledge economy in developing countries

Dahlman (2007) discussed the need for developing countries to effectively access the stock of global knowledge, and attract and use foreign investments to generate indigenous knowledge, innovation, and business for sustainable development. Conversely, the World Bank's (2003) reported on corporate governance that most developing economies have failed to enforce their rules and regulations consistently and evenly. According to Weir (2007), there are several obstacles to a shift towards information and knowledge-based economy in the Middle East and North Africa. These include political environment, culture, and influence of Westernization. This may extend the validity of the old work of Hofstede et al. (1991) and Hickson & Pugh (1995) as they concluded that businesses environment in developing countries did not achieve the required shift in leadership styles and decision-making, which contribute, in addition to other factors, to the transition to knowledge societies in the modern era.

1.2.6 Knowledge economy, knowledge management, and the MIDDLE EAST

Few researchers study knowledge management and the role of knowledge growth in the context of the Middle Eastern and North African countries. Among such researchers, Wier (2007) suggests that the varying levels of modernization in the Arabic world are a result of changes in family style of business ownership and influences of Islam. Weir, however, warns against using the prominent knowledge management literature and theories to apply to practical problems in the Middle East and North Africa. This suggests the dearth of relevant contextually suited literature and the lack of role models or case studies in the region that could be used to emulate the transition to a knowledge-based economy.

1.3 Research aim and objectives

The research is an exploratory study and mostly reflective however the study relies on qualitative data –interviews– as well as quantitative data –survey– results.

The main aim of the research is to study the influence of a country's national culture dimensions on knowledge management processes prevalent in that country and to further explore the results as relevant to the critical success factors for sustainable knowledge management processes that are required for building a knowledge-based economy. Also, the research identifies the processes by which knowledge is acquired and disseminated and to study them in the local cultural context.

To attain the above research aim and answer the research questions, the research employs the following objectives:

- Introduce a conceptual framework and model of knowledge management that will apply in a culturally aware environment.
- Identify measurable characteristics of a Knowledge-based economy
- Profile Qatar's national culture based on Hofstede cultural dimensions and assess their impact on knowledge management processes
- Explore the development of knowledge management and conversion processes that are more effective and amenable to Qatar's local culture.

1.4 Showcasing QATAR

Cortright (2001) states that, society's capability to generate and tolerate new ideas, and continuously adapt to changing economic and technological circumstances is necessary for its sustainable economic growth. Right on cue, Qatar announced its plans to its transition from the hydrocarbon economy to knowledge-based economy. Qatar wants to usher in rapid changes by 2030, including all-around prosperity for its citizens, enhanced economic growth, a diversified economy and development of human resource capabilities, Qatar National Vision 2030 (2016). Ranked 14th out of 144 countries on the Global Competitiveness Index 2015-16, Qatar comes ahead of the UAE, (Global Competitiveness

Report 2015-16). Unable to sustain its development, Qatar ranked 25th out of 137 countries on the Global Competitiveness Index 2017-18 behind UAE, which ranked 17th and maintained the same score reported on 2016-17 report. Qatar's strengths remain its good infrastructure facilities and the country's efficient goods markets. Going forward, the country will have to ensure better access to digital technologies for individuals and businesses, and further strengthen educational institutions.

The Global financial centers' index 21 -2017 placed Qatar (Doha) fifth among Middle East and African Centers in the ease of start-up companies and the stability of the legal, judicial system, immigration, and taxation, behind Dubai, Abu Dhabi, Casablanca, and Tel Aviv.

The research aims at understanding and culturally contextualizing this transition for Qatar, with the aim to evolve insights and make suitable recommendations.

The research aims to explore Qatari cultural factors that may affect its transition towards a knowledge-based economy.

1.4.1 QATAR'S transition to knowledge-based economy

As it appears in the Qatar National Vision 2030, the government has identified the most important strategic goals regarding a diversified economy in which the private sector participation and the SMEs (small & medium-sized enterprises) lead in the pivotal role of increasing innovation and entrepreneurship.

Qatar however, did not achieve the desired success rate in promoting trade ideas, and in attracting direct investment, (Santander, Trade Portal 2018). This was because of several policies and practical issues that foreign companies still face when trying to enter the local market. Out of 190 countries on the Doing Business Index Qatar ranked at a weak 83 regarding ease of doing business, (World Bank 2018). Qatar's attempts to portray its economy as a knowledge economy lacked consistency as figures from the World Bank showed that national banks' lending to small and medium business represents only 0.5% of total loans in Qatar. National banks' lending to small and medium business is the factor on which emerging small and medium enterprises rely to generate creativity and innovation to grow and prosper. Stated by Silvia Montoya, Director of the UNESCO Institute for Statistics: "Innovation is key to achieving each of the Sustainable Development Goals. So it is essential to track R&D investment in the knowledge, technology, and thinking that drives innovation in countries,"

The establishment of institutions such as the "Qatar Small and Medium Enterprises Authority," "link-NGO" and "Science and Technology Park" were expected to support Qatar in its quest towards becoming a knowledge-based economy, but progress has been limited in the past years. Therefore, it is evident that though Qatar adopted a knowledge-based economy as a goal, it did not achieve the anticipated results.

Senge is a prominent author and researcher in the area of learning organizations. His work introduced the concept of learning culture and disciplines involved in building the Learning Organization. Senge (1990) presents “Mental Models” and suggests that deeply held belief and generalizations may influence the way we operate in our own lives. He also discussed Team Learning as modern organizations operate based on teamwork thus organizations cannot learn if team members do not come together and learn.

Kiefer and Senge (1982) claim that during the transition to a postindustrial society, the interdependencies between the economic system and the environment become clear, with a concomitant shift in attitudes and values. Therefore, Qatar needs to focus on several fronts. It needs to encourage more studies to identify gaps and obstacles to creating effective and efficient eco-system capable of transforming scientific research into commercial products and activities that can compete and survive. It also needs to focus on granting of awards for new inventions to encourage more innovation, to provide financial incentives to entities through Venture Capital Investment, and to promote the expansion of existing university research in science and technology. Further, the country needs to develop a robust educational system, from primary to university level. By focusing on these areas, the national vision could be released, and transition to the knowledge-based economy made possible to ensure stability and long-term growth.

1.5 The research approach

Building on the existing literature as reviewed; in the perspective of knowledge-based economy, knowledge becomes a commodity and a resource that needs to be managed. Centered on the selected Nonaka and Takeuchi SECI knowledge process model and Hofstede’s four original cultural dimensions, the research investigates how national culture may influence knowledge acquisition and dissemination process that results from human interaction. The research focuses on the tacit knowledge transfer that occurs during the socialization and externalization quadrants in Nonaka and Takeuchi introduced SECI knowledge process model.

As Culture can be a primary reason for preventing the communication and disclosure of knowledge, McDermott and O’Dell, (2001), the research introduces the three enablers of knowledge transfer, People-Process-Technology.

To enrich the analysis of culture dimensions’ impact on the knowledge acquisition and dissemination, in culturally profiled setting, the researcher interviews a small number of Qatari professionals to identify and assess the existence and viability of processes that facilitate knowledge transfer among the three established enablers. The research uses relevant global index indicators to validate and support conclusions.

The research showcases Qatar as a country invested heavily in technology and developing programs aimed at transitioning to a knowledge economy, but could not match it with changes in leadership and human resource management approaches. To validate such assumption, the research maps Qatar national culture impact on knowledge conversion process to current leadership style and work environment. Chapter 3 “Analytical Framework.” introduce a conceptual framework to explain the research approach further.

1.5.1 Research questions

A review of available researches has indicated that knowledge management literature is mostly discussed in a Western context, Zhu (2004). Another section of researches has focused on the Japanese context, but this too, cannot be expected to apply to the broader Asian or Middle Eastern context, Glisby and Holden (2003). Moreover, most literature on transitioning to knowledge economies is available only in the Western context, Mohannad (2011). There has been some concern about the applicability of the well-known knowledge management process models in culturally diverse settings based on cultural impact on human behavior. Knowledge sharing or information transfer may not happen with the same ease as it does in the context of the West, which can lead to an altogether different result using these models, Zhu (2004). It has been recognized that knowledge meshes with local culture, and knowledge sharing can only be successful by taking into account the cultural dynamics, Greengard (1998).

The research investigates the concept of Culture Profiles and their influence on country’s transition to a knowledge-based economy, as it describes national level cultural characteristics impact on knowledge acquisition and knowledge dissemination processes.

As referenced, explained and well emphasized in the literature chapter, the research adopts Nonaka and Takeuchi’s SECI knowledge process model and Hofstede’s four original cultural dimensions in addition to the argument that tacit knowledge acquisition and dissemination involve human interaction and are fundamentally susceptible to national cultural characteristics.

The research questions focused on tacit knowledge facilitation, knowledge economy, and cultural profile. To assign the scope of the questions, and of the research, it is important to point out that tacit knowledge as defined by Polanyi (1966) and Brown & Duguid (1998) who referred to it as know-how, is experience based. Thus, tacit knowledge is often contextually embedded, personal in nature, hard to communicate and deeply rooted in action, commitment, and involvement, Nonaka (1994).

The research primarily attempts to answer the following questions:

What is the national cultural profile, based on Hofstede Cultural Dimensions? (Modified Value survey across sectors and demographics to profile national culture)?

How does the national culture profile influences knowledge facilitation as categorized in Nonaka and Takeuchi’s Knowledge Process Model?

How does the national culture profile influence the currently adopted knowledge transfer process and its influence on the process of transitioning to knowledge-based economy?

What is the impact of the national cultural profile on the internationally relevant indicators of the country's progress towards knowledge-based economy?

1.5.2 Thesis Structure

Chapter 1 introduces the research topic, gives the research background and underlines the research aims and methodology. It gives a brief overview of the research framework and the expected research outcomes. Chapter 2 contains an exhaustive survey and review of available literature relating to knowledge, knowledge management, and knowledge economy. It also discusses the four pillars of the knowledge economy, Hofstede's cultural dimensions and gives a brief overview of how culture can influence the process of transition to a knowledge economy. Chapter 3 develops the conceptual and analytical framework for the research, which includes the combination of SECI model, Hofstede's cultural dimensions and the four pillars of a knowledge economy. Chapter 4 gives a detailed and critiqued discussion of research approach, research methods, data collection instruments and data analysis processes. Chapter 5 presents the data analysis and derives findings from the research. Chapter 6 discusses the critical research findings using the insights derived from the works of other scholars. It integrates the findings into a processes model allowing us to draw validated conclusions, which formed the basis for recommendations; it also brings closure to the study in the form of limitations and conclusions. Chapter 7 establishes the logic for the findings and discuss the research contribution and the limitations. It also presents recommendations and areas for further research.

2 CHAPTER TWO: LITERATURE REVIEW

In this chapter, we will first review literature relevant to the emergence of the knowledge economy and its general characteristics. The second part will examine existing literature on the suggested national culture impact on transitioning to the knowledge economy as applied to developing rentier states.

2.1 Introduction

Based on the following broad literature review, the research presents an empirically grounded research framework of suggested national culture impact on transitioning to a knowledge-based economy as applied to developing rentier states.

From an empirical research point of view, the literature reviewed critical factors involved in exploring the knowledge economy and its characteristics, and literature relevant to “culture” focusing on national culture and its features.

As explained in section 2.9 the reviewed literature detects a knowledge gap. The research addresses the gap and investigates the impact of culture on the knowledge management processes not on the organization performance but on the country’s economic transition to the knowledge economy.

2.2 Theoretical orientation

Grant (2002) argues that the knowledge-based view of the firm is not a theory of the firm in any formal sense. Nevertheless, the knowledge-based theory of the firm considers knowledge as the most strategically significant resource of a firm, and because knowledge-based resources are typically difficult to reproduce and socially complex, heterogeneous knowledge bases and capabilities among firms are essential to sustain competitive advantage and superior performance.

The resource-based view (RBV) framework initially promoted by Penrose (1959) as managerial framework used to determine the strategic resources, did not does not distinguish between different types of knowledge-based capabilities and claims that knowledge is generic resource with no special characteristics.

Within the context of the research’s objective, primary questions and its relevant secondary questions as explained in the previous chapter, the literature reviewed to discuss and study different thoughts and perceptions on following concepts, and it endeavors to identify knowledge gaps to support the research findings and its conclusions:

What is Knowledge?

What is Knowledge Management?

What is Knowledge Economy?

What is the role of Culture in Knowledge Transfer?

What are distinct Characteristics of a National Culture?

The above questions expected to provide guidance to develop the current research conceptual and analytical framework to investigate how National economic transition of a rentier State to a Knowledge-based Economy influenced by the impact of national culture on Knowledge Management Process, showcasing Qatar.

In this chapter, the literature reviewed and arranged in four sections.

The first section discusses theoretical foundations of concepts like knowledge and knowledge types, and examines the evolution of “knowledge definitions”. A critical first step to understand types of knowledge, and how influenced by culture as they may or may not be susceptible to humans’ ability to communicate or to other socially and culturally induced behaviors.

In light of recent literature definition of knowledge as a commodity, the second section addresses the “Knowledge Management” process. This is done by reviewing related literature on different “knowledge management” process models and the transfer of different knowledge types.

Given different “knowledge transfer”, “knowledge exchange” and “knowledge creation” definitions as described and drawn from an already ample body of literature, criticism to different “knowledge management” process models will be reviewed.

To assess the evolution and the transition to a knowledge economy, the third section appraises different views on the essence of “knowledge-based economy”, its pillars, and identify relevant global indexes and indicators measuring country’s transition from a hydrocarbon economy to a knowledge-based economy. Founded on the reviewed theoretical frameworks and definitions, a composite of individual indicators will be formed and compiled in a manner reflects the dimensions of the research objective.

To examine the impact of the national culture, the fourth section defines culture from sociological and philosophical perspectives.

2.3 Knowledge and knowledge types

Knowledge is defined variously, depending upon who is defining it, and in what context. As such, the definition of knowledge may differ from an Eastern or a Western perspective, as well as between different subjects, (Cohen 1998). However, it is essential to establish a standard and usable understanding of knowledge, because, the definition of knowledge mainly drives the process of knowledge management, Alavi & Leider (2001).

2.3.1 Knowledge

In the information sense, knowledge goes beyond the mere possession of information; Knowledge is information transformed into a capability for effective action. It is information interpreted through a process of using judgment and values, Slack, Chambers, & Johnston (2004).

Other scholars believe that knowledge is nothing but high-value information that can be readily applied to problems, Davenport and Prusak (1998).

In different perspectives, others see knowledge as a set of restrictions, both implied and expressed, which apply to objects, relationships, and operations, and work in tandem with heuristics and inferential processes that apply to the situational context, Sowa (1984). A more comprehensive understanding of knowledge is developed by accepting knowledge as a set of contextual clues, experiences, values, and insights that provide the primary reference point and a framework for evaluating new experiences and new information, Davenport and Prusak (1998).

As knowledge defined as processed information, set of restrictions shaped and formed by personal experiences, values, and insights, some scholars have defined knowledge in terms of how or where it resides. According to Davenport and Prusak (1998), knowledge is something that exists in in people's minds in the personal context. In the context of an organization, knowledge is something that is manifested in the organizational norms, processes, routines, and practices. Others have defined knowledge in terms of what it leads to as knowledge considered an enabling factor in improving performance, solving problems and making decisions, Liebowitz et al. (2000); Probst et al. (2000).

In another definition, knowledge consists of insights, procedures and experiences that are valid and accurate, Spek & Spijkervet (1997). This is in keeping with the positivistic school of thought, which considers knowledge as nothing but a justified true belief, Spender (1996), Chiva and Alegre (2005). However, the positivistic school also contends that knowledge is an independent entity, and does not depend on the knowing subject; instead, it exists of its own accord independently before the knowing subject started his or her quest for it, Chiva & Alegre (2005). The positivistic scholars consider knowledge as a commodity that can be generated, transferred or acquired by people or organizations, while the non-positivistic scholars believe that knowledge is socially constructed reality that is dependent upon the social interactions and contextual discourses and behaviors of the people, Chiva and Alegre (2005). Therefore, according to this approach, knowledge is a dynamic process, an activity that is performed or done. It is a practice rather than an object.

Since the current research attempts to use Hofstede's cultural dimensions to profile country's National culture and use it to study the impact of local culture on KM processes, we adopt the definition of Nonaka and Takeuchi (1995, p 62). They define knowledge as a contextually situated human process of seeking justification for personal beliefs about the truth. Wiig (1994) added on to this definition by emphasizing that knowledge imbibes in itself beliefs, expectations, and subjective judgments. Thus, according to these scholars, knowledge is heavily tainted by the "personal". It is the information that has been interpreted in the context of experience and culture.

The reviewed literature and the work of the domain scholars suggest that knowledge defined as processed information shaped and influenced by local and surrounding culture through a process modeled by inherited ideas, experience, intuitions, and skills.

This definition is culturally oriented and observes the evident societal influence on knowledge conversion process.

2.3.1.1 Knowledge Type

The next definition that needs focus is knowledge classification or knowledge type. It is vital to define knowledge within its type because this alone can help in determining the suitable process of knowledge management, Bhagat et al. (2002).

Spender (1996b) pluralistic approach classified four types of knowledge. He considered Conscious, objectified, and automatic knowledge as an object thus as a commodity, and collective knowledge as a process and socially constructed thus it is dependent on the context (user, situation, culture). This view closely aligned with the contention that knowledge is culturally dependent, as it assumes that knowledge is rooted in historical, social, and cultural contexts, and developed as well as acquired through participation, Nicolini et al. (2003).

The work of Winter (1982), Nonaka (1994) and (Polanyi 1967) to understand the nature of knowledge from pluralistic perspective distinguish between the most popular knowledge types of tacit and explicit. It argues that the interaction between these two types of knowledge is vital for knowledge creation, Nonaka and Takeuchi (1995). It Also explains that Knowledge could be transferred from tacit to explicit and vice versa, and continuously being transferred creating a continuous learning process or what is known as the knowledge spiral.

Their emphasis on tacit knowledge as the origin of human knowledge, and Nonaka and Takeuchi SECI Model direct our attention to the social aspect and the interactive nature of knowledge creation and knowledge acquisition and form the foundation of the research objective that suggests heritage and national culture may affect knowledge process.

2.3.1.2 Tacit Knowledge

Polanyi (1958, 1967) attributed with developing the concept of tacit knowledge, which is contrasted with scientific objectivism proposed by Locke (1948) and Hume (1978). According to Polanyi science is not always conclusively objective; instead, there is always a personal intuitive aspect, and this is the root of tacit knowledge. According to Nonaka (1994), knowledge is based on internalization of some intuitive understandings about situations or theories, and this forms the basis of what is called tacit knowledge.

Wilson (2002) criticized Nonaka and Takeuchi separation of tacit and explicit knowledge and argued that they have misinterpreted the meaning of Polanyi's concept of "Tacit" and that Polanyi's key point

was that tacit knowledge means hidden knowledge, even from the consciousness of the knower. As such Nonaka and Takeuchi's approach to tacit knowledge is becoming a "mystic" or "inexplicable" starting point of knowledge creation, Hakkarainen et al. (2004, P.24).

The research argues that it is difficult to define this type of knowledge as it resides within people (or in communities) and dependent on the context, yet Tacit knowledge can be understood most appropriately as the know-how, the intuitive, and experience-based knowledge, Kostova (1996).

2.3.1.3 Explicit Knowledge

Explicit knowledge is what we know as formal, objective, coded information that makes sense quickly. It is easily transferable because it can be stored, coded, retrieved and shared easily. It is available widely through communication systems and can be collated, documented and used based on a specific set of protocols and procedures, de Pablos (2004), Polanyi (1962).

2.3.1.4 Tacit Knowledge Vs. Explicit Knowledge

It is easy to contrast tacit and explicit knowledge statically. In reality, it is possible to see a continuum of tacit to explicit and explicit to tacit knowledge transfer and flow, Adler (1996). For example, the tacitly held knowledge of an artisan can be broken down into a set of actions, activities and best practices, then codified and documented and then taught to others. In the same way, by acquiring additional explicit knowledge through research or reading books, an expert can further improve his or her tacit pool of knowledge. However, tacit knowledge can only be acquired by embedding oneself in the context and using personal reflection, and active interaction with experts, Wenger et al. (2002); Brown and Duguid (1991). On the other hand, explicit knowledge obtained through reading, learning and following a pattern of practice. In the same way, tacit knowledge transfer between people is dependent upon cultural and ethnic contexts, Korac-Kakabadze and Kouzmin, (1999). In some cultures, storytelling is the preferred way of transferring learning, Wenger et al. (2002); Brown and Duguid (1991), while in others it could be done using symbols or verbal representations, Ginsburg et al. (1981)

Owing to the understanding of knowledge to mean tacit as well as explicit knowledge, and taking the Nonaka definition of knowledge as a personalized and an internalized construct, this research focuses on how tacit knowledge can be transferred and how culture impacts upon its transfer.

Tacit knowledge largely consists of attitudes, beliefs, mental models, values, skills, and expertise. It is difficult to document, capture and transfer but can be observed through involvement and active participation Nonaka (1994); Polanyi (1957). This may suggest that tacit knowledge susceptible to humans' ability to, communicate or to other socially and culturally induced behaviors.

The next section, therefore, focuses on knowledge management process, where knowledge considered tacit and culturally dependent.

2.3.2 Knowledge management

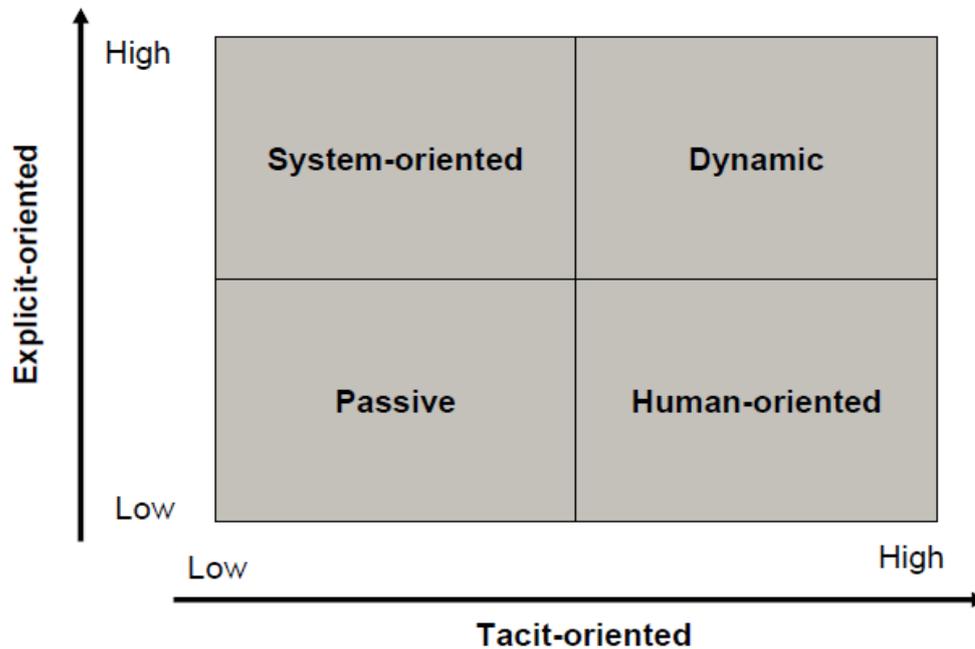
In today's era of globalization, markets are highly competitive and complex. There has been an increasing realization that knowledge is a potent resource for creating unique competitive advantages.

Leibowitz (1999), states that knowledge management initiative in any organization needs to be geared at improving the organizational competence via knowledge assets. Knowledge management involves identification and documentation of knowledge with the objective of improving organizational performance, Anderson (1996). It is more than just that; it ensures that the right knowledge is made available to the right people at the right time; hence, it includes a component of relevance and applicability, KPMG (1998).

One factor that is enabling companies to compete on is knowledge, as tacit knowledge is increasingly being recognized as a key to innovation and progress, Dosi (1982, 1988). Tsoukas (1996) states that tacit and explicit knowledge are equally and jointly constituted and principally inseparable as Nonaka & Takeuchi (1995) "knowledge spiral" model for knowledge creation demonstrates the interaction between tacit and explicit knowledge and proposes the processes of the conversion of knowledge in tacit to explicit state.

As such, there have been numerous empirical, industry-specific researches to capture what comprises of the knowledge management processes in practical world, Weir and Hutchings, (2005); DeLong and Fahey (2000).

Figure 1: Knowledge Management Process (Choi and Lee, 2002)



Knowledge management is considered as an intervention aimed at improving knowledge assets and making them more viable and amenable to be used for making organizations effective, Amelingmeyer (2000); Probst et al. (2000); Probst (1998). In a different take at knowledge management, using the framework of tacit and explicit knowledge, Choi and Lee (2002) show that knowledge management process could be system-oriented, human-oriented, or dynamic, and passive (Figure1).

Several scholars have proposed knowledge management models and frameworks. In the context of the research objective and from literature review, following is a list of models that address human social interaction and culture in knowledge management.

Table (1) Knowledge Management Models and Approaches

Author	Models- Approaches
Poynder (1998)	Knowledge management related to human resources with an emphasis on organizational culture and the formation.
Swan et al. (1999)	Community-based models emphasize the collaboration networks. These models exploit knowledge based on the interaction between individuals.
Alvesson & Kärreman (2001)	Community-based models derived from social interaction and managerial intervention.
Lee & Kim (2001)	Management model based on “knowledge worker” development as relevant to leadership, autonomy, performance measures and reward, organizational structure and culture.
Schultze & Leidner (2002)	Subjective model consider knowledge as inherently identified and related to human experience through social practice, as seen in communities of practice Brown & Duguid (2001); Thompson & Walsham (2004).

2.3.2.1 Knowledge Management process

Knowledge management is as a process by which organizations can coordinate and manage their knowledge to create new knowledge, with the aim of obtaining competitive advantage, Inkpen (2000). Schwartz (2005) defines Knowledge management as a process of converting unstructured information to the well-defined knowledge base that could add to the organization's problem solving and decision-making abilities. Leibowitz (1999) therefore postulates that knowledge management is a process by which organizations create value from intangible resources and processes for improving their performance. Typically, knowledge processes include activities such as creation, sharing, storage, and usage, Alavi and Leidner. (2001).

Most models of knowledge management have four processes, knowledge creation, knowledge storage and retrieval, knowledge transfer, and knowledge application, Alavi and Lidner (2001). This also found to be the case by Shin, Holden, and Schmidt (2005) as they summed up knowledge management as a process involving the creation of knowledge, storage of knowledge, distribution knowledge and its application. Other scholars have found that knowledge management involves the acquisition, protection, conversation, and application, Gold and Malhotra (2001); Park (1991).

While there is little consensus among scholars on the knowledge management process, there is some understanding of what the goals of knowledge management are and how these are to be achieved. Love et al. (2005) contend that, it is a process by which organizations acquire, store, refine and disseminate knowledge.

2.3.2.2 Knowledge Conversion

An associated term with knowledge management is knowledge conversion processes, a term that is not defined or understood but mostly means the process by which knowledge mobility is acquired. Berdrow and Lane (2003) suggest that knowledge moves through knowledge transformation, knowledge transfer, and knowledge harvesting. Knowledge transformation occurs when people face new situations and use insights or parallel precedence to generate new solutions. Knowledge transformation can occur by chance, but wise organizations create situations that encourage knowledge transformation.

Nonaka and Takeuchi (1995) however claim a different kind of conversion that speaks about the mobility or flow of knowledge. According to these scholars, knowledge transferred from tacit to tacit via socialization, from tacit to explicit via externalization, and from explicit to tacit via internalization. Nonaka and Takeuchi (1995) model is, however, a more expansive model of knowledge management and is discussed thoroughly in later sections.

From this broad understanding of knowledge management and knowledge conversion processes, the research proposes more comprehensive framework of knowledge management processes and its success factors linked to Knowledge economy drivers in the context of national culture as profiled based on Hofstede cultural dimensions. The next section discusses the different models for knowledge management.

2.3.2.3 Knowledge Creation

Knowledge processes believed to be a structured coordination for managing knowledge efficiently, Gold; Malhotra; and Segars (2001, p. 185–214).

Nonaka and Takeuchi (1995) introduced their structured model for managing Knowledge creation as a dynamic and continuous process involves the conversion of different knowledge types whereby groups and individuals within and between firms share tacit and explicit knowledge leading to the generation of new knowledge created in a spiraling process of conversion of tacit to explicit and explicit to tacit. For knowledge conversion, the research adopts the SECI (socialization, externalization, combination, internalization) model by Nonaka and Takeuchi. Criticism and shortcomings addressed later in this chapter.

Nonaka and Takeuchi (1995) SECI model conceptualized knowledge management processes in the context of Japanese organizations where socialization was found to be an apt mechanism of knowledge creation by other scholars in different contexts as well. For example, Weir and Hutchings (2005) contend that since in Arabic cultures, social networks play a crucial role even in business operations, socialization is a useful tool/process for knowledge creation. However, Weir and Hutchings (2005) also point out an essential difference between the Western and the Eastern contexts of knowledge creation. According to them, Arabs are not comfortable sharing tacit information in explicit forms, yet they suggested that socialization happens quite effectively in the Arab context.

Also, in the Arab world, there is a strict difference maintained between business or work life and personal life, the process of internalization of explicit knowledge (which is business related) is not

smooth. People appear to shut off their business mind once they go off work, and this makes it difficult for them to imbibe the learned explicit knowledge continuously and contextually, Weir and Hutchings (2005). On the other hand, the cultural substructure of Arab societies is, arguably, especially supportive of networking as strong aspect of communication. In the Arab world of the GCC countries, there are strong presumptions in favor of sharing information first and preferentially with those whom one is bonded in other ways than business expediency, Sultan, Weir, and Shalhoub (2012).

2.3.2.4 Knowledge storage and knowledge retrieval

Lin (2007) explains that knowledge storage implies a conversion process forming the organizational memory, in which knowledge formally stored in physical memory systems and informally retained as values, rules, and beliefs that are associated to culture and organizational structure, Alavi & Leidner (2001); Argote et al. (2003). Zack (1999), added that knowledge use is associated with the ability of individuals of an organization to locate, access, and use information and knowledge stored in the formal and informal organization memory systems

2.3.2.5 Knowledge Transfer

Knowledge transfer has been defined variously, as knowledge dissemination, which is the process by which transfer of knowledge occurs between people, groups or organizations, Alavi and Leadner (2001) or knowledge sharing which is just another term used to define knowledge transfer between people or groups , Davenport and Prusak (1998).

Knowledge transfer is a process by which organizations acquire, disseminate or share knowledge Hakanson and Nobel (2001); Magnini (2008); Zahra et al. (2000); Bresman et al. (1999); Pralahad and Hamel (1994); Schulz (2001); Lyles and Salk (1996). Knowledge harvesting is an active nurturing and capturing of the knowledge that is being created or acquired, Berdrow and Lane (2003).

In yet another definition, knowledge sharing or transfer is defined in terms of the systematic steps that are needed for the exchange of information between people or groups, Connelly and Kelloway (2003). The term Knowledge Exchange has been increasingly adopted. The term reflects a broader range of methods, disciplines, and forms of knowledge, not captured by the domains of Knowledge transfer, Davenport (2013). Nevertheless, the movement of knowledge from one point to the other is dependent upon a variety of factors and impacts on the quality of knowledge transfer. For example, according to Chennamaneni (2006), both people and systems issue has an impact on the knowledge transfer process. For example, knowledge transfer depends upon the availability of the tools, processes, and systems for the physical transfer of knowledge. The human factors nevertheless operate more complexly and range from the ability to the willingness of the people involved. Therefore, people need to have the ability to use the knowledge transfer tools and systems, and the will and motivation to share knowledge with each other. These human factors, in turn, depend on organizational factors like organizational culture, leadership and organizational trust; and personal factors like personal beliefs and values related to knowledge sharing. Both organizational and personal factors are developed in the context of the national culture, Chennamaneni (2006); DeLong and Fahey (2000); Alawi et.al (2007).

National cultures impact upon leadership styles and organizational culture and also frame personal orientations, Michael and College (1997); Watanabe and Saenoo (2010); Ang and Massingham (2007). National culture influence organizational cultures and impact knowledge management processes in their ability to influence cultural and knowledge management actionable characteristics which influence the final processes of creation, assimilation, storage, conversion, combination, externalization, and transfer, Watanabe and Saenoo (2010); DeLong and Fahey (2000); Cameron and Quinn (2004); Schien (2006). Ultimately at a firm level, the knowledge has to be exploited to generate revenue to signal immediate growth, explored and converted to new products for future exploitation to signal future growth, Ang and Massingham (2007); March (1991). As such, any attempt to make organizations learning organizations or knowledge-based organizations would essentially require working within the cultural constructs of the locale. The same goes for converting a country into a knowledge-based economy, David and Foray (1995). Much research effort has been put into understanding how knowledge transfer is impacted upon by the cultural patterns as well as personal cognitive styles of people involved in the process of transfer, Liu (2010).

Knowledge Management Processes terms Table (2)

Process	Connotations
Acquisition	A process of transformation in which knowledge migrates from its explicit form to the tacit one, Nonaka & Takeuchi (1995).
Creation	Knowledge creation starting from the skills of individuals, Pacharapha & Ractham (2012).
Storage	Storage forming an organizational memory, Walsh & Ungson (1991).
Retention	Retention of knowledge generated by individuals and socialized in groups, Yigitcanlar et al. (2007).
Exchange	Dissemination of knowledge between individuals through continuous social contact, Levine & Prietula (2012).
Application	Knowledge of the firm being exploitative (reactive form) or explored, Cohen & Levinthal (1990).
Transfer	A process Involves great participation of source (sender who shares the knowledge) and receiver (who acquires the knowledge) Liyanage et al. (2009)
Sharing	People-to-people process where individuals mutually exchange knowledge (two-way) Liyanage et al. (2009)
Retrieval	Retrieval and transformation of knowledge acquired by promoting the expansion of the organizational knowledge base, Walsh & Ungson (1991).

2.4 Knowledge Management Models

Frameworks models are widely used in the domain of knowledge management describing components, designs and technical architectures and their interdependencies; cf. Hahn & Subramani (2000), Heisig, (2009). Bhagat et al. (2002) explains that just like any other model or framework, knowledge management frameworks were created to accomplish common understanding of the domain, Maier (2007), to introduce a structure approach and practice, Grover & Davenport (2001) and to identify gaps in researches and literature, Alavi & Leidner (2001), Grover & Davenport (2001). In the context of the research and as explained above, several models addressed culture as a critical aspect, Leidner et al. (2006), De Long & Fahey (2000). Heisig (2009) analyzed around 160 frameworks to identify the following most essential components and success factors:

- Human-oriented (People)
- Organization (processes)
- Technology infrastructure (Technology)

This will be used and called through the research; knowledge management processes enablers as they enable knowledge management processes activities recognized in most models. Thus, typical knowledge management activities like knowledge sharing are strongly influenced by culture, Pawlowski and Bick (2015).

DeLong & Fahey (2000) believe that 80% of knowledge management relates to people and organizational culture and 20% relates to technologies of knowledge management. Accordingly, present culture in an organization has been vital to the success of knowledge management.

We will review De Long and Fahey (2000) model as it indicates the list of culture and knowledge management characteristics as intervening variables, which link culture to knowledge management.

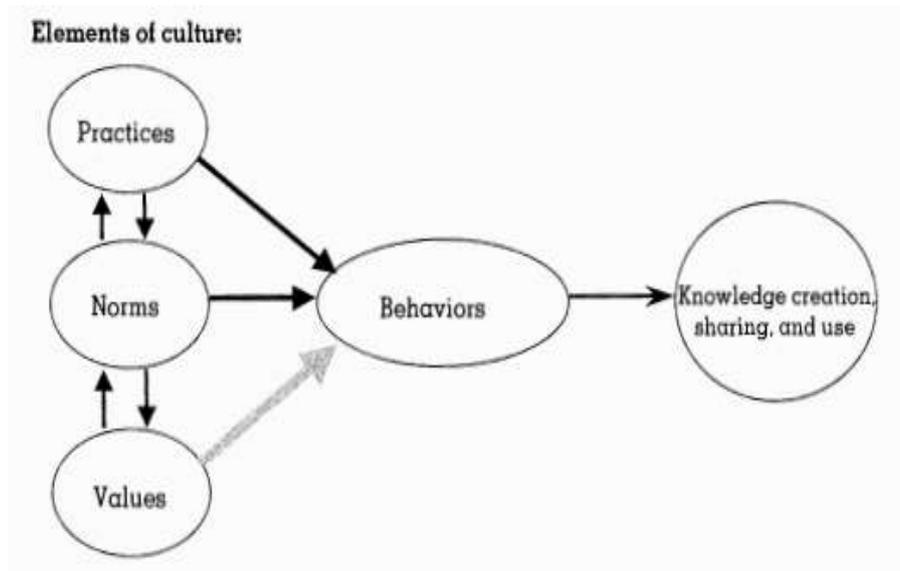
2.4.1 De Long and Fahey (2000)

De Long and Fahey (2000) identified multiple Frameworks Linking Culture and Knowledge. The four frameworks are more of a diagnostic tool and it became a prescription for knowledge management. They enable management to understand how culture may be shaping the behaviors of the people, which in turn affects knowledge management process within the organization.

Framework 1

The first framework is about how people in a group determine what consists of knowledge. Culture determines what knowledge is, and what knowledge is more relevant or essential knowledge that should be managed. So, while the organization may have a clear understanding of what knowledge means, subgroups like departments or divisions may not conform to the same understanding of knowledge. This indicates an underlying problem in knowledge transfer. If two groups, who want to transfer knowledge, are unable to come to terms on what exactly is the relevant knowledge to be transferred, there can be a stalemate.

Figure 2: Framework 1 Impact of Culture on Knowledge Sharing



Source: (De Long and Fahey, 2000)

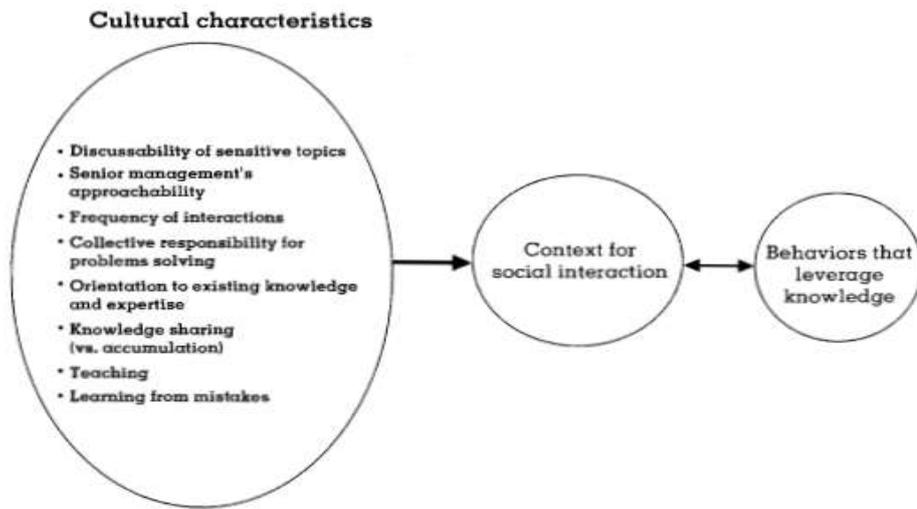
Framework 2

Culture also determines the relationship by which individual and organizational knowledge are connected. It sets the initial rules about what knowledge belongs to the organization and what knowledge belongs to the individuals. This means, it is the culture that dictates which person should have access to what information, who can keep the knowledge to themselves, and who should share knowledge with who. The impact of culture is thus that it can prevent individuals from sharing their tacit knowledge with the organization, if that is how they have been brought up to think that sharing should not be done. Culture determines if there is enough trust between people and groups that knowledge sharing can be undertaken smoothly.

Framework 3

Culture also enables the context within which social interaction occurs and which determine the knowledge can be used in the given context. There are particular culture based unwritten rules about who should be questioned and who should be answered, as well as about the best practices to indulge. These rules determine people's knowledge sharing behaviors between vertical and horizontal communications and interactions.

Figure 3: Framework 3 - Cultural Characteristics Determining the Context of Knowledge Sharing Behaviors



Source: (De Long and Fahey, 2000)

Framework 4

Culture also determines how new knowledge would be created, given legitimacy and then disseminated.

Figure 4: Framework 4 – Creating and Adopting New Knowledge.



Source: (De Long and Fahey, 2000)

De Long & Fahey's frameworks are useful in identifying different areas in which national and organizational cultures may influence the behaviors of knowledge workers. However, this model does not give details of applying specific strategies or tools for managing knowledge regarding specific cultural contexts.

Considering the role of knowledge growth and Knowledge Management against a background of varying levels of transformation in the Middle East and North Africa, Weir (2007) investigates economic and infrastructural issues hindering knowledge development in the region opposed to rapid industrialization in other parts of the world. He discusses issues such as the influence of Islam and family business and explores traditions and cultural practices, which may hinder sharing of knowledge between the region and the international businesses dominated by the West.

In sum, the reviewed literature presents a wide range of knowledge management related issues and provides an outlook on the diversity and complexity of the various knowledge management dimensions especially from the perspective of national culture.

As explained in 1.5.1 and 2.1, the research will employ Hofstede's framework (2001) and argue that the profile of a national culture may influence the process of knowledge acquisition and knowledge transfer essential to the transition from a hydrocarbon economy to knowledge-based economy. This aspect, when linked to our use of Hofstede's and SECI models, contribute to the development of a culturally aware framework sighting the impact of national culture on the creation of a knowledge economy.

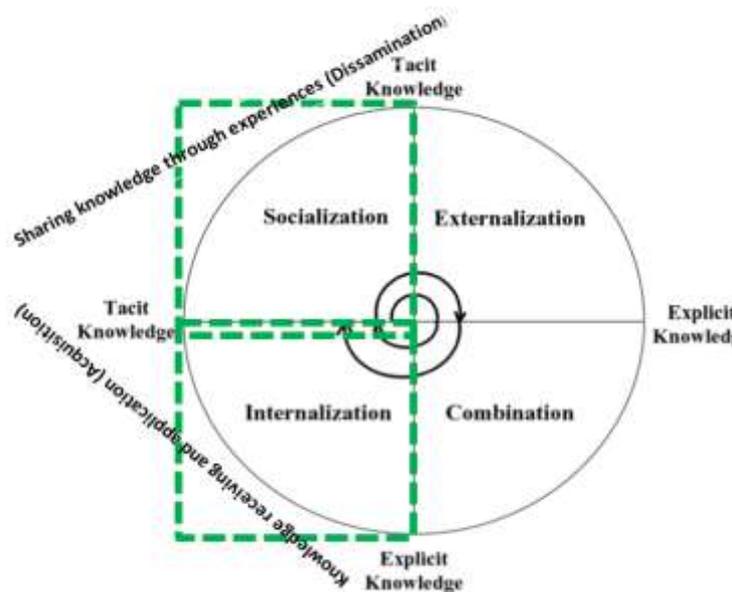
2.4.2 The SECI Model

Nonaka et al. (1995) have presented a more comprehensive understanding of knowledge management using knowledge as a competitive advantage in the context of Japanese firms. They focused on culture impact on knowledge creation and sharing of both tacit and implicit knowledge. Their model gives an understanding of how culture influences the conversion of knowledge, as well as in the movement of knowledge within the organizational context. The model draws on the works of previous authors in terms of identifying the enabling characteristics of (people, technology, processes), but also gives a more hands-on overview of how exactly the process of knowledge conversion and sharing takes place. This model gives more in-depth and practical insights about knowledge management and can be adapted to different settings to capture the knowledge management process of different organizations. It is for these reasons, the current study uses this model along with the cultural dimensions of Hofstede (1985), for the analysis.

Nonaka and Takeuchi (1995) Socialization-Externalization-Combination-Internalization (SECI) Model of Knowledge Conversion, is one of the most popular models that has been applied in the field, Von Krogh et al. (2000). This model uses the tacit and explicit types of knowledge and proposes four ways of combining and converting knowledge – Socialization, Externalization, Combination, and Internalization.

While hailed as an acclaimed model, SECI has several limitations. For example, according to Doyle (1985), Glisby, and Holden (2003), it is contextualized to Japanese management practices, which restrict its applicability in other cultures. Other scholars like Adler (1995), Tsoukas (2003) and Stacey (2001) have a problem with the model's dichotomy of tacit vs. explicit; since they believe both types of knowledge co-exist and impact each other. Bereiter (2002) on the other hand critic the underlying

Figure 5: SECI model
(Derived from Nonaka & Takeuchi 1996)



assumption of SECI, that knowledge creation is an internal process where humans have the unformed knowledge and this knowledge needs to be externalized and captured.

With all their limitations, Nonaka spiral model perceives knowledge creation as an ongoing process and the source of continuous innovation, Dubberly, H. and Evenson, S. (2011). Nonaka and Takeuchi developed the dyad of tacit knowledge, explicit knowledge, and directed all their efforts to describe the

dynamics between these two types of knowledge. New knowledge dyad composed of cognitive and emotional knowledge based on a “knowledge as energy” metaphor suggests a new dynamics emerged, Bratianu (2010).

As the research aim at investigating National culture impact on knowledge creation and knowledge acquisition, Nonaka and Takeuchi SECI model is adopted as the central assumptions of this model is it define knowledge as a justified true belief. A definition that accent knowledge as fundamentally related to human activity. It means that knowledge creation process as described with respect to a given cultural framework is at a microscale the cultural horizon of an individual, and at macroscale the cultural horizon of a country, Bratianu (2010). The model proposes that the process of knowledge conversion starts through the process of socialization. Through socialization (observing others, talking to experts, practicing with experts, experiencing, getting guidance), people acquire tacit knowledge from the experts, Nonaka and Takeuchi (1995). Thus, Socialization enables transfer of tacit knowledge to tacit knowledge. However, tacit knowledge converted to explicit knowledge through the process of Externalization. Tacit knowledge can be broken down to bare facts and codes, documented, developed into reports and manuals, and these can be easily accessible to all.

The combination is the process by which the already explicitly available knowledge is combined, collated, meshed and analyzed to generate new knowledge.

Internalization happens when people use this explicit knowledge, learn it, internally process it and connect it with their current learnings. Internalization process also marks the subjective interpretation of the acquired knowledge in terms of an individual's values, beliefs, attitudes, and skills. Once this knowledge is internalized, it adds to the tacit knowledge pool and can be transferred – either to people (as tacit knowledge) or to documents (as explicit knowledge)

2.4.3 Knowledge as Technology

The previous discussion on knowledge, knowledge types, knowledge creation, transfer and conversion processes, and knowledge management paradigms have revealed the complicated and culturally rooted aspects of knowledge management. However, until now, the discussion had not delved on what constitutes of knowledge, and it is now essential to discuss what knowledge means in the context of this research. The current research considers (in part) knowledge as technology, the crucial element required by Qatar to transition to a high growth rate economy. Technology as knowledge has been identified by Kogut and Zander (1992, 1993), and Pavitt (1985).

It is the technology-related knowledge that is now the focus of the following sections. Scholars and international institutions like the World Bank and the IMF have recognized that technology transfer is vital to the economic and social development of countries, Reddy and Zhao (1990). In fact, it is presumed that technology transfer has a multiplier effect on a country as it not only solves the current problems but also enables innovation or capabilities for creating further knowledge and problem-solving skills, Yamashita (1991). In the context of Qatar, technology is imported, which may or may not imply a successful technology transfer. For technology transfer to happen successfully, it is needed that the transfer occurs using knowledge management principles and approaches that are culturally relevant. Successful technology transfer would imbibe technological adoption and application to generate indigenous innovation, Government of Qatar Planning Council (2007).

Also, technology transfer needs to include a transfer of both specific technology as well as the implicit aspects of it, especially when it is a patented technology or generated within a firm, Polanyi (1967); Nonaka (1994). In addition, technology is often embedded in cognitive processes and is essentially tacit in nature, Lin (2003), and Sinani and Meyer (2004).

2.5 Knowledge economy

Department of Trade and Industry of U.K defined The Knowledge economy as “One in which the acquisition and creation of knowledge has come to play the predominant part in the creation of wealth. It is not simply about pushing back the limits of knowledge; it is also about the most effective use and

exploitation of all types of knowledge in all manner of economic activity” (Competitiveness White Paper 1998).

The Knowledge economy expected to form the Third Wave, after the Agricultural Revolution and the Industrial Revolution, but it is not a disruptive change, but rather an evolutionary change in the way businesses are operated, David and Foray (2002).

It is an emerging concept, where countries are aiming mainly to develop based on industries and organizations that are knowledge-based and which are expected to provide a substantial part of the national GDPs, Government of Qatar Planning Council (2016). Thus, there is a shift from a focus on capital and physical assets to information and knowledge assets. Countries with knowledge-based industrial base primarily comprised of ICT are therefore geared toward a knowledge economy (ESRC, 2005). However, this is a narrow view of the knowledge economy, as it is not just a plethora of high-tech companies within a country; rather it is a mix of diverse industries, traditional and high-tech, that operate on sturdy principles of knowledge management, Leadbeater (1999).

2.5.1 Characteristics of the knowledge economy

Joanne Roberts (2009) described the Characteristics of knowledge economy in terms of growing importance of knowledge as an input into the economy complemented by increasing importance of information and communication technologies. At the other end, the raising importance of knowledge as an economic output and the growing commercialization of knowledge justified the growing proportion of knowledge workers. He also noted that the rise of knowledge management practice was due to the increasing impact of knowledge across all sectors of the economy.

2.5.2 Component of Knowledge Economy

The knowledge-based economy could be described as an economic system in which a large portion of the population are involved in creating and consuming knowledge in form of products and services. This ultimately leads to a large percentage of the nation’s Gross Domestic Products (GDP’s) will be generated by these knowledge products and services, (N.J.Jooste Professional’s Knowledge Network - Proknownet). It has been argued that knowledge has become the only resource that can create continuous competitiveness for a firm or a nation, Roberts (2009).

Know-What and Know-Why are explicit components that relates to the knowledge about facts and the rationale behind those facts respectively. Both these components can be obtained in the form of reports and researches. Know-How is the practical skills knowledge, and Know-Who is the knowledge about who knows what, and both these are implicit and depend on personal experiences and culture. Any purchase of technology would make the buyer owner of the Know-What and Know-Why, but the transfer of Know-How and Know-Who is difficult and embedded in the cultural context, Nacheff and Jantan (2014). A knowledge economy is therefore required to ensure that all components of knowledge

are operational and managed effectively in all its sector which in turn could foster assimilation of knowledge and facilitate innovation and further knowledge creation.

2.5.2.1 Procedural Knowledge

Procedural knowledge refers to “know-how” as how to perform a specific task or activity. It signifies the embedded experience and deals with information about how something occurs, Zack (1999). The Know-How is the actual implicit knowledge about how to take the best course of action in a given situation, is mostly developed with experience and intuitively, and in a uniquely personal and cultural context, Nonaka (1994). It is stored mostly in the minds of the people, in their memories and is deeply enmeshed with their beliefs, values, and cultural backgrounds as well as their personal skills and expertise. This implicit and culturally situated aspect of tacit knowledge makes it difficult to transfer, either explicitly or implicitly, Nonaka (1994), Polany (1957).

2.5.2.2 Declarative Knowledge

As Chi (1981) explained, declarative knowledge is the knowledge about facts and concepts. Turner (1994) further described declarative knowledge as it presents the information relevant to a specific situation. He added that this information may also contain suggested actions as deemed appropriate to take to achieve goals as well as recommendations for efficient problem-solving strategies

2.5.2.3 Strategic Knowledge

Chi (1981) also described Strategic knowledge as the knowledge of heuristic rules that are applicable across several domains. The process of rehearsal, as an example, considered a heuristic rule, as the process is relevant and applicable and not domain specific.

2.6 Knowledge economy and knowledge management

Shanhong (2002) presented Knowledge management, a sub-discipline of the new concept of the knowledge economy as a new concept of management that seeks the transformation of the intellectual qualities of the staff of an organization with competitive power and new value.

Further confirmed by Soete (2006), he supported the idea that moving to a new social paradigm, in which the importance of knowledge as input for economic processes, has fundamentally changed. He explained that both knowledge types of explicit knowledge, which can be articulated, and tacit knowledge, which exhibits in its application depends on individuals as the primary agents of knowledge acquisition, creation, and dissemination.

2.6.1 Knowledge economy indicators

Knowledge is an intangible resource, and it is primarily the input and output of knowledge economy. Therefore, the traditional indicators cannot measure the performance of knowledge economy. The World Bank has developed The knowledge Economy Index to help countries to measure their transition to a knowledge economy. The KEI based on following four pillars

Economic and institutional regime.

Education

Information and communication technologies infrastructure

Innovation

2.7 Culture

According to Hofstede (1984: page 51), culture is "the collective programming of the mind which distinguishes the members of one category of people from another". House et al. (1996) proposed similar definition presenting culture as a collection of factors that are attributable to a particular group. However, anthropologists and social scientists have also studied what exactly comprises of this culture extensively. According to Kroeber and Kluckhohn (1952) culture is a collection of behavioral patterns that are expressed or implied with symbolism. Holden (2002) states that culture is a collection of traditions and values which determine actions and behaviors of a group of people, while according to Long and Fahey (2000) it is a set of norms, values, and practices. In addition to the core definition of culture, other researches has also focused on culture in terms of business environments and operations, Weir (2007); Metaxiotis et al. (2005); Zhu (2004).

2.7.1 Culture and Knowledge Management

Davenport and Prusak (2000) model emphasize on the human interactions that enable knowledge flow and transfer in the organizational context. Though technology plays an essential role in providing a platform for knowledge management activities, these activities and processes are performed and maintained by humans who are culturally and personally limited. As such, authors' of conceptual frameworks of knowledge management takes into account the cultural underpinnings of behavior and has been tested in 39 organizations across the globe. In another model, Gupta and Govindarajan (2000) use a single case study to elaborate on how six organizational factors, namely, leadership, organizational processes, people, reward systems, structure and information systems are impacted upon by the single factor of organizational culture. These six factors are considered as essential for effective knowledge management. The elaboration of the organizational culture's impact on knowledge management is undertaken acutely, but the model is of limited scope since it is based only on the study of one organization.

Martin (2000) has supported Gupta and Govindarajan's (2000) six cultural factors and adds that knowledge management is a process akin to business management and needs to have systems and processes in place to make it effective. Martin (2000) suggests benchmarking and performance management activities to be invoked while managing organizational knowledge. He also contends that leadership, and top management support impact upon how knowledge is created, stored and shared in organizations. However, Martin (2000) does not put forward any well-defined framework or model for knowledge management. Instead, his framework suggests broad-based guidelines only.

Miller et al. (1995) view knowledge management in the context of cultural underpinnings of the organization and emphasize on the need to define culture accurately in terms of its complexity, emergence and evolution and key characteristics. According to Miller et al. (1995), organizational communications is the mediating factor between culture and organizational knowledge sharing. Culture determines the norms of communications and dissemination of information, and hence impact upon the knowledge management environment of the organization. However, like Martin (2000), Miller et al. (1995) too did not provide any model or framework for knowledge management.

On the topic of organizational culture, Cameron and Quinn (2004) through their competing values framework emphasize the requirement of different types of cultural stereotypes for the different generic type of organizational work requiring different control mechanisms such as control, collaborate, compete or create which are intrinsically linked to knowledge management. Schien (2006) goes on to add the crucial role of leadership in defining organizational culture and driving it to manage performance through knowledge management.

The link between national cultures and organizational culture to its performance through a bridge of knowledge management has been documents by Watanabe and Senoo (2010), and Delong and Fahey (2000). Delong and Fahey (2000), confirming the fact of knowledge management as a process and he linked the success of impact of culture to favorable promotion of actionable cultural characteristics which promote key actionable knowledge management processes. This model will be discussed in further details in this chapter.

Pearlson (2001) contends that knowledge management is a process impacted upon by the technology, processes, and people. He identified people as the most important aspect of knowledge management, their values, and belief systems; followed by processes, the sturdiness of organizational processes to support knowledge creation and dissemination and lastly by the tools and technology. Pearlson also views information technology as just a tool for managing information and not the core process of knowledge management. The organizational management is also relevant as it impacts upon the design and structure as well as the performance management systems. Pearlson deals with both explicit and implicit knowledge and discusses the development of information architecture within the cultural setting to acquire, manage and share both types of knowledge.

Rastogi (2000) determines the fundamental processes necessary for knowledge management, which imbibe a focus on culture and social environment. According to Rastogi, knowledge management requires organizations to create an environment of trust, cooperation and shared values and vision. The author also emphasizes the operational requirements of the organization that enable knowledge sharing and delves in detail on the six cultural factors provided by Gupta and Govindarajan (2000). Rastogi provided a comprehensive overview of the organizational requirements that should ideally be in place for successful knowledge management process to take place.

Von Krogh et al. (2000) present a different perspective on knowledge management per se and contend that management is a misnomer to be used in terms of a process that is not under anyone's control. Knowledge, according to Von Krogh et al., can only be enabled and not managed, Thus, instead of controlling it, the authors suggest developing capabilities and resource that could enable the creation of knowledge and its sharing between different people. This involves ensuring a conducive organizational culture and social setting that creates trust and cooperation.

2.7.2 Cultural Dimensions of Hofstede

Yielded from the literature reviewed in section 2.7.1, Knowledge management is entrenched in cultural understanding and knowledge processes. Knowledge management cannot be studied without the consideration of cultural influences, as it could be critical in supporting, hindering knowledge sharing, or knowledge creation. Mark Koskiniemi, VP of Human Resources, Buckman Laboratories suggested that successful knowledge sharing is 90 percent cultural, 5 percent tools and 5 percent magic. He added that all the technology and tools in the world will not make you a knowledge-based organization if you do not establish a culture that believes in sharing, Greengard (1998).

Cultural models define patterns of basic problems that have consequences for the functioning of groups and individuals, Kluckhohn & Strodtbeck (1961). The following models of national cultures are widely employed and cited in relevant literature and being used in KM studies. The following Table list models proposed by Kluckhohn and Strodtbeck (1951, 1961), Hall (1977, 1981), Hofstede (1980, 2001), Adler (1991) and Trompenaars (2002) as each of them focus on diverse aspects of social beliefs, norms, and values.

Table 3: Models of National Cultures

Discipline		Cultural dimensions	
Kluckhohn, Strodtbeck (1951, 1961)	anthropology	<ul style="list-style-type: none"> • relationship with nature • relationship with people • relationship with time 	<ul style="list-style-type: none"> • human activities • human nature
Hall (1977, 1981)	anthropology	<ul style="list-style-type: none"> • context (low vs. high) • space (center of power vs. community) 	<ul style="list-style-type: none"> • time (monochronic vs. polychronic) • relationship (deal vs. relationship-focused)
Hofstede (1980, 2001)	organization science	<ul style="list-style-type: none"> • power distance (low vs. high) • uncertainty avoidance (low vs. high) 	<ul style="list-style-type: none"> • individualism vs. collectivism • masculinity vs. femininity • long-term vs. short-term orientation
Adler (1991)	organization science	<ul style="list-style-type: none"> • human nature • relationship with nature • individualist vs. collectivist 	<ul style="list-style-type: none"> • human activity (being vs. doing) • space (private vs. public) • time (past vs. present vs. future)
Trompenaars (2002)	organization science	<ul style="list-style-type: none"> • universalism vs. particularism • individualism vs. communitarianism • affective vs. neutral 	<ul style="list-style-type: none"> • specific vs. diffuse • achievement vs. ascription • time • internal vs. external

Source: Szabo et al (2010)

2.7.2.1 Hofstede Framework

Though culture is expressed as a collective identity of a community or a group, it dictates much of individual action as well, Hofstede (1991). Hofstede (1980) developed a framework that can distinguish cultural traits and help analyze people's behaviors in a cultural context. Hofstede analyzed data from a multinational company (IBM) and its 53 regional subsidiaries to reach his established work on national cultures dimensions. Reservations about the representativeness of the population is considered the most critical criticisms of Hofstede's claims.

Hofstede investigated national culture as an assumed uniformity that forms shared values. His realist and deterministic assumptions commanded his research into national culture through careful collection of data from large stratified samples, and analyze data with statistical techniques designed to support and produce objective results. The dimensions of his model purport to be universally applicable, Taras, Kirkman, and Steel (2010). Hofstede presented and defined characteristics of national culture that could be used to describe and explain the social and cultural phenomenon, Williamson (2002).

As the research implies that knowledge management processes need to take into account the individuals cultural learning styles and cognitive abilities, it employs Hofstede's framework (2001) and argues that the national culture profile may influence the knowledge acquisition and knowledge transfer process essential to the transition from a hydrocarbon economy to knowledge-based economy.

According to Hofstede (1980), there are five discriminating dimensions

Collectivism vs. Individualism

Collectivism vs. Individualism is the first dimension recognized by Hofstede (1980), and it is presumed to form discrimination about how people see themselves and their aspirations, Triandis, (1995); Early & Gibson (1998). In collectivistic societies, personal aspirations are not applauded. Instead collective decision-makings and collective good are the guiding factors. On the other hand, in individualistic cultures, personal evolution and achievements are considered as merits, Lee & Choi (2005).

Power Distance

Institutions typically have a power distribution, but the extent to which inequality on this power distribution is acceptable defines the power distance dimension. The followers and the leaders alike expect, accept and maintain inequality in power in organizations or cultures, which are high on this dimension.

Femininity vs. Masculinity

This dimension represents the attributes of masculinity – aggressiveness, assertiveness, and attributes of femininity, modesty, caring, relationship-oriented. In societies that are high on Masculinity, aggressive and competitive behaviors are respected while in cultures high on femininity, being humble and relationship management is considered as important, Hofstede et al. (1998).

Uncertainty Avoidance

Uncertainty Avoidance cultures tend to rely on the intense codification of knowledge, development of protocols and processes, and setting up of rules and regulations to ensure that uncertainty and ambiguity are reduced. Unstructured situations are the cause of fear, and hence people in high Uncertainty avoidance cultures develop inhibitions against changes or against more than one ways of doing work.

Long-Term vs. Short-Term Orientation

Long-term orientation defines the vision and thinking time frame of cultures that think and plan in terms of lifetimes or generations. On the other hand, short-term orientation is a characteristic of cultures that believe in obtaining maximum benefits now and for the current generation. All these dimensions are measured on a scale of 0 to 100, and Hofstede calculated a score for most cultures on the first five dimensions. However, this approach to cultural differences and the use of the dimensional scale has been criticized on several aspects, notably on the lack of robustness of the methodology. It has been asserted that the profiles developed by Hofstede were based on IBM studies, which used the scales for an entirely different purpose to calculate the impact of national culture on employee morale. Thus, the applicability of the scale to understanding cultural differences per se is moot. Also, the entire set of 117,000 questionnaires that was used for Hofstede's work was analyzed by a team of researchers who were European and American individuals, thus opening the possibility of cultural bias in analysis and interpretation. Also, the work was conducted in the late 1960s, which is more than half a century old now; and hence may be asynchronous to the today's world.

Nevertheless, Hofstede's work has been replicated in scores of other countries and cultural settings and has been found to be an accurate representation of cultural attributes, Hofstede et al. (2008). Based on this statement, next chapter will further justify and discuss the research adopted Hofstede cultural dimensions.

Deviating from the original purpose of Hofstede (1984,1991) four dimensions to define dissimilarities between societies, the research primarily adopts the four dimensions to culturally profile the country (The state of Qatar) and study the impact of such profile on the country's quest to transitioning to knowledge-based economy without subjecting the country to any cultural comparison.

2.8 Cultural Dimensions' Impact on Tacit Knowledge Transfer

Culture has a significant impact on knowledge transfer, as tacit knowledge transfer requires extensive personal contact, Davenport and Prusak (2000). In part, Culture plays a role in interpretation and use of tacit content of knowledge and its transfer. This is because the modes of learning and communications may differ based on the cultural backgrounds of people. Culture impacts on how people approach knowledge; accept it, and how they share it. For example, in some cultures, the tradition of story-telling ensures that a lot of implicitly held wisdom and knowledge is transferred to people orally. In other

cultures, there is a tradition of apprenticeship in all aspects of life, which ensures that the learner is embedded in a learning position and imbibes knowledge transfer on the job, Wenger et al. (2002); Brown and Duguid (1991).

2.8.1 Knowledge/Technology Transfer and National Culture

National culture is a level of culture that is expressed by a group of people bounded by a country's boundary. In addition to all the beliefs, values, norms and traditions, national culture can also make people assume a perspective that they are better than other countries. This narrow world vision may make them judgmental of others and may force them to stereotype other cultures, Maskus, (2003). Such stereotyping or misconceptions about each-others' beliefs or value systems may hinder the smooth transfer of knowledge and technology transfer, Autio and Laamanen (1995). Technology transfer requires both explicit and implicit knowledge transfer, and as such, specific plan of action needs to be in place to make it an accurate and worthwhile transfer when it is happening between two culturally diverse countries, Tepstra and David (1985).

The impact of national culture on economic activity within a country is through the modification of work-related behaviors which start from home, then through the education system and finally at the workplace.

2.9 Knowledge Gap

As significant literature exists in different but related fields, the literature review explored the link between culture and knowledge management process and to some degree on the knowledge economy. Based on literature reviewed in 2.7 and 2.7.1, the literature highlights the role of culture in the national economic development stating and how culture could describe a nation's economic development or lack of as nations, Welzel and Inglehart (2008); Beuningen (2007). A wide body of available literature discusses organizational culture influence on knowledge management process compare to limited literature investigating the role of national culture and how critical as it relates to the knowledge conversion process in the context of country's economic transition to knowledge economy.

Marked by the scarcity in literature on national culture and knowledge management process in the context of a knowledge-based economy, the available literature revealed clear research focus on knowledge management issues on micro level, as relevant to organizations' performance. This was further established by limited literature found on knowledge management related issues on a macro level and from national perspective. This suggest an evident gap in the literature and knowledge body.

A research gap was identified in the relationship between dimensions of national cultures and knowledge management processes as relevant to countries economic transitioning to a knowledge economy.

3 CHAPTER THREE: CONCEPTUAL FRAMEWORK

Founded on the previously stated research primary and secondary questions, this chapter will establish the research conceptual and analytical framework focusing on identifying and justifying adopted definitions and concepts. Aligned by the research aim and objective, the research investigates the relation between the National culture, knowledge management process and the progress of country's knowledge economy

3.1 Introduction

The current research adopts the Nonaka and Takeuchi (1995) Knowledge Conversion Model to investigate the influence of National culture dimensions on knowledge management processes in the context of Qatar's economic shift to a knowledge-based economy. It will also be referenced to map indicators used to rank Qatar on the World Bank's Knowledge Index to understand the national culture impact on various aspects of knowledge dissemination and conversion. The research uses Hofstede's dimensions to profile Qatar's national culture. Though Nonaka and Takeuchi (1995) have developed their model in the context of Japanese organizations, it is found useful in diverse contexts. Its applicability in the context of Arabic cultures is not well tested, though scholar, Weir and Hutchings (2005) contend social networks being important to Japanese, and the Arabic business operations too are impacted by social and cultural aspects, and as such, this model has been deemed adequate. However, there are particular cultural traits of Arabic people that need to be imbibed in using any model that has been developed in a Western context, and as such, cultural dimensions of Hofstede are used.

3.2 Cultural dimensions and knowledge management

Collison and Parcell (2004); Warne et al. (2006); Liew (2007); Johanson et al. (1977) have claimed that the movement of information is indeed impacted upon by the dissimilarities in cultures of the two nations trying to share knowledge as culture manifests the norms, values, and practices Geertz, (1973). Not only information but also Knowledge as shared resource is a set of shared beliefs that are developed and maintained through social interactions and constructs, Berger and Luckmann (1966).

Hutchings and Michailova (2007) studied knowledge sharing in the context of China and Russia and explored cultural traditions and communist influences on it. According to them, transition economies are attributed with a tendency not to share knowledge, but both Russians and Chinese are found to be ready to share knowledge more than their Western counterparts are. The researchers concluded that cultural and institutional factors both play a role in knowledge sharing.

Best and Kakkar (2007) researched Indian firms to analyze the cultural impact on Knowledge Management and found that political and bureaucratic systems and legal and cultural aspects were equally important for managing knowledge resources. In addition, there was a strong emotional connotation that detected by them in business, and which could influence knowledge sharing.

This discussion highlights the diverse ways in which culture can play a role in knowledge sharing. However, a more comprehensive framework for analyzing culture and its role could be found in Hofstede's framework.

The following are the ways cultural dimensions may impact on knowledge transfer:

Individualism/Collectivism dimensions may impact on how people like to share or acquire information and hence influence knowledge transfer. As Individualism and collectivism strongly influence ways of thinking, they impact how members of a culture process, interpret and make use of a body of information and knowledge, Bhagat, Kedia, Harveston, and Triandis (2002).

Power distance may influence knowledge transfer as people may not ask for knowledge or may not release knowledge due to the fear of violating the rules of the hierarchy, Bhagat & Kedia, (1988).

Uncertainty avoidance may be one of the factors by which knowledge transfer is restricted. By creating absolute structured situations to avoid uncertainty, the organization may lose out on the knowledge gained from unstructured situations. Stringent rules about punishment of risk-taking and written rules may make people focus on explicit knowledge only.

Masculinity/femininity may impact on whether people like to cooperate and share information or whether they want to keep others dependent upon them without sharing information.

3.3 Knowledge economy international indicators

Despite this growing importance of knowledge economy and its impact on various areas of contemporary life, the Arab states are lagging in both the educational systems and in ICT infrastructure. The research adopts the knowledge Index (KI) and the knowledge economy index (KEI) indicators for the study covering Qatar's transition towards a knowledge economy, and its progress from 1995 until 2012 (limited to data availability). The World Bank's Knowledge assessment methodology and Knowledge Index (KI) are used to assess a country on its capacity to manage knowledge. KI is developed by averaging the performance scores on key variables – human resources and education, ICT, and innovation system. In the same way, the Knowledge Economy Index (KEI) assesses the nation's environment in terms of its being facilitative of knowledge development, management and transfer. The GCC with the collaboration of UNDP have developed the Arab knowledge index. The data available in this is of 2015-later than that of the world bank. This index has been used as part of the study.

3.3.1 Human Resources and Education

Knowledge economy drives business organizations to look at their employees from a new perspective. In this economy, workers are the organization and knowledge is the output. Therefore, the existence of educated citizens and people with skills required for knowledge creation, acquisition and dissemination,

is critical success factor for any organization in a knowledge-based economy. Organizations were seen before as a collection of fixed assets, and now it has become a collection of ideas and workers considering “a human and intellectual capital” investing time, energy and intelligence in their work to achieve organizations goals and objectives, Drucker (1999).

The importance and the term of “human capital”, had appeared as an economic factor for the first time in the sixties of the twentieth century when Becker published a book called "human capital" Becker (1964). Then the concept was popularized in the nineties, as it became an accurate representation of the organization's ability to compete and achieve success. The real wealth of companies were no longer represented by its position and access to natural sources.

The economists Drucker (1993) considered knowledge not only as a source of the organization's resources but the most important of all. Knowledge is an intellectual capital represented by a group of workers who have the knowledge and organizational capabilities to produce new ideas, develop old ideas, and learn to enhance the work required to bring about changes and transformations in their organization's practices to maximize their competitiveness. Lang (2001) denoted that the knowledge worker is the capital of the organization because it is the first worker to use other factors of production to achieve the objectives of the organization. Economists and management scientists have pointed the importance of the human capital represented by knowledge workers in modern organizations. It has been many published literature of Western researchers on the subject urge the need to develop knowledge workers and their importance to the success of the organization. In his book "Good to Great: Why some companies Make the Leap and Others Do not" Collins (2001) disseminate the results of a study lasted five years about organizations that have achieved success in their work because of their investment in maintaining their human capital.

On the other hand, workforce training is particularly necessary on the national and institutional level. In the era of global opportunities, and the prospect of qualified labor movement and transition, continuous relevant training to the organization needs is an incentive provided by organizations to workers of high skill to convince them to stay and continue to work with them. Although there is a debate about the value of learning within the organization, a large number of managers fail to implement this strategy because of their focus on the work and management of profitability trends. Absentminded managers do not regard workers as assets, and a significant source of profit-making and organization should be willing to invest in them, thereby increasing the likelihood of future profitability.

In the global struggle for talent, Nations try to develop, attract and maintain the best human talent. International companies have become more focused on hunting skilled workers because the primary resource in the knowledge-based economy has become capable of transition. Nowadays organization has a deep awareness of the value of their human capital and higher price, which they are valued for in the knowledge-based economy.

To activate this wealth and draw maximum benefit from this resource and to strengthen its position in the knowledge-based economy, it has become the main challenge for companies and governments to develop effective strategies for human resource development. According to Drucker (1999), there is a gap between knowledge, action in the sense of a discrepancy between one's knowledge and the actual performance, and between what should be done, and what needs to be done.

Knowledge is a complex concept, and knowledge management is a process linked to the human mind and cannot alone ensure the use of the relevant knowledge to solve problems or improve production or enhance the competitive advantage of the organization. Bridging the gap between knowledge and action remains a critical administrative challenge in the knowledge economy, as knowledge owned by workers, but the responsibility lies first on the leadership of the organization to build a culture that inspires creativity and knowledge sharing.

3.3.2 Information and Communication Systems

The presence of well-developed and dynamic information and communications infrastructure is required to facilitate efficient information processing, communication, and dissemination. The most significant share of knowledge in developed countries was technology-produced, where 70% of the patents and the production of scientific and technological research attributed to researchers in industrialized countries. Inequality and disparity in knowledge production per capita between developed and developing countries are greater than disparities in income, Hutchings and Michailova (2003).

3.3.3 Economic Incentives and Institutions

The institutional frameworks have contributed to the knowledge-based economy by increasing level of foreign investment. For the knowledge-based economy to be more economically viable, and a central pillar of societal structure, it should adapt to internal environments, which requires action in restructuring all traditional financial, business and labor market policies, as well as externally for more economic incentives and openness to the concept of global trade.

As they enter the knowledge-based economy, some governments played a significant role in developing institutional frameworks essential to encourage and accommodate cognitive investment based on technology transfer and creative thinking as the cornerstones in any economic development and to dismiss (Undoing thing) concept and promote tolerance to new ideas of doing things.

3.3.4 Innovation

Innovation is dependent upon the network of universities, research and think-tanks institute's, private institutions, and national and community centers.

Innovation is a direct offshoot of creativity, but creativity is difficult to define. Economic Cooperation and Development Organization OECD defined creativity in terms of technical, scientific, commercial

and financial steps needed to develop and market new products. It is also defined as the effective methods and processes to acquire and adopt new technologies, and improve or introduce new ways of social services.

Research and development is just one component among others that contribute to innovation. This definition expands innovation to include the renovation and expansion of products markets and the adoption of new means of production and distribution, as well as changes to management and organizational structures and the required skills of the workforce.

Therefore, it can be presumed that creativity leads to the development of new products or new ways of production.

To succeed in the knowledge economy, States must encourage creativity, motivate and encourage the growth of a dynamic business whether big or small and the government should provide incentives for the business sector to develop creativity, whether in the field of production, processes or services. There is a model for the development of innovation system consists of several stages where the first phase is the acquisition of technology or knowledge, then understand and absorbing through practice and experience. In another stage, is to improve this technology or knowledge through additions and the final stage is the development and creating of inventions and new idea, Liew (2007).

The leading indicator for measuring the output of creativity and inventions is “patents,” and the primary indicator for research and developments is the investments and venture in research and development. Many international economic organizations like the World Bank and the Organization for Economic Cooperation and Development OECD and the General Conference for Asia and the Pacific APEC as well as many economists in the world work to find scientific standards and values of indicators for digital creativity and variables affecting it. One of the most important metrics was developed by the World Bank. They studied more than 120 developed and developing countries and through 88 indicators linked into four pillars, which are the economic incentives, innovation, education, and information and communications technology, which form Knowledge Economy foundation, World Bank Assessment Report (2005).

3.4 Knowledge economy and Arab culture

However, the western concept of the knowledge economy is only emerging now, while the concept of knowledge economy per se existed from times immemorial.

Prominent contextual studies that investigated and emphasized on dimensions of the rigid Arab culture, which explained the reasons for its weakness, studies of Iqbal (2013), Naihoum (2004), Sharabi (2005), Barakat (1993), and Issawi (2013).

Muhammad Iqbal attributes intellectual stagnation in the Arab and Islamic worlds to not allowing “IJTIHAD”. It means finding new meanings or new ways to do things, which is considered the main

engine in the development of intellectual perceptions and models needed for society to adapt with new developments. Iqbal believes that if “Ijtihad” continued, and played its role in various fields of life, visions to many fundamental things could have been changed.

From analytical perspective and based on major researches in contemporary social science, if “IJTIHAD” continued in the Muslim community and within the Arab community, the perception to the ruling relationship could have been changed, and democracy could have been adopted as an alternative to “SHURA”, which is a council that can only offer advice that may be refused if vetoed by the Amir or governor. Perception of women status in the society could have also been changed to ensure equality between men and women.

Barakat attributes Arab cultural inertia to traditional Arab value system that focuses on the past as opposed to the present, augments the arrest rather than free will, develop drawback other than remorse, and fosters docile other than innovation. It sustains the passion culture at the expense of the culture of the mind, focuses on the form as opposed to content, embodies the collectiveness on the individual account, and strengthens the closure on account of openness.

Sharabi suggest that the cause of the deadlock lies in the adoption of the patriarchy structure as a product of the prevailing culture, which promotes the dependency and inequality, and marginalizes the role of women, deepens the nepotism and favoritism, and weakens institutionalizations.

Huff (1993) explains that the absence of institutionalizations since the Middle Ages is a reason for intellectual stagnation in the Muslim and Arab world, which weakened the chance of emerging modern scientific renaissance, such as those that prevailed in the West.

Issawi (2013) attributes this impasse to the absence of democracy and the central government in the Arab world over many centuries. The breadth of the geographical area, and the lack of development of cities in the modern sense, also led to the erosion of technical occupations and technical skills and its inability to evolve or develop in a way that constitutes modern industrial base.

The views of prominent researchers mentioned above agreed on a weakness in the Arab cultural entity includes intellectual dimensions, and cultural values, as well as its social and political, systems. Many of these proposals aligned with Arab and non-Arab contemporary proposals of Management Studies that diagnosed and interpreted the weak and obsolete Arab managerial and organizational practice.

The access to the knowledge-based economy requires States to free itself from all unnecessary restrictions, customs, traditions, and laws restricting developments. States and communities that have more liberated culture, and has flexible laws can influence and more susceptibility to the knowledge economy.

The knowledge currently is the outcome of this hidden mix between information, experience and perceptions and ability to govern and to generate new knowledge, leading up to the wisdom or the peak

of knowledge pyramid. Mining to the become clear wisdom to exceed the availability of knowledge, and to challenge the givens to open a new horizon of knowledge to rationalize the exploitation of resources and the use of the means and reach the balance between achieving the goals and the cost of opportunities. In a world that has become unconventional and dominant by advanced countries, dealing with the concept of Cognitive world complement the knowledge of the physical world, as identified by Einstein's equation linking the mass and energy. Brooks suggests "information - knowledge" as the basis for cognitive science and a key driver of the modern economy.

So, we faced with a new concept of knowledge, full of emerging movement towards the future without borders or barriers, depending on the revolution of information and communications technology, genetic engineering, as well as modern science in language, sociology, anthropology, history, geography, and economics. The concept of contemporary knowledge became inclusive of both natural and human sciences in an organic relationship inseparably on one hand, and limited to a large extent in capitalist countries capable alone of the production and export of science and knowledge on the other hand. This concept is not possible to apply to the Arab countries and the Third World generally without owning a significant portion of its constituents and the aptitude to interact with the givens, and the capacity to use mechanisms and rules, as an entry point to bridge the knowledge gap between those countries.

Knowledge is unique and specific in terms of form and essence. The progress and development of such knowledge are relevant to how slow or fast the internal development mechanisms in these domains. Knowledge is a reflection of the reality of the process in human thoughts spatially and temporally, linked to the practice of transformation and the process of productivity and community activities in all its dimensions. Knowledge creation is a historical process as knowledge, and practical applications are interactively depend on each other. "Thinking alone –acknowledging its importance and necessity - only creates ideas and only collective thinking as a social practice can lead to the attainment of the truth as the basic goals and objective of knowledge. This cannot be achieved in the Arab world through the study or the analysis of available data and information identifying gaps and shortcomings as addressed in Arab Human Development Report (2003).

The disruption of cognitive progress continued until the first decades of the twentieth century then cut off again and returned to regeneration in the sixties. As the concept and the value of knowledge remained theoretical on the ruling level of the Arab thought, the Arab societies economic development continued to be governed by the ancient history of rentier economy and trade.

What led to today's dichotomy between knowledge and practice, which form an obstacle in the face of open and rational vision and kept Arab captive to and manifesting a climate of underdevelopment. Al Jabri (1983) says that Arab political mind is governed in the past and the present by three parameters, the tribe and booty and belief. Particular political relations is in the tribe, production style symbolized

by the booty (income non-productive), and the rule of religious belief. He believes that there is no way to achieve renaissance and progress without renouncing these three historical determinants and bring other contemporary alternatives.

Amin (1988) said that the today's issue of the renewal of Arab political mind could only be achieved by turning "tribes" in our society to a civilian socio-political organization, and turning booty or rentier economy to a productive economy. It will pave the way for the establishment of economic unity between the Arab countries capable of laying the foundation necessary for independent and sustainable Arab development and conversion of faith to mere opinion and free the mind from the collective influence and authority of the community religiously or secular. Therefore dealing with discretionary critics forces us to reconsider the structure and components of the Arab culture, which is now, as Al Jabri said, in urgent need to re-write history, which is still just ruminated and repeat the same "history" written by our ancestors, with focus on Arab cultural history in which Islamic Sciences was classified into groups.

In any case, any analysis of the Arab Islamic thoughts, whether it is from a structural perspective or from a historical perspective will remain incomplete, and results will be misleading, if not take into account the role of politics in guiding these thoughts and determine the right course, and questions will remain.

One of the main features of the prevailing pattern of production in Arab countries within the context of knowledge acquisition is the heavy reliance on the depletion of raw materials, led by oil, which is called the rentier economy. The major part of such economic activity is concentrated in primary activities: primitive agriculture, and service industries. This pattern tends to bring in expertise from abroad, for the ease and speed of crystallization of economic rents, which lead to a weakening of domestic demand for knowledge and production opportunities locally and using them effectively in economic activity.

In the Arab economies, the demand for knowledge is also affected negatively by its small market and weak competition, and the absence of transparency and accountability, allowing a degree of cohesion and sometimes congruence between political elites and business elites. It is also affected by the lack of coordinated community incentives and reverence for power and wealth and poor knowledge ethics. Oil boom also hit some social values and incentives that could have to motivate and support the creativity, acquisition, and dissemination of knowledge.

3.4.1 Barriers to integration in the knowledge economy

According to Al-Jabri (2011), some of the barriers to the development of knowledge economy were limited spending on research and development activities that could be aligned with the development of impetus for innovation and knowledge acquisition. Also, the socio-cultural environment could be restrictive and prevent the deployment and utilization of technology. Also, in the context of Eastern

cultures, and especially Arabic cultures, the technology may not get absorbed and adopted ultimately, but only cosmetically, and hence undermining the full utilization of the initiatives.

3.4.2 The need for profiling QATAR's national cultural

Located in the Middle East, the state of Qatar, a member of the GCC Gulf Cooperation Council, exhibits all the topographies of rentier states as all oil and Gas revenues go directly to the government, a fundamental feature of a rentier economy. Qatar needs to coordinate its multi-dimensional efforts of development with its National Vision 2030, to reduce dependence on external technology and knowledge support and develop a local base for its knowledge economy. The country already has good infrastructure, institutional framework, economic incentives and innovation capacities, which can help it, transition well to a knowledge-based economy, World Bank Assessment Report (2005). It also has a well-developed system consisting of the Qatar Science and Technology Park (QSTP), various governmental agencies and a few private organizations that support innovation and build local capacity. Qatar is a young country, having gained independence only in 1970. It is committed to economic diversification and moving away from oil dependency. Being an Arab country, however, Qatar has no precedence to follow in its bid for transitioning to a knowledge-based economy – since most studies and researchers have been undertaken in the Western context.

Some of the highlights of the country's profile are (More details in Appendix I)

- Cultural similarities within the GCC of which Qatar is a member.
- Qatar ranked as the richest country in the world with the highest income per capita.
- Qatar has tiny population of locals (250 thousand people)
- Qatar's heritage of strong tribal society
- Qatar's conservative Islamic society
- Phenomenon economic boom during the last two decades
- Qatar's national vision 2030 on the diversification of national income and the recent collapse of oil prices and the country's attempt revive and accelerate its progress towards knowledge-based economy

3.5 Conceptual framework

3.5.1 SECI

Building on Polanyi's work, the prominent scholars Nonaka and Takeuchi SECI model introduced the tacit and explicit knowledge conversion as it was built on Polanyi's (1967) proposition that "personal knowledge", mainly exist in the minds of individuals. Nonaka and Takeuchi (1995) SECI model introduced the cyclical knowledge management model, which contains four phases of knowledge conversion. The model described the creation and the transfer of explicit and tacit knowledge based on a combination of people, processes and technology. Aurum et al. (2008) argue that people, processes,

and technology bring together a wide range of knowledge processes, and converting knowledge through the four steps becomes an integrative knowledge management approach.

3.5.1.1 A Critique of SECI Model

According to Stacey (2001), Nonaka and Takeuchi are mainstream organizational learning and knowledge theorists as they believe that knowledge creation is a system and knowledge is like a 'thing' that can be possessed. Stacey opposes that stating that knowledge is an active process of relating. He claims that knowledge cannot and should not be managed because it is participative self-organizing processes modeled in coherent ways.

The applicability of the SECI model in dissimilar cultural contexts was questioned as it was attentive to Japanese values . It was suggested that the SECI four modes is interpreted in reference to Japanese management practices and Japanese values. Glisby and Holden (2003) determined that the applicability of this model may not be universal. This was echoed by Weir and Hutchings (2005), and Andreeva and Ikhilchik (2011), as they concluded that SECI processes are not all applicable across different cultures.

It was further explained and confirmed by Haag et al. (2010) suggesting that Japanese companies focus on tacit knowledge, which is more linked to socialization, whereas the focus of western companies focus more on explicit knowledge which is more associated with combination.

In the Arab world context where the applicability of the SECI may be questioned, Weir and Hutchings (2005) proposed that networking is a tradition and common practice, therefore it was concluded that socialization might be relevant mode to study within the Arab culture. Nevertheless, externalization, combination, and internalization are not commonly used. For externalization, Arabs choose to keep their knowledge up until the requirement for disclosure. For combination, amendments to documents must go through very lengthy procedures of approvals by multiple management in different levels. This complicated process hamper knowledge cataloging and interpreting. For internalization, , work and private life in the Arab world are not entirely distinct, as such; knowledge is highly personalized and internalization is influenced by the confidence in individuals who hold that knowledge. Weir and Hutchings (2005).

Hofstede (2001) finds that, in the Arab world managers are very keen and careful to pass the critical information without any changes which explains why people score highly on the Uncertainty Avoidance. Lacking the explanation or amendments by senior management, staff follow directions founded on their point of view of statically passed on information. This create confusion among staff, possible conflict between staff , management and customers.

3.5.2 Hofstede's Cultural Dimensions

Reviewed literature widely support the national culture taxonomies of Hofstede (1980, 1984) and Ward et al. (2009) as credibly one of the most recognized taxonomies among researchers. Hofstede (1980)

presented a five dimensions taxonomy of national culture: power distance, individualism/collectivism, masculinity/femininity, uncertainty avoidance, and long-term/short-term orientation. Hofstede (1993) claimed that a nation position in reference to these dimensions shows how its societies function. The model has been widely applied in the context of international management.

3.5.2.1 Criticism of Hofstede's Cultural Dimensions

Nevertheless, Hofstede's (1980) national culture taxonomy has been subjected to criticism. Even though many criticisms framed his work. It was noted that, data sets used to study national cultures by Hofstede was initially gathered by IBM to size employees' attitudes and beliefs and it covered only three regions of the world and most of the participants were male. Fernandez et al. (1997). Francis (1997) added that only cultural values were reported, but cultural practices were ignored.

Fernandez et al. (1997) suggested that Hofstede's cultural profiles should be used cautiously, as the identified cultural values and beliefs could be outdated because some common values may have changed. Methodological concerns include the generalizability of his findings was also noted. Ecoed and confirmed, McSweeney (2002) argues that, the generalizability dispute comes from the fact that survey samples were limited to a single organization, which is IBM, and to constricted profession. This critique suggest that Hofstede's scores are not cultural concepts and they are only rough measures.

McSweeney (2002) explained that Hofstede's cultural dimensions are very basic to reflect the abundance of national cultures characteristics as they are autonomous where cultural dimensions are interdepend. It is more of expressions of national culture than gages of national cultures.

3.5.3 SECI and Hofstede's Cultural Dimensions

Knowledge and its significance are embedded in social relations. Peters and Beasley's (2006) work points to the cultural requirements to successfully drive and operate knowledge-based economy. The creation and dissemination of knowledge depends upon certain cultural conditions required to facilitate exchange of ideas, such as trust, equal rights, and responsibilities between all knowledge workers. It was suggested that drivers of knowledge economy are deeply rooted in the cultural characteristics of nations as Javidan (2004) explained that in the absence of cultural attributes such as ambition, and hard work, societies may be less inspired to gather the economic thrust necessary for progress.

Haag et al (2010) acknowledged that Hofstede's cultural dimension individualism/collectivism has been widely applied in research investigating SECI from the perspective of national culture. they also Suggested that cultural dimensions strongly influence the socialization process of SECI. Cultures with high collectivism are social because socialization connected to group processes. In contrast, low on power distance cultures support an open setting for brainstorming than high power distance cultures.

However, Culture is complex and resilient to change its multiple dimensions, Groschl and Doherty (2006). This revealed that culture might refer to national cultures or corporate cultures, each forms

unique patterns of behavior in a social unit. Denton (2004) added that all these interconnected, interdependent, or contradictory dimensions may lead to problematic knowledge management in an organization..

3.6 Knowledge Economy Drivers

Relevant literature offers sufficient evidence of national culture importance in studying and understanding a variety of significant social phenomena such as economic health, human condition, ICT adoption, government role, and knowledge transfer ability , Hofstede (1983); Johnson and Lenartowicz (1998); Ditsa (1999); Straubetal (2001); House et al. (2002); Martinsons and Davison (2003, 2007); Bagchi et al. (2004); Khalil and Seleim (2010); Khalil (2011).

Based on the secondary data of literature, websites, interview results, and observation and based on the SECI adopted model for knowledge management the research investigated Hofstede cultural dimensions influence on the knowledge transfer process.

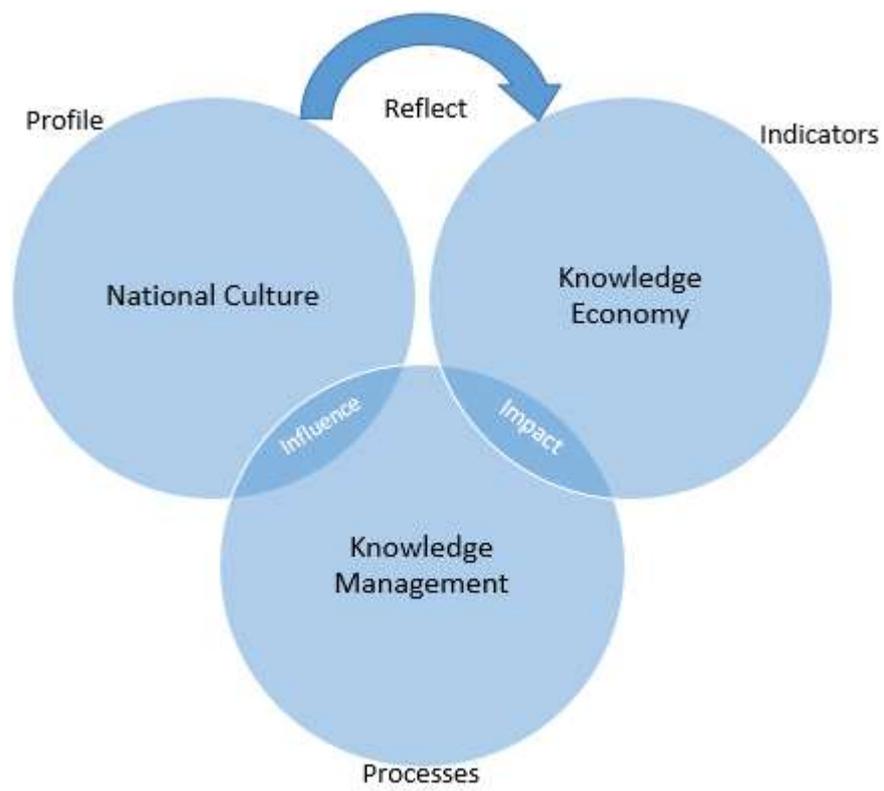
3.7 Analytical framework

The impact of the identified dimensions of Power distance, Collectivism/individualism ,uncertainty avoidance and Masculinity/Femininity, will be investigated with regard to Socialization, Dissemination and Internalization roles in knowledge transfer in Nonaka and Takeuchi (1995) SECI Knowledge conversion model as the most exposed parts of cognitive impact. To validate the suggested impact, results will be mapped to indicators used to rank Qatar's performance in World Bank Knowledge economy index.

Technology transfer is one of the most critical pillars of knowledge-based economies validated as the observed role of technology transfer in economic growth, advancement in the society and improvement in social life perfectly aligned with the international indicators measuring knowledge economy progress.

An attentive national approach to the groundwork of knowledge-based economy will allow Qatar to become more competitive in the global economy where the previously established general directions provide vital platform for its society's future vision. Qatar has to take into consideration the four pillars of the intensive knowledge economy as suggested by the world Bank Knowledge economy index and at the same time study the potential country-specific challenges that it may encounter along the way.

Figure 6: Analytical Framework



4 CHAPTER FOUR: RESEARCH METHODOLOGY

This chapter presents the research methodology and describes the research approach. It states the research hypotheses and questions, explains and describes how the research is carried out. It also gives a detailed discussion of the research used methods and techniques employed for data sampling, collection, and analysis.

4.1 Introduction

The research is an exploratory small-scale study that investigates suggested impact of certain behaviors. The research profiles Qatar's national culture and study the influence of the identified cultural dimensions on the knowledge management processes as it relates to the country's economic transition to knowledge economy.

As established in section 4.2.6.4, the research sample was small yet large enough to be tested for normality, and although ($p < 0.10$) was less significant but still suggestive. Nevertheless, future researches should overcome this limitation by planning and executing methodologically rigorous large-scale researches.

4.2 Research Design

The research employs a mixed methods approach consisting of both positivist and interpretivist approaches. In part, the research explanatory design focus on how to effectively explain the characteristics of a population or a social phenomenon, Saunders et al. (2007). The first part of the research focuses on the collection of data in a quantitative format, which allows for an objective approach to data collection. The research gain objective knowledge using survey to profile Qatar's National culture as the scientific methods of inquiry. This is a positivist approach where quantitative data is typical.

To inform further research in the subject area, Neuman (2003), the next phase of the research delves more deeply into the problem, and uses qualitative data collection by means of interviews to further qualifies the exploratory study.

The research conducts a number of interviews to explore the impact of national culture on knowledge management process from a macro level perspective. The research uses published statistics and indexes to validate knowledge concluded from the collected data in semi-structured interviews. Thus, the interpretivist approach of the research was value assured. The investigation, in this case, was in-depth but with small sample size and qualitative data analysis.

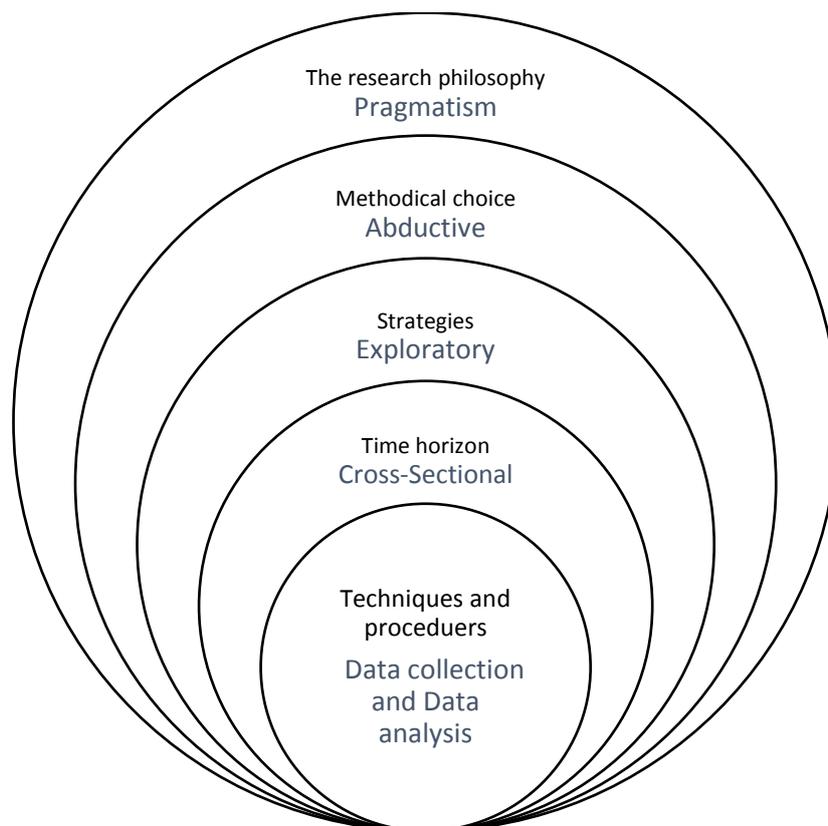
The research design is, therefore, both explanatory and exploratory using quantitative and qualitative data analysis. This is because the research aims to explain cultural values for specific nation and explore cultural variables impact on the nation's development of knowledge economy in reference to knowledge management processes.

Showcasing Qatar, a two-tier methodology using questionnaire survey and semi structured interviews, is adopted to address the main research objectives.

Although the research is an empirical study, it will not just follow the cause and effect relations but it will study other complex and closely related objects.

4.2.1 Research Framework

The research onion used to explain the research methodology with the research onion framework adopted from Saunders & Lewis (2012). The approach is to go from the outer layer to the inner layer of the research onion.



Adopted from Saunders & Lewis (2012)

Figure 7 The research onion

4.2.2 Research Philosophy

The first outer layer is the research philosophy. For this research, it is a pragmatist research philosophy.

The pragmatic research philosophy is relatively new research philosophy as it stands between the positivist and the interpretivist research philosophies. In that context, the research assume positivist

approach to profile Qatar's National culture based on quantitative surveys data analysis, and interpretivist approach to investigate the impact of National culture on knowledge management process based on qualitative interviews data analysis and other primary data from indexes and published statistics.

As the suggested National culture impact on country's transition to the knowledge economy is a socially constructed view on the development of knowledge economies, the research embraces a pragmatist research philosophy as it yields better research results with the opportunity to use a mix of different methods in the research.

4.2.3 Research Approach

The next layer is the research approach. In no small part, the research implements abductive approach as it provides a comprehension understanding of culture, knowledge management processes, and knowledge economy using statistical analysis for surveys data, literature review and data from global knowledge economy indexes. The approach is based on objectivity in profiling the national culture and provide observations and views needed to address the research aim and objective.

In the second part , the research moves from specific observation, which is the suggested impact of national culture on knowledge management processes, to a broader generalization suggesting an impact of national culture on the development of a country's knowledge economy.

To investigate the research claim that national culture impacts knowledge management process, a small number of Qatari nationals interviewed. As the interviews results analysis are inherently subjective, the research used selected indicators from knowledge economy indexes to support the results and make the link between knowledge management process and the development of knowledge economy.

4.2.4 Research Strategy

The research strategy is a general research plan of how to answer the research questions. Examples of different strategies are; experimental, survey, case study, and action research (Saunders et al., 2009). The reseach strategy helps in choosing the right methodology for collecting and analysis the research data. The research exploratory strategy executed by testing if and how knowledge management processes influenced by country's national culture, and triangulate the results with the country's progress in knowledge economy relevant indexes.

The objective of this research is achieved through performing quantitative surveys, qualitative interviews and combining the results from this with theories gained from previous research and data collected from published reports and statistics.

4.2.5 Research Choice

The research use a wide selection of methods. This multi-method approach is evident as the research divided into separate segments, with each producing a specific dataset. Each data set then analyzed using either quantitative or qualitative techniques, Feilzer (2010).

The research surveyed a small sample of Qatari Nationals to profile national culture based on Hofstede initial four culture dimensions.

To further study the suggested impact of the national culture on the knowledge management process, ten semi-structured interviews were conducted. Questions developed in the context of SECI knowledge conversion model, linking People, Process, and Technology to the four pillars of the knowledge economy, ICT, Education, Innovation, and the Eco-System

4.2.6 The survey Instrument

The national culture of Qatar is the intervening variable as in this study we are assessing how the national culture has influenced the transition process of Qatar's economy to a knowledge-based economy. Although there are many frameworks, which study culture at various levels such as family, organization, and nation, Hofstede's cultural dimensions and value survey method has been the dominant framework studying culture at a national level. It is well established with many studies enhancing its applicability and validity Wu (2006); Al Dulaimi and Bin Saillan (2011).

The research used a modified version of VSM 2008 and 2013, though the KM literature discusses several similar national surveys. The survey used items from the VSM 08 and VSM 13 of the Hofstede's model and similar surveys adopted by many scholars during the past two decades. The Value Survey Model is a survey instrument developed using Hofstede et al. (2005) work to measures the dimensions of cultures. VSM 2008 was an updated version of the instrument, and 2013 is the latest version. The VSM 2013 contains more complex questions though it retains a large part of VSM 2008 original constructs and questions.

In most other surveys, the cultural values that are obtained do not seem to be suited to the real values that the people are found to practice. For example, Maseland and van Hoorn (2008) have found that there appears to be a discrepancy between the 'values' that people mention. Similar criticism has been attributed to most other survey instruments, which they fail to assess values of people, and somewhat gauge their marginal preferences alone. The VSM 08/13 surveys, however, are developed to incorporate and measure the real values as believed by people and as measured by their propensity to practice them voluntarily and happily, Maseland and van Hoorn (2008).

It is important to note that the objective of VSM 08/13 surveys is to profile nations cultures in comparison to others which is not the objective of the survey used in this research. The survey used as

a tool to generate the data needed to profile the national culture of the state of Qatar as part of the research explanatory section.

4.2.6.1 Survey Design

The survey modification was done by using a small pilot study. Founded on the outcome of the pilot study we chose to anonymize responses by eliminating particular fields that may generate personally identified data. However, we maintained another demographical data to allow for data stratification if needed. Only the four dimensions of Uncertainty avoidance, Masculinity/Femininity, Individualism/collectivism and power distance were presented. The survey examines the perceptions of respondents on situations relevant to Hofstede first four dimensions.

Also, the survey provided information to the respondents regarding maintenance of confidentiality of their participation.

4.2.6.2 Survey Questions

As explained above and based on the very similar format to VSM 08/13, Questions 8 to 11 explore the response to Uncertainty Avoidance influencing knowledge transfer (structured over unstructured situations, the punishment of risk-taking, written and unwritten rules, focus on explicit instead of tacit knowledge)

Questions 12 to 15 explore the response to Power distance influencing knowledge transfer due to the fear of violating the rules of the hierarchy, Bhagat & Kedia (1988).

Questions 16 to 19 explore the response to Individualism/Collectivism influencing knowledge transfer (written and codified vs. tacit and know how)

Questions 20 to 23 explore the response to Masculinity/femininity influencing knowledge transfer as a people-to-people process and through interpersonal and interdependent relationships.

It uses a Likert Style format, as it is one used in social science disciplines to identify respondent's position on a certain issue.

Respondents were required to choose one out of five options

Strongly agree (1), Agree (2), Undecided (3), Disagree (4), Strongly disagree (5)

4.2.6.3 Analyzing Likert Data

Number of people	Likert scale
12	1
29	2
19	3
5	4
5	5
Total = 172 / 70 = 2.45	

Table4: Example of Individual questions' mean

includes Pearson's r, t-test, ANOVA, and regression procedures.

The survey designed as a series of questions. Responses to each set of questions will be combined to measure a particular characteristic. As such, the adopted a Likert scale data analyzed on an interval measurement scale.

The recommended Descriptive statistics for interval scale items are the mean for central tendency and standard deviations for variability. As appropriate for interval scale items the analysis

4.2.6.4 Sampling

Since the research adopts quantitative data collection approach, the method of data collection requires selecting an adequate sample of people to conduct the survey. Maylor and Blackmon (2005, p.195) stated that survey sample plays a key factor for successful survey research. Good sample should represent the entire population.

The two major sampling techniques are probability sampling and nonprobability sampling, Herek (2012). In probability sampling one can specify the probability of a participant being selected in the sample. If the plan is to generalizing the findings derived from the sample to the general population, then probability sampling is more useful and precise. Probability sampling is also referred to as random sampling. The word random describes the procedure used to select the participants from a population where each element in the population has an equal chance of being selected. The sample is referred to as representative and the technique is used for the survey sample. Non-probability purposive sampling technique was used for selecting interviews subjects.

The size of the sample and its representation of the whole population is a common concern in quantitative research. The sample size determined by the population size, how inconsistency the population is, and the extent of inference to be captured. May (2011, p. 101) stated "it is worth noting that a large population may not necessarily require a larger sample size and the greater variability in the variable, or what is being measured, the larger the required sample size in cases of research where only small effects are expected in the population, such as exploratory medical research, a larger research may be required".

This confirms that the size of the sample is not as critical because large but sample with poor quality will not reveal the characteristics of the population, therefore, a smaller sample could be more accurate.

Anderson and Gerbing (1988) and Ding et al. (1995) suggest that, to generalize the findings of statistical analysis, the minimum sample size should be between 100 and 150. Lower number was recommended by Field (2009, p. 222) and Hair et al. (2010, p. 175) as they propose a minimum sample size between 50 and 100 needed to uphold the statistical power of multiple regression results.

4.2.6.4.1 Population

<p>Native of Qatar</p> <p>To ensure true representations of Qatari culture, Qatari nationals/Natives only will be in the target population. Considering that Qatar declared its independence on September 3, 1971 and became the state of Qatar, we will restrict the age to 59 years old; to further ensure ethnicity and the target background.</p>
<p>Received his/her K12 in Qatar</p> <p>To ensure no influence of other cultures if he/she received their education in different culture. The survey conditioned accordingly.</p>
<p>Economically active (working age-groups)</p> <p>To ensure that age groups are represented</p>
<p>Adults Male and Female (Above 19)</p>

Table 5 Demographics

The target population is limited to Qatari indigenous population living in Qatar. Population size and its distribution reflected by Nationality, gender, age, and education.

The following published Statistics support the criteria used to determine target population and sample size.

Ministry of Development Planning and Statistics “Working age population for Qatari, gender and age group 2015”.

	Qataris		
	Males	Females	Total
15 – 19	13,464	14,939	28,403
20 – 24	14,955	14,084	29,039
25 – 29	12,296	13,598	25,894
30 – 34	10,079	10,077	20,156
35 – 39	8,512	8,165	16,677
40 – 44	7,052	8,117	15,169
45 – 49	6,699	7,082	13,781
50 – 54	7,064	5,216	12,280
55 – 59	5,023	6,094	11,117
60 – 64	3,233	3,304	6,537
65 – 69	1,953	3,711	5,664
70 – 74	1,485	870	2,355
75 +	1,988	1,351	3,339
Total	93,803	96,608	190,411

Table 6

Note:

- Qatar raised the minimum working age from 15 to 16 years under as published in Act No. 14 of 2004, promulgating the Labor Code.
- Qatar defines children as people under the age of 18 as published in Law no. 22 of 2006 promulgating 'the family law'.
- Qatar declared its independence on September 3, 1971

Ministry of Development Planning and Statistics “Economically active population aged 15 and above, sex and occupation 2015”

	Qatari		
	Males	Females	Total
Legislators, Senior Officials And Managers	7,925	1,941	9,866
Professionals	13,505	15,709	29,214
Technicians And Associate Professionals	10,659	4,444	15,103
Clerks	14,798	9,488	24,286
Service Workers And Shop And Market Sales Workers	4,760	2,204	6,964
Skilled Agricultural And Fishery Workers	0	0	0
Craft And Related Trades Workers	5,826	0	5,826
Plant And Machine Operators And Assemblers	1,482	0	1,482
Elementary Occupations	5,186	536	5,722
Total	64,141	34,322	98,463

Source: Annual Bulletin of Labor Force Sample survey 2015

Table 7

Ministry of Development Planning and Statistics “Working age population. Sex and level of education 2015”

	Qataris		
	Males	Females	Total
Illiterate	964	3,639	4,603
Read & Write	5,339	6,106	11,445
Primary	7,387	7,470	14,857
Preparatory	15,937	16,309	32,246
Secondary	33,803	23,563	57,366
Pre.U. Diploma	2,974	3,582	6,556
University and above	27,399	35,939	63,338
Total	93,803	96,608	190,411

Source: Annual Bulletin of Labor Force Sample survey 2015

Table 8

4.2.6.4.2 Sample size

Based on the above-defined target population

Target population: 114113

Sample Size: n=269

Based on:

Confidence level (actual mean falls within the allowed margin of error) =90%

Confidence Interval (Margin of Error) =5

The actual valid responses obtained from 61 respondents increased the margin of error to 10. Since the least conservative confidence level is 90% with an acceptable margin of error between 4 and 8, the further statistical analysis will establish the level of the research sample validity, and gives assurance that its relatively smaller size (at only 68 usable responses) did not dilute its representativeness to the actual population of Qatar. Also, in a preliminary study, we find that $p < 0.10$ is suggestive of a significant effect that warrants further study. In line with nature of the research as exploratory study ($p < 0.10$) is less significant, but still suggestive.

We also argue that the small sample sizes still valid as the research attempt not to quantify general behavior within a population. The sample is small yet large enough to be tested for normality. The research primarily studies the suggested impact of certain behaviors. Nevertheless, this is a limitation, which future researches should overcome.

4.2.7 Interviews

Interviews are expected to yield rich, complex and contextual information, as these allow the interviewees to express their opinions more openly and freely, Cavana, Delahaye & Sekaran (2000). As such, the current research employed an informal and semi-structured approach to interviews, to allow the interviewer to explore more in-depth and follow-up leads with their interviewees.

As interviewer listens then asks further questions based on what the respondent says, unstructured interviews described as 'respondent led' and interviewees will be able to explain their views more thoroughly than with structured interviews.

The informal nature and the flexibility that the interviewer has in the order of which questions are asked are more likely to make the interviewee feel at ease, and this should promote trust and empathy. For this reasons, informal, unstructured interviews are suitable for sensitive topics.

4.2.7.1 Sample for Interviews

Purposive sampling technique was used for interviews. It is a non-probability subjective sampling based on the objective of the study. This allows for the selection of people from different key groups, and hence the sample included public and private sector employees in different positions and different years of experience.

The diversity of key informants was taken into consideration, UCLA Center for Health Policy Research (2016); hence, the interviewees were from a range of sectors that included finance, energy, research and education, and information technology. The reasoning behind the choice of the sectors and segments is because of their overall contribution to the health of Qatar's national economy and their impact on Qatar development of knowledge economy as they influence the four pillars of knowledge economy as identified in KEI.

With the purpose in mind, interviewees selected to represent all levels of operation. Senior and top management on the strategic level, directors and department managers on the tactical level, and section heads, unite heads and line employees on the operation level.

Based on the adopted purposive sampling technique and within the context of the research objective, sample characteristics defined as follow:

Qatari National: The study limited to Qatari indigenous population living in Qatar

Received his/her education in Qatar: No influence of other cultures if he/she received their education in different culture.

Different operation level: To collect relevant data along the entire business value chain

Sample Size =10: This is the qualitative part of the research of which, analysis produces complimentary data to the quantitative data. Based on information saturation or redundancy concept and the research objective we found that no new information is emerging after a sample of 10 interviewees.

The following people were included in the interviews

- Government officials (2)
- Policymakers (1)
- Regulators (1)
- Business managers/Team Leaders (2)
- Information technology managers (2)
- Line employees (2)

The sample consisted of eight men and two women. Eight interviews were conducted face to face; and two were carried out over the phone because the interviewees were not available for a face-to-face discussion.

4.2.7.2 [Developing the interview questions](#)

The interviews aimed to validate and gather support for the linked national culture impact on the country's progress towards KE on the composite indicators. The basic premise of the national culture of Qatar is already developed using the survey as discussed before, and the interviews were further deployed to explore how the country is doing on the composite indicators due to the impact of different cultural dimensions.

Interview questions too focused on identifying the cultural dimensions and their impact on knowledge creation, acquisition, and transfer. The questions are geared to investigate management and the organization approach towards the three enablers of knowledge transfer. Questions are formulated to identify the level of influence (low/high-if any) of each dimension on the management approach towards people, process, and technology. The detailed questions asked in the interviews were designed to determine the impact of national culture on the related industry and thus exploiting knowledge acquisition and creation. The questions also contribute to the assessment and validation of Qatar's performance on the KEI indicators.

The interview objective is to assess how dimensions of culture affect the three key enablers, and in turn affect upon the performance of the country on the KEI.

4.2.7.2.1 People

Face to face communication, and social Interaction are important enablers for people to transfer knowledge mainly tacit knowledge (language, cultural similarity, skills, employee development, ego/personality, relationship, dealing with people from different culture, training, policies, and internal communication).

4.2.7.2.2 Processes

Are determined by the organizational culture (new ideas, open door, a delegation of authority).

4.2.7.2.3 Technology

Will facilitate the organizational communication and social interaction approach and become the media and enabler of the organization process (the use of email, social media, repository, project management).

4.2.8 Knowledge Economy Index Indicators:

1. Education
2. ICT
3. Institutional National Economic and Business Eco-System
4. Innovation and Creativity

The questions assess how national culture may be impacting these indicators and translating into Qatar's ability to transition to a global economy. The selected questions are closely aligned with the composite indicators that were discussed in the previous section. They are further segregated in terms of people, process, and technology relevance.

4.2.8.1 Economic incentives and institutional regime

The following Questions aim to understand, measure, and collect evidence on how national culture shapes the overall institutional national economic and business ecosystem. (Economic incentives and institutional regime)

Question	KE Pillar	Purpose
What is the long-term strategy for your organization? <i>“People participation of setting organizational and National Strategies”</i>	Economic incentives and institutional	People
Do you know your industry regulator, and how you evaluate the related regulation? <i>“The existences and awareness of sector and National regulations”</i>		Process
Does the top management set company’s goals realistically? How do you track your work progress? In addition, do you know your Key performance indicators? <i>“The lack of or the availability of technological means to collaborate and communicate with colleagues and policy makers”</i>		Technology

4.2.8.2 Education and human resources

The following Questions aim to understand, measure, and collect evidence on how the national culture impact the building of needed local capacity and employee development. “Education and human resources.”

Questions	KE Pillar	Purpose
How your organization prompt employee’s development? <i>“To investigate people’s desire for education and professional development”</i>	Education	People
Does your organization promote and support teamwork? <i>“Processes that support knowledge sharing and knowledge transfer”</i>		Process
How your organization cooperate with different parts of the business? Like other business unites and stakeholders. <i>“If Technology able to facilitate external communications and knowledge acquisition and dissemination”</i>		Technology

4.2.8.3 The innovation system

The following Questions aim to understand, measure, and collect evidence on how the national culture impact innovation and creativity. “The innovation system.”

Question	KE Pillar	Purpose
How new ideas are facilitated by your organization? Is learning new ways of doing things welcomed? Is learning an essential objective in your daily job? Is it easy to reach consensus in your organization? How do you react to disagreements? <i>“ To assess if the business environment encourages innovation and finding new ways to do things and how people react to failures”</i>	Innovation	People
How does your company consider customer’s recommendations and comments? How the decision is made in your organization? <i>“ To assess the processes and the means to receive customers feedback as it is a necessary input for innovation and process enhancements”</i>		Process
		Technology

4.2.8.4 ICT

The following Questions aim to understand, measure, and collect evidence on how national culture impact the adoption, utilization, and integration of technology “ICT”.

Question	KE Pillar	Purpose
How technology helps in overcomeing cultural barriers? <i>“To assess if people are aware of and willing to use technology that may facilitate knowledge conversion processes”</i>	ICT	People
Does your company constantly implement new and improved ways to do work? <i>“The existence and awareness of the process of technology acquisition and implementation”</i>		Process
Is it easy to manage projects through different parts of the company? <i>“The existence and awareness of currently implemented technologies that support remote communications and project management”</i>		Technology

4.3 Time Horizon

The focus of the research is on the current situation as the research time horizon employ a cross-sectional timing with the research conducted over limited and defined time.

4.4 Techniques and Procedures, and Research Instruments

The research collect and analyz both primary and secondary data.

4.4.1 Primary research Data

The current research uses surveys and direct personal interviews to obtain first-hand information about the case country. This allows for a more in-depth exploration of the issue from the perspectives of the people who are involved in the situation (Creswell, 2007). The surveys and interviews were the key research instrument. The questionnaire focused on measuring the dimensions of Qatar’s national culture based on Hofstede first four cultural dimensions. The structured questionnaire designed so that this would be answered based on a Likert scale of 1 – 5 ensuring consistency and efficient data tabulation. Quantitative data analysis conducted using IBM SPSS Statistics. The software utilized to present data graphically as needed.

Interviews provided data on Qatar’s National cultural dimensions and their impact on knowledge creation, acquisition and transfer. Interview Questions were geared to investigate management and the organization approach towards knowledge management process enablers (People-Process-Technology). The unquantifiable information grouped and manually analyzed.

The primary research data provide the results of the structured surveys and semi-structured interview used for the abductive research approach. Quantitative analysis of the survey’s results and qualitative analysis for interviews data were investigated as to suggest the impact of national culture on knowledge management processes.

4.4.2 Secondary Data

The secondary research data involved relevant academic literature, NGOs publications, official publications, related reports, research journals, and credible online sources. The secondary research data provides specific different models of knowledge management and knowledge conversion processes, enablers for knowledge management process, definitions for knowledge and culture, characteristics of the knowledge economy and global indicators measuring knowledge economy development.

The secondary research data used for the abductive approach to validate the suggested link between National culture and knowledge management processes and further suggest an impact of such influence on the country's transition to the knowledge-based economy.

4.5 Data analysis methods

4.5.1 Survey Data

The research uses both descriptive and statistical analysis. Survey data analyzed by using statistical methods to calculate the mean of the responses. Descriptive statistics help in merely describing what is going on in data, based on the assessment and observation of demographic and personal characteristics. Statistical analysis started with a calculation of mean scores on each of the responses, and the development of an understanding of the cultural dimension in the context of the sample. Using SPSS, frequencies, and percentages of different categories of participants and their perceptions regarding Uncertainty Avoidance, Power Distance, Individualism vs. Collectivism, and Masculinity vs. Femininity were calculated.

Additional analysis of the survey results considered possible relationships between three variables age, experience, and gender and perception on each cultural dimensions. For this, correlation analysis was used. Correlation is commonly used and useful statistics. It is the single number that describes a degree of relationship between two variables. The result is the correlation coefficient ("r"). The correlation coefficient measures the association between the two variables, and it ranges between -1 and $+1$. Perfect linear relationship between two variables results of a coefficient either $+1$ or -1 depends on whether the variables positively or negatively related. Zero correlation coefficient reflects no linear relationship between the variables. In this study, Spearman rank correlation coefficient (ρ), is used to rank relationship between variables due to that the individual items were measured using a five-point Likert scale, which is ordinal. Individual items correlation coefficients are reported in Table (7). Only statistically significant associations were presented.

The research also uses inferential statistical techniques, which allow for the use of the research sample to make generalizations about the populations from which the samples were drawn, Creswell (2015). Inferential statistics helps in drawing conclusions from the existing data, which can be applied, to other scenarios and situations, Creswell (2015). It is, therefore used to assess, from the smaller sample data, how the entire population is likely to behave or think. Inferential statistics helps in evaluating the

probability that the difference between groups, as observed through the sample performance, is dependable and can be replicable in other samples or populations. Using inferential statistics, hypotheses were developed regarding the impact of demographic factors on responses. One-way ANOVA (Analysis of Variance) was performed on hypotheses H1, H3, H4, H5, H6, and H7 as location, age, language used, marital status, highest education level, and present situation are demographic variables that include more than two categories of respondents. Gender is a demographic variable that consists of only two categories (male and female); hence, a two-independent samples t-test is more appropriate to test hypothesis H2.

The findings are expected to give an insight into the national cultural profile of Qatar, which is then developed exhaustively.

4.5.2 Interview Data

The interview data is analyzed using thematic content analysis, which involves segregating the responses into themes and pointing out the predominant themes, Creswell (2014). For reasons stated in the literature review chapter, the SECI model is used to conduct the analysis, which takes into account people, process and technology and their impact on KE. It is used to test the impact of National Culture on KE. This approach was used to evaluate the impact of cultural dimensions on the enablers and the composite indicators, and hence to assess the performance of the country on these indicators.

4.5.3 Indicators

International economic indicators, as well as national economic indicators, are used in the current research. These indicators are readily available at the national/local statistical authorities, World Health Organization (WHO), World Economic Forum, World Trade Organization (WTO), ITU, and United Nations Educational, Scientific and Cultural Organization (UNESCO). However, the current research will employ the indicators coming from the World Bank and Arab Knowledge index.

Composite indicators

The research will compose indicators from World Bank and Arab Knowledge indexes for three main sets of knowledge conversion enabler: People, Process, and Technology.

This reflects the system based on WB Model of the four pillars of the knowledge-based economy: Regime, Education, Innovation, and ICT. Hofstede's cultural dimensions (uncertainty avoidance, power distance, collectivism /individualism, masculinity/femininity and) will then be used to assess their impacts on the above indicators of the knowledge economy.

This use of the composite index may allow for a better overall picture of the development of Qatar's Knowledge-based economy and the particular impact of the profiled national culture of the state of Qatar as linked to knowledge management processes.

4.5.3.1 Knowledge Economy Index (KEI)

The most commonly cited “Knowledge Assessment Methodology” is the Knowledge Economy Index (KEI). It summarizes country’s performance on 12 variables relevant to the knowledge economy four pillars. KEI indicates if the environment Supports the use of knowledge in an efficient manner.

The KEI is based on the following four pillars:

- Economic incentive and institutional regime
- Education and human resources
- Innovation system
- ICT

These four pillars, along with three constructs of people, processes, and technology, were used to develop a composite indicator. The cultural dimensions of Hofstede’s (which are the intervening variables) are used to analyze the impact on these indicators, and the creation of knowledge economy.

4.5.4 Cultural Dimensions of Hofstede

These are discussed exhaustively in the Literature Review, and summarized below:

- Uncertainty Avoidance
- Masculine-Feminine
- Power Distance
- Individualistic – Collectivistic

4.6 Research reliability and validity

The widely used Alpha Cronbach Test evaluates internal-consistency and reliability, Litwin (1995); Miles (2001); Treiman (2009). The test is applicable for quantitative research and the questionnaire not for qualitative research such as the interview data analysis, Richardson (2002). Easterby-Smith et al. (2008) explained that in qualitative research, reliability is concerned with whether alternative researchers would reveal similar information.

The values survey modules 2008 (VSM08), Geert Hofstede, Gert Jan Hofstede, Michael Minkov and Henk Vinken, designed to compare mean scores of comparable samples of respondents in two or more countries, or regions. The modified version of the VSM13, Geert Hofstede and Michael Minkov, and VSM08 used in this research to develop a country cultural profile, and not to compare the result with other countries. Considering that the reliability can be tested only across countries and the instrument used has been already tested for its validity and reliability by the work of Hofstede (2008), the current study’s questionnaire was not pre-tested.

4.7 Research limitations

The research suffered from the fact that the survey sample was small. The small sample size is considered a limitation, as scholars believe it to be less representative of the population, Creswell,

(2015). However, and in addition to reasons explained in the “sampling” section 4.2.7.4, inferential analysis such as t-test and ANOVA tests established that the sample was not skewed by its demographic characteristics, and hence could be used as a representative sample. Inferential statistics help make inferences from the collected data to arrive at more general inference about the population while descriptive statistics help in simply describing what's going on in data.

In addition, the interviews were conducted using only ten respondents, which again could be considered as a limitation. Although ten interviews held with the different employees from different managerial levels reveal a small sample and conclusions that should not be generalized, they provide good insight into experiences and possible difficulties knowledge management processes.

Another limitation, and opposite to the interview sample, the survey sample is that there were more women, as opposed to men, while in the actual population of native Qataris, the reverse ratio is true. A t-test used to compare the means of two samples. Using the mean scores variable, it was concluded that gender had no significant effect on respondents' responses. However, gender had a significant effect on individual items. There is still a chance that the responses would be impacted by the predominance of women in the sample. This indicates toward scope for more detailed research in future.

4.8 Research challenges

Preconceptions

To avoid preconceived ideas and compelled by the desire for knowledge and persistence in objectivity, the research recognizes and acknowledges cultural norms, values, and behaviors. Consequently, the research incorporated exploratory strategy and mixed methods approach.

Literature

As the concept of tribe is often compared with other social groups' concepts, literature revealed a level of bias. In the way of studying and presenting economic and political hierarchies, literature relegate the concept of tribe with numerous negative associations attributed in favor of the concept of state.

Data collection

For participants to be able to comprehend the meaning of the survey questions it had to be translated to native language to be culturally and literally viable to enable them to respond openly and correctly. A pilot study validates and addresses language and culture concerns.

Gender segregation in schools and in the workplace posed a hurdle to overcome in data collection process. Manifested in the interview subjects, only two female participated. The interview conducted via the telephone opposing to personal interview for the remaining male subjects.

Governed by research ethics, my understanding of the local culture was called upon during the semi structure interviews to ensure that required data is collected while rigorously maintaining impartiality.

Time

I had to develop time management strategy and new techniques to find ways to fit more in my limited time as a fulltime employee and family man.

5 CHAPTER FIVE: DATA ANALYSIS AND FINDINGS

This chapter explores the concept of National Culture Profile and its influence on the country's transition to a knowledge-based economy where all types of knowledge are critical economic resources that need to be managed.

5.1 Introduction

Showcasing Qatar; the chapter investigates the associations between national culture profiled in Hofstede's dimensions of culture and Qatar's transition to the knowledge economy as it affects knowledge management process. Chapter 3 further justify choosing Hofstede's dimensions of culture, the SECI as knowledge conversion model and suggested connections.

Section 5.4 recognizes the influence of these dimensions on the progress of Qatar transition from a rentier economy to a knowledge-based economy by further analysis to relevant indicators as published in selected global indexes

The chapter divided into three sections post-Introduction.

As previously explained in the research methodology chapter, the research adopts the two-tier approach.

Primary Data-Survey: (Quantitative)

A typical explanatory positivist approach based on quantitative data collected from the survey to answer the research question "What is Qatar's national cultural profile", and scientifically profile Qatar's National culture.

This chapter presents the findings from the survey and includes results from the descriptive and statistical analyses. A questionnaire was developed and specially prepared for this purpose and distributed to a representative sample of Qatari people based on a non-probability purposive sampling method.

Appropriate statistical and descriptive analysis of demographic characteristics were conducted. Frequencies and percentages followed by pie and bar charts to present demographic characteristics graphically, and correlation study investigated the associations of cultural dimensions and the demographic characteristics of Qataris.

To reach wider inference from the sample, the research conducts One-Way ANOVA and Two-independent samples t-test inferential analysis for significant demographic differences.

Primary Data-Interview :(Qualitative)

Qualitative data collected from a small number of interviews, an exploratory study explore the proposed impact of national culture on knowledge management process to answer the research question "How

Qatar's national culture profile influence knowledge facilitation as categorized in Nonaka and Takeuchi's Knowledge Process Model?"

Presents the results from the interviews, and identifies the limitations and cautions needed to interpret the interview findings.

Secondary Data :(Indexes)

How Qatar's national culture profile influence the currently adopted knowledge transfer process and its influence on the process of Qatar's transition to a knowledge-based economy?

What is the impact of Qatar national cultural profile on the internationally relevant indicators of Qatar's progress towards knowledge-based economy?

To answer these questions, the research adopts an abductive approach to validate the suggested link between National culture and knowledge management processes as relevant to the country's transition to a knowledge-based economy. In addition, the research refers to International indicators that measure the progress of Qatar's economic transformation to a knowledge-based economy based on the globally identified four pillars of the knowledge economy.

To ascertain the progress made and validate the impact of Qatar's national culture on achieving a successful transition to a knowledge-based economy, the research uses Index indicators for the State of Qatar on the four dimensions of the knowledge economy published in the WB, WEF, UNDP reports including the Arab knowledge index for the preceding five years.

5.2 Primary Data-Survey: (Quantitative)

Based on the data analysis methods as explained and justified in the research methodology chapter, section 4.5.1, the survey data was cleaned and statistical techniques performed using SPSS to produce frequencies and percentages of different categories of participants and their perceptions regarding Uncertainty Avoidance, Power Distance, Individualism vs. Collectivism, and Masculinity vs. Femininity. For demographic characteristics, summary statistics of all categories are presented including frequencies and percentages in Table (9), followed by pie and bar charts to represent the characteristics graphically, (see Figures (8) to (15)).

Demographic Characteristics of Survey Participants

Table 9: Sample Demographic Statistics

Demographic Characteristics		Count	Percent %
Location	Doha	55	70.67
	Al Rayan	11	14.67
	Rest of Qatar	11	14.67
Gender	Male	19	25.33
	Female	56	74.67
Age	18 - 24 years	13	17.33
	25 - 29 years	24	32.00
	30 - 39 years	25	33.33
	40 - 55 years	9	12.00
	55+ years	4	5.33
Language Used	Speak only Arabic	8	10.67
	Speak Arabic & English	54	72.00
	Speak Arabic, English, & Other	13	17.33
Marital Status	Never married	32	42.67
	Married	38	50.67
	Divorced / Widowed / Prefer not to say	5	6.67
Highest Education Level	Secondary / Above Secondary but less than university such as diplomas	10	13.51
	University Graduate (Bachelor)	45	60.81
	Post-graduate (Masters or Ph.D.)	19	25.68
Present Situation	Student	9	12.00
	Retired - not working / Unemployed / Housewife	9	12.00
	Retired - working (Employed) / Private Businessman	2	2.67
	Paid Employee	55	73.33
Total		75	100.00

75 participants had given valid demographic data, and following is a summary of their demographic characteristics.

As explained below some categories combined for better representation of data as there was insufficient data provided for these categories

Location: The descriptive analysis revealed that the majority of survey participants reside in Doha (70%), while 15% of them reside in Al Rayan, and 15% reside in other cities such as Al Wakra, Al Khor, Umm Salal, Al Shamal, and Al Daayen. (Figure 8)

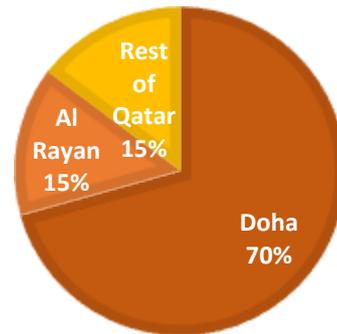


Figure 8 Location

Gender: Regarding the gender of participants, the majority (75%) were women. (Figure 9)

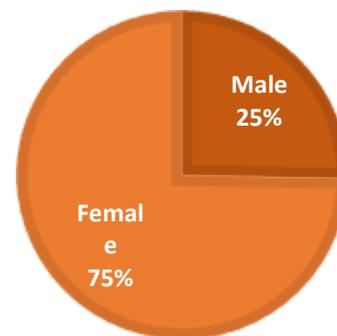


Figure 9 Gender

Age: With respect to the survey participants' ages, the sample seems to be young as 83% of participants were less than 40 years old.

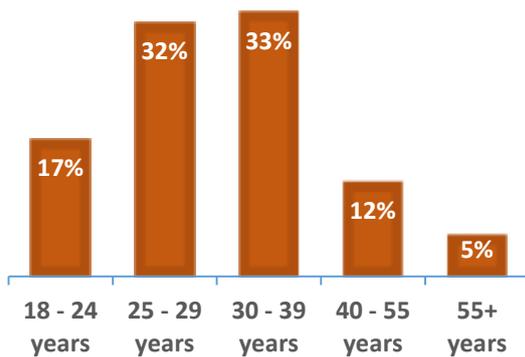


Figure 10 Age

Language Used: Respondents were provided three options to choose from; namely, “Speaking Arabic”, “Speaking English”, and “Speaking Other Language”. Participants were given the choice to choose more than one answer. Therefore, a new variable was created to compare the three groups of respondents: 1- “Speaking Arabic only”, 2- “Speak Arabic and English”, and 3- Speaking Arabic, English, and Other language(s). This computed variable will be used in measuring differences among the three groups of respondents. Eleven percent of respondents speak only Arabic, 72% speak both Arabic and English, and 17% speak more than Arabic and English.

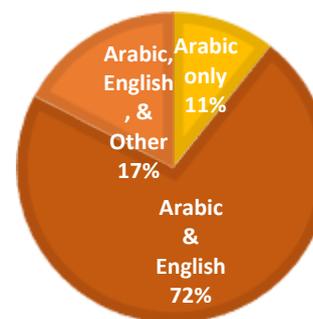


Figure 11 Language Used

Marital Status: The majority of participants were either married (51%) or never married (43%) and 7% were either divorced, widowed, or preferred not to say.

Highest Level of Education: The highest level of education achieved by participants is the Bachelor Degree (University Graduate) represented by 61% of the survey sample, followed by Post-graduate (Master or PhD degree) represented by 26% of participants. Fourteen percent of respondents had secondary or above secondary (but less than university such as diplomas) education. Figure 13

Present Occupational Situation: Finally, regarding the participants' present situation, the majority of them (73%) were paid employees, 12% were students, 12% were retired (not working), unemployed, or housewives, 3% were retired (working) or private businessmen. There was one formally retired participant that was working (employed), and another that was a private businessman without employees.

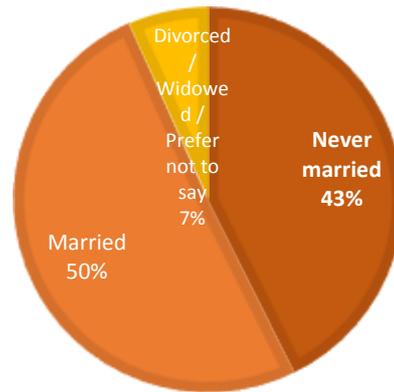


Figure 12 Marital Status

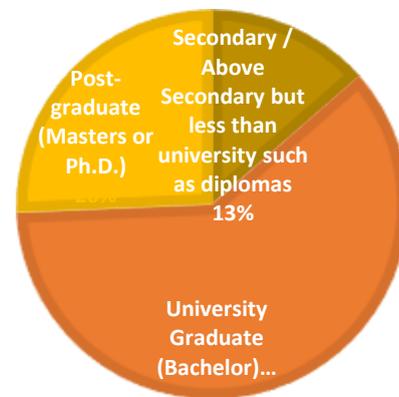


Figure 13 Highest Education Level

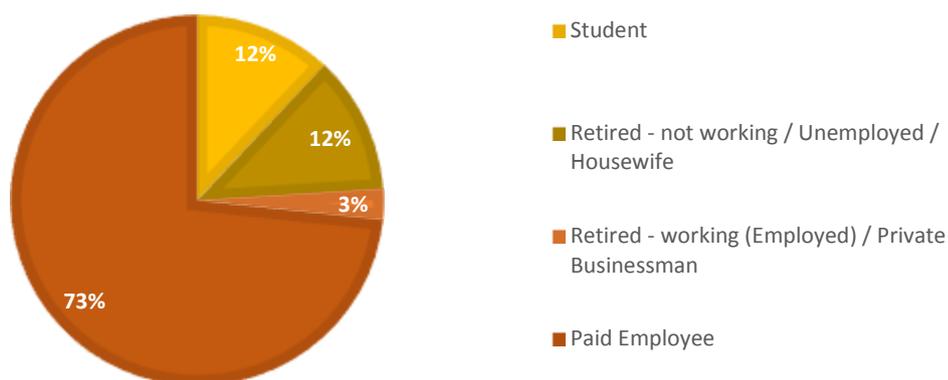


Figure 14 Present Situation

The demographic profile of the respondents closely matched the profile of an average Qatari. For example, Qatar population is predominantly young, with 70.45% of the population between 25 to 54 years old. Also, Arabic is the official language but English is vastly used, and as such, the sample aptly

captures this aspect. The sample is however skewed in terms of gender, because, the male to female ratio for 25 to 54-year-old age group, is 4.92: 1; but the sample has 1:3 ratio (75% of the sample is made of women). Also, 96.3% of the population is literate, with 29% having over secondary education (RAND Corporation, 2004). As demonstrated later in this chapter, inferential analysis ANOVA and T-tests found no significant demographic differences. However, there is also a trend observed that female college students in Qatar are double the male students (for both Qatar and non-Qatari population) (Doha News, 2014). Considering the random sampling technique, this could be one of the reasons that this research sample has a predominantly higher number of women. Also, when it comes to occupation, 71% of Qatari's prefer to work in the government departments, and 13 % in government-owned corporations in paid jobs as opposed to the private sector. Also, according to 2011 census, the divorce rate among Qatar nationals is 8.7%, and the majority of the people are married (QatarNews, 2014). This again is reflected in the sample that was drawn (Doha News, 2014).

5.2.1 Survey Questions Responses

The survey instrument was thoroughly explained in the research methodology section 4.5.1.

The survey used items from the VSM 08 and VSM 13 of the Hofstede model and similar surveys adopted by many scholars during the past two decades.

The items were measured using a five-point Likert scale. Participants' responses for items measuring the four cultural dimensions of Hofstede were described and summarized using frequency analysis and Summary Statistics such as the mean to measure the central tendency and the standard deviation to measure the dispersion. Each dimension of culture consisted of four items, described and summarized separately. Each dimension scale is averaged into one newly created scale representing the average score of the pertaining item responses.

Responses given by participants are scores on the dimensions of culture that provide data on how respondents see the culture in which they live and work. Given those scores, the researcher can get a better understanding of how Qataris perceive their own culture based on Hofstede (1980) initial five discriminating dimensions. The scores can be compared to other specific cultures, especially GCC countries, in future studies enabling highlighting of similarities amongst GCC member countries.

5.2.1.1 The dimensions of culture -Uncertainty Avoidance

Uncertainty avoidance measures the extent to which society wants to avoid encountering novel situations that require new ways of thinking and processing, Glover et al. (2016). Societies high on uncertainty avoidance tend to micro-analyze and forecast situations and develop rules and laws governing every activity. On the other end of the scale, societies low on uncertainty avoidance, and which are not only fine with ambiguity, but also believe ambiguity leads to creativity and progress.

Societies and nations high on uncertainty avoidance are closed and guard their own beliefs and assumptions while discounting any contrary perspectives, Glover et al. (2016).

Uncertainty Avoidance was measured in this research using four items:

- “In this society, orderliness and consistency are stressed, even at the expense of experimentation and innovation”
- “A company or organization's rules should not be broken - not even when the employee thinks breaking the rule would be in the organization's best interest”,
- “In this society, societal requirements and instructions are spelled out, so citizens know what they are expected to do”,
- “Tradition is important to follow the customs handed down by family”

The frequencies analysis shows that there is a general tendency to agree to the listed statements under Uncertainty Avoidance, about 55% of total scores obtained were on the agreement side of the scale (Agree + Strongly Agree), While 28% of total scores were on the disagreement side of the scale (Disagree + Strongly Disagree). The mean score is 3.36, indicating that scores tend to be higher than 3, where 3 refers to “Neutral”. This means that scores are more likely to be either 4 “Agree” or 5 “Strongly

	Scale					M	SD
	Count (%)						
	SD	D	N	A	SA		
Q8. In this society, orderliness and consistency are stressed, even at the expense of experimentation and innovation.	1 (1.64)	11 (18.03)	15 (24.59)	30 (49.18)	4 (6.56)	3.41	.920
Q9. A company or organization's rules should not be broken - not even when the employee thinks breaking the rule would be in the organization's best interest.	5 (8.20)	25 (40.98)	9 (14.75)	17 (27.87)	5 (8.20)	2.87	1.162
Q10. In this society, societal requirements and instructions are spelled out in detail so citizens know what they are expected to do.	2 (3.28)	15 (24.59)	5 (8.20)	31 (50.82)	8 (13.11)	3.46	1.104
Q11. Tradition is important to follow the customs handed down by family.	1 (1.64)	8 (13.11)	13 (21.31)	26 (42.62)	13 (21.31)	3.69	1.009
Uncertainty Avoidance – Average Score	9 (3.69)	59 (24.18)	42 (17.21)	104 (42.62)	30 (12.30)	3.36	.613

Table 10: Uncertainty Avoidance - Descriptive Statistics (N valid = 61)

Agree”. However, the mean score for Q9 “A company's or organization's rules should not be broken - not even when the employee thinks breaking the rule would be in the organization's best interest” was 2.87, which can be noticed by the higher percentage of respondents who disagreed to the statement (49%) than those who agreed (36%).

The findings of the frequency analysis can give an insight into the characteristics of Qatari society concerning the Uncertainty Avoidance cultural dimension. Qatari society tends to regard company based rules as of less importance as the majority of respondents (49%) disagreed that “A company's or organization's rules should not be broken - not even when the employee thinks breaking the rule would be in the organization's best interest.”

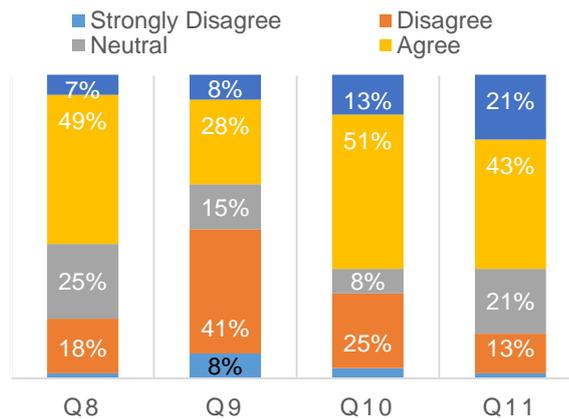


Figure 15 Uncertainty Avoidance – Detailed view

However, on the three other questions, the responses are skewed toward an agreement with a tendency to avoid uncertainties.

The research findings suggest that the state of Qatar is an uncertainty avoiding culture. The majority of respondents agree with the fact that in Qatar society uniformity and steadiness are stressed, even at the cost of experimentation and modernization, which indicates that Qataris are regarded as conservats. They have preset and structured rules and regulations to avoid unknown situations. This is also confirmed by their agreement with the fact that societal requirements and instructions are spelled out in detail, so citizens know what they are expected to do. They own the belief in absolute Truth: "there can only be one Truth, and we have it". This can be confirmed by their agreement to the statement “Tradition is important to follow the customs handed down by family”.

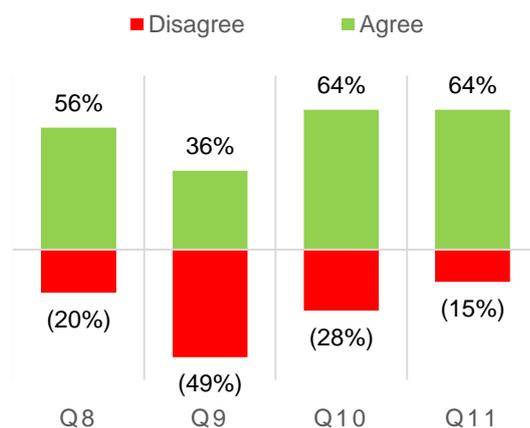


Figure 16: Percentage of Respondents Agreed/Disagreed to Uncertainty Avoidance Items

Concerning the item stating that a company or organization's rules should not be broken - not even when the employee thinks breaking the rule would be in the organization's best interest, the proportion of respondents who disagreed to this statement was higher than the proportion of respondents who agreed with it. A good portion (36%) agreed with the statement, which is consistent with the tendency of participant’s responses to the other 3 items.

5.2.1.2 Power Distance

Power distance is the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally, Glover et al. (2016). This represents inequality as defined from the bottom and from top of the hierarchy. It suggests that the followers as much as by the leaders endorse a society’s level of inequality. Inequality is a fundamental fact for any society as some have more power distance than others.

	Scale Count (%)					M	SD
	SD	D	N	A	SA		
Q12. In this society, followers are expected to obey their leaders when in disagreement without question.	3 (4.92)	17 (27.87)	11 (18.03)	25 (40.98)	5 (8.20)	3.20	1.093
Q13. In this society, power is Concentrated at the top of the society.	1 (1.64)	9 (14.75)	10 (16.39)	24 (39.34)	17 (27.87)	3.77	1.071
Q14. “Obedience” is a quality that children can be forced to learn at home.	2 (3.28)	9 (14.75)	7 (11.48)	29 (47.54)	14 (22.95)	3.72	1.082
Q15. Subordinates are afraid to contradict their boss (or students their teacher).	1 (1.64)	16 (26.23)	8 (13.11)	29 (47.54)	7 (11.48)	3.41	1.055
Power Distance – Average Score	7 (2.87)	51 (20.9)	36 (14.75)	107 (43.85)	43 (17.62)	3.52	.687

Table 11: Power Distance - Descriptive Statistics (N valid = 61)

Power distance was measured using four items, which are “In this society, followers are expected to obey their leaders when in disagreement without question”, “In this society, power is Concentrated at the top of the society”, “Obedience is a quality that children can be forced to learn at home”, and “Subordinates are afraid to contradict their boss (or students their teacher)”, listed and summarized in Table (11).

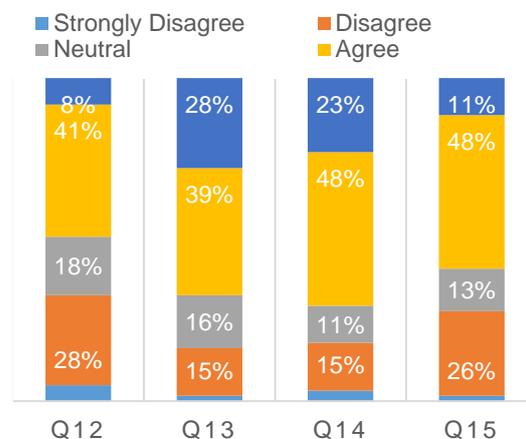


Figure 17 Power Distance – Detailed View

The frequency analysis shows that the mean score for the Power Distance dimension is 3.52, which indicates that there is a general tendency of responses to be either 4 (Agree) or 5 (Strongly Agree). This can be confirmed by the high proportion of respondents (61%) who agreed (Agree + Strongly Agree) to the items of this dimension. This reveals that the Qatari society tends to be high Power Distance society. Qataris tend to accept and expect that power to be distributed unequally as they agree that power is concentrated at the top of the society. Therefore, leaders expect followers to obey, and followers accept that they should. In the same manner, near-absolute obedience is desired from children and subordinates. The contradiction is not considered as good, be it in the family or official setting.

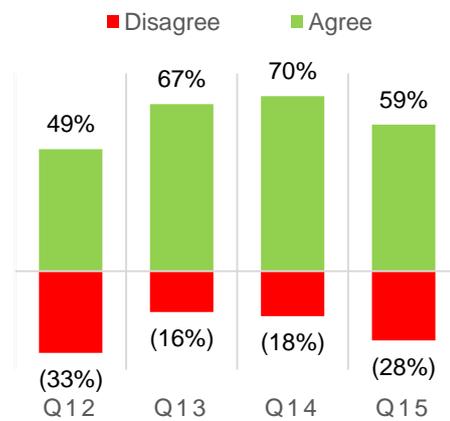


Figure 18 Percentage of Respondents Agreed/Disagreed to Power Distance Items

5.2.1.3 Individualism vs. Collectivism

	Scale					M	SD
	Count (%)						
	SD	D	N	A	SA		
Q16. It is important to help close and nearby people; to care for their well-being.	0 (.00)	0 (.00)	2 (3.28)	33 (54.1)	26 (42.62)	4.39	.556
Q17. It is important to this person to do something for the good of society.	0 (.00)	0 (.00)	0 (.00)	16 (26.23)	45 (73.77)	4.74	.444
Q18. The economic system in this society is designed to maximize Collective interests.	3 (4.92)	9 (14.75)	8 (13.11)	31 (50.82)	10 (16.39)	3.59	1.086
Q19. In this society, leaders encourage group loyalty even if individual goals suffer.	3 (4.92)	5 (8.2)	20 (32.79)	26 (42.62)	7 (11.48)	3.48	.976
Individualism vs. Collectivism – Average Score	6 (2.46)	14 (5.74)	30 (12.3)	106 (43.44)	88 (36.07)	4.05	.472

Table 12: Individualism vs. Collectivism - Descriptive Statistics (N valid = 61)

Individualism versus collectivism is the degree to which individuals assimilated into groups. On the individualist side, societies exhibit loose ties between individuals where everyone is expected to look after her/himself and her/his immediate family. The collectivist societies confirm that people from birth

onwards are joined into resilient and cohesive groups which continue protecting them in exchange for unquestioning loyalty, Glover et al. (2016).

This is also in line with Harry Triandis (219) views on collectivism and individualism. He suggested that Collectivists are linked individuals believe to be parts of a whole like a network of co-workers, a tribe, or a nation. They are mainly motivated by norms and responsibilities imposed by the collective entity. On the other hand, Individualists driven by their own needs, and rights and the priority is the personal rather than to group goals.

It is important to note that although this dimension is particularly fundamental regarding all societies in the world, however, the word collectivism in this sense has no political meaning and it refers to group activities, not to the state.

Individualism was measured using four items: “It is important to help close and nearby people; to care for their well-being”, “It is important to this person to do something for the good of society”, “The economic system in this society is designed to maximize Collective interests, and “In this society, leaders encourage group loyalty even if individual goals suffer”, listed and summarized in Table (12).

The frequency analysis shows that the mean score for the aggregated Individualism vs. Collectivism cultural dimension is 4.05, which is a high mean score value indicating the tendency of responses to skew to the “Agree” or “Strongly Agree” scale points.

The very high proportion of responses (80%) in the agree side suggests that the respondents perceive the society of the state of Qatar as a collectivist society. They see that it is important to help close and nearby people, to care for their well-being and to do something for the good of society. They believe that the economic system in this society intended to maximize the collective interests and group loyalty is encouraged even if individual goals suffer.

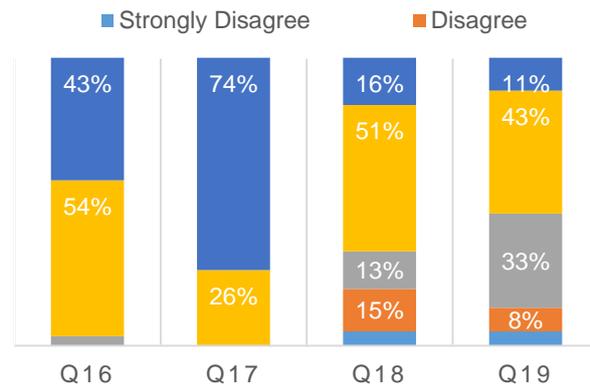


Figure 19: Individualism vs. Collectivism – Detailed

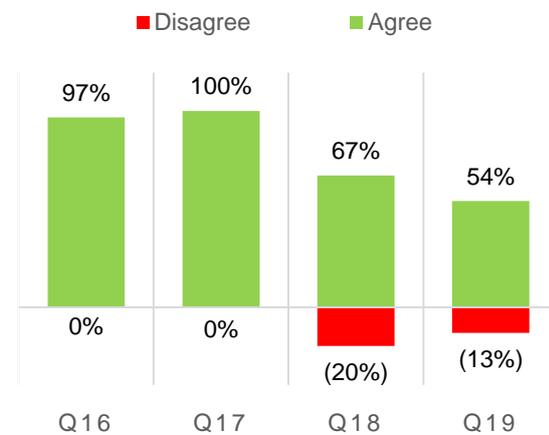


Figure 20: Percentage of Respondents Agreed/Disagreed to Individualism vs. Collectivism Items

5.2.1.4 Masculinity vs. Femininity

	Scale					M	SD
	Count (%)						
	SD	D	N	A	SA		
Q20. Would you say that “Religion” is very important in your life?	2 (3.28)	1 (1.64)	1 (1.64)	4 (6.56)	53 (86.89)	4.72	.859
Q21. Would you say that “Family” is very important in your life?	0 (.00)	1 (1.64)	1 (1.64)	5 (8.20)	54 (88.52)	4.84	.522
Q22. Would you say that “Leisure time” is very important in your life?	0 (.00)	0 (.00)	2 (3.28)	20 (32.79)	39 (63.93)	4.61	.556
Q23. Would you say that “Friends” are very important in your life?	0 (.00)	0 (.00)	5 (8.20)	23 (37.7)	33 (54.10)	4.46	.647
Masculinity vs. Femininity – Average Score	2 (0.82)	2 (.82)	9 (3.69)	52 (21.31)	179 (73.36)	4.66	.393

Table 13 Masculinity vs. Femininity - Descriptive Statistics (N valid = 61)

Masculinity versus its opposite, femininity refers to emotional roles or traits, rather than genders, Glover et al. (2016). Masculine attributes are aggressiveness, competitiveness and assertiveness, while feminine attributes include compassion and relationship building. Cultures can be distinguished on the basis of these traits, and as such, masculine cultures are those that value and find merit in aggressiveness and competitiveness, while feminine cultures are those that display relationships, compassion and caring for others.

The frequency analysis revealed that the mean score for the Masculinity cultural dimension was 4.66, which indicates the tendency of the majority of the scores to be more than “Agree”; that is, “Strongly Agree”. This suggests that the Qatari society is highly feminine society. Masculine traits include decisiveness, materialism/measurable success, egocentricity, control, strength, and individual accomplishments. This is reflected by the high importance of religion, family, friends, and leisure time for the Qatari citizens.

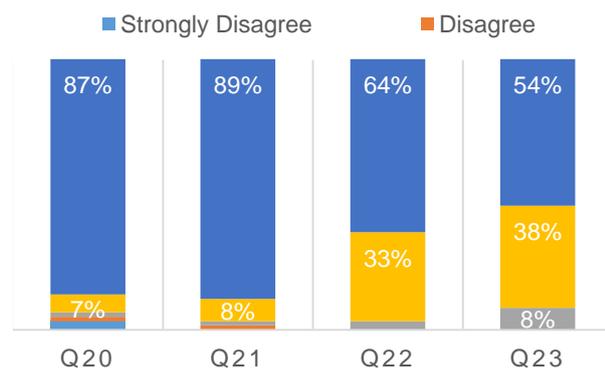


Figure 21 Masculinity vs. Femininity – Detailed View

The above findings suggest that respondents value religion, family and friends – and hence, Qatar culture is closer to being feminine. These are feminine attributes and indicate that the society per se does not value aggressiveness or competitiveness over traits like caring and relationships.

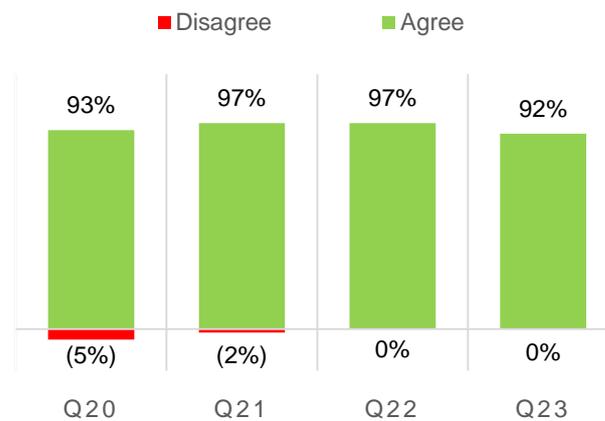


Figure 22 Percentage of Respondents Agreed/Disagreed to Masculinity vs. Femininity Items

5.2.2 Correlation analysis

Correlation analysis is the process of investigating relationships that statistical data may have. High correlation means that selected variables have a solid relationship while a low correlation means that the variables are hardly related. The analysis will yield a correlation coefficient that determines the presence of this relation, if any, and how strong it is.

5.2.2.1 Spearman's Rho

Spearman rank correlation coefficient (ρ) is used for further analysis. The selection of Spearman rank correlation is discussed in Chapter 3, Research Methodology along with the rationale and benefits of using it. On the individual level, running correlation analysis using the 16 items of the questionnaire and computing the Spearman rho, there were some statistically significant relationships between pairs of items from the four cultural dimensions, p-values $< \alpha$ of .05. Table (14).

	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q18	Q20	Q22
Q13			.404 (.001)							
Q14		.356 (.005)								
Q15	-.265 (.039)		.453 (.000)	.540 (.000)						
Q17							.335 (.008)			
Q18		.285 (.026)		-.347 (.006)	.320 (.012)	-.407 (.001)				
Q19		.340 (.007)						.292 (.022)		
Q21	.289 (.024)								.625 (.000)	
Q22							-.259 (.044)			
Q23										.374 (.003)

Table 14: Survey Items Correlation Analysis Spearman Correlation Coefficient ρ (P-Value)

Significant relationships found are:

Rules-oriented society revealed Uncertainty avoiding Qatari culture.

“In this society, societal requirements and instructions are spelled out in detail so citizens know what they are expected to do” was negatively related to “Subordinates are afraid to contradict their boss (or students their teacher)” and positively related to “Would you say that “Family” is very important in your life?” This suggests that although the Qatari society is a rules-oriented society, that may contradict with the fact that subordinates are afraid to contradict their bosses. This may appear counterintuitive, since if a society follows the rules, and bosses are embedded in the rule-based hierarchical system, then the subordinates should be afraid to contradict their bosses. However, from this negative correlation, it

appears that having respect for rules makes people unafraid of standing for the rules, even if they are against their bosses. However, having rules and regulations, and the importance of family in the life of the Qatari society supports the findings that the Qatari society is uncertainty avoiding culture by following the rules and regulations in addition to a tradition to follow the customs passed down by family.

Collectivistic nature and uncertainty avoidance stance of Qatar people.

“Tradition is important to follow the customs handed down by family” was positively correlated with “obedience is a quality that children can be forced to learn at home”, “the economic system in this society is designed to maximize Collective interests”, and “in this society, leaders encourage group loyalty even if individual goals suffer”. This also indicates that, as tradition is essential to follow the customs passed down by family in the Qatari society; this is associated with the culture of teaching children to be obedient starting the process at home by the family. It is a trait of the uncertainty avoiding culture featuring the Qatari society, leading to this society to be a collective society as well because of the Qataris’ belief in their economic system supporting the collective interests. Moreover, following the traditions implies leaders to be encouraging the group loyalty. Therefore, these correlations too highlight the collectivistic nature and uncertainty avoidance stance of Qatar people.

Collectivist culture and high-power distance society

The significant positive relationship found between “in this society, followers are expected to obey their leaders when in disagreement without question”, and “in this society, power is concentrated at the top of the society” and “subordinates are afraid to contradict their boss (or students their teacher)” suggests that the Qatari society has high power distance culture. This is because of the belief of Qataris in obeying leaders and power of the top.

“In this society, power is concentrated at the top of the society” was positively correlated with “subordinates are afraid to contradict their boss (or students their teacher)”, which supports the previous point. However, “in this society, power is concentrated at the top of the society” was negatively correlated with “the economic system in this society is designed to maximize collective interests”, which suggests that as this society is high power distance, yet it is collective.

“Obedience is a quality that children can be forced to learn at home” was positively correlated with “it is important to this person to do something for the good of society”. This significant positive relationship supports the suggested positive linkage between high power distance cultures with collective culture traits. “Subordinates are afraid to contradict their boss (or students their teacher)” was negatively correlated with “the economic system in this society is designed to maximize collective interests”. This suggests the desire of the Qatari society to be more self-expressing, although they have the high power distance culture, which contradicts with the fact that they have collective culture. This, however, is not unusual, since even though the society cherishes the value of collectivistic culture, high power–distance signifies that in effect and practice, only a few are likely to benefit even at the cost of others.

“It is important to help close and nearby people; to care for their well-being” was positively correlated with “it is important to this person to do something for the good of society” and negatively correlated with “would you say that Leisure time is very important in your life?” The collectivist nature of this society is contradicting with the fact that they see their leisure time as important (which reflects the feminine culture).

Feminine and Collectivist culture

“The economic system in this society is designed to maximize collective interests” was positively correlated with “in this society, leaders encourage group loyalty even if individual goals suffer”. This relationship supports the Qatari society as being a collectivist culture. “Would you say that Religion is very important in your life?” was strongly positively correlated with “Would you say that Family is very important in your life?” The feminine society is characterized by the importance of religion and family in life. The correlation analysis strongly supports this trait of the feminine cultural dimension. “Would you say that Leisure time is very important in your life?” was positively correlated with “would you say that “Friends” are very important in your life?” This is similar to the previous point, suggesting that the Qatari society culture is feminine.

In summary, it is seen that the survey results indicate that Qatari national culture is dominated by collectivist and feminist tendencies where group loyalty, clan loyalty, relationships and caring are the dominant emotions and attitudes. This is linked with a tendency to a moderately high degree of uncertainty avoidance and power distance where obedience is implicitly expected for being taken care of. All these characteristics indicate relational based group mechanisms of work and life activities.

The research identifies Qatar’s national culture dimensions as high power distance, high uncertainty avoidance, moderate to low masculinity and low moderate to low individualism.

5.2.3 Inferential analysis - significant demographic differences

Inferential statistics techniques enable the use of the findings in the research sample to make generalizations about the populations from which the samples were drawn. With inferential statistics, conclusions can be reached and extended beyond the immediate data itself, Creswell (2015). For example, inferential statistics can help conclude from the sample data what the whole population might think about culture. Alternatively, it can support assumptions of the probability that a detected difference between groups is a dependable one or one that might have happened in any respect. Thus, inferential statistics help make interpretations from the collected data to reach a broader conclusion about the population while descriptive statistics help in simply describing what is happening within the data.

Here, significant demographic differences are inferred by testing the following hypotheses:

- H1: Location has a significant impact on respondents’ mean scores
- H2: Gender has a significant impact on respondents’ mean scores
- H3: Age has a significant impact on respondents’ mean scores

- H4: Language used has a significant impact on respondents' mean scores
- H5: Marital status has a significant impact on respondents' mean scores
- H6: Highest education level has a significant impact on respondents' mean scores
- H7: Present situation has a significant impact on respondents' mean scores

One-way ANOVA (Analysis of Variance) was performed to the hypotheses H1, H3, H4, H5, H6, and H7 as location, age, language used, marital status, highest education level, and present situation are demographic variables that include more than two categories of respondents. Gender is a demographic variable that consists of only two categories (male and female); hence, a two-independent samples t-test is more appropriate to test hypothesis H2.

5.2.4 Key findings:

Uncertainty Avoidance

Previously presented, the cultural dimension uncertainty avoidance was measured using four items. Significant differences among the different groups (and categories) of Qatari respondents were investigated by the examination of the statistics of the ANOVA and T-tests performed. The results and findings are presented in the following tables, Table (15), Table (16), Table (17), Table (18), Table (19), and Table (20), to find significant differences among groups in terms of location, gender, age, marital status, highest education level, and present situation, respectively.

Location:

Location had no significant effect on neither the mean scores nor the individual scores of uncertainty avoidance dimension. This indicates that respondents from the different cities in Qatar may have similar perceptions with regard to the uncertainty avoidance dimension of culture.

Table 15 ANOVA - Location Effect on Uncertainty Avoidance Respondents' Scores

Items	Location						ANOVA	
	Doha		Al Rayan		Rest of Qatar			
	M	SD	M	SD	M	SD	F	Sig.
Uncertainty Avoidance	3.31	.594	3.55	.563	3.36	.772	.613	.545
Q8	3.40	.964	3.40	.699	3.44	1.014	.007	.993
Q9	2.79	1.159	3.20	1.229	2.89	1.167	.507	.605
Q10	3.45	1.131	3.40	1.075	3.56	1.130	.048	.953
Q11	3.60	1.061	4.20	.919	3.56	.726	1.572	.216
N Valid = 61	42		10		9		$\alpha = .05$	

Table 16: ANOVA showing impact of gender on UA

Items	Gender				T Test	
	Male		Female		T	Sig.
	M	SD	M	SD		
Uncertainty Avoidance	3.59	.547	3.27	.619	1.837	.071
Q8	3.44	.727	3.40	.986	.139	.890
Q9	3.38	1.204	2.69	1.104	2.085	.041
Q10	3.38	1.088	3.49	1.121	-.352	.726
Q11	4.19	.750	3.51	1.036	2.784	.008
N Valid = 61	16	45	$\alpha = .05$			

Gender

Using the mean scores variable, gender had no significant effect on respondents' responses. However, gender had a significant effect on the individual items (Q8 and Q12), p-values = .041 and .008, respectively, which is less than the significance level of $\alpha = .05$. For both items, men had significantly higher mean score than women, indicating that men are more likely to be uncertainty avoiding than women in terms of the two items: "a company's or organization's rules should not be broken - not even when the employee thinks breaking the rule would be in the organization's best interest" and "tradition is important to follow the customs handed down by family". This difference in male and female respondents is interesting to note and indicates scope for more detailed research in future.

Language

The language used had no significant effect on either the mean scores or the individual scores of uncertainty avoidance dimension, p-values > .05. This indicates that respondents speaking Arabic, speaking both Arabic and English, or speaking other languages in addition to Arabic and English have similar perceptions with regard to the uncertainty avoidance dimension of culture.

Age

Age had no significant effect on either the mean scores or the individual scores of uncertainty avoidance dimension, p-values > .05. This indicates that respondents from the different age categories in Qatar have similar perceptions with regard to the uncertainty avoidance dimension of culture

Table 17: ANOVA impact of age on UA

Items	Age										ANOVA	
	18 - 24 years		25 - 29 years		30 - 39 years		40 - 55 years		55+ years			
	M	SD	M	SD	M	SD	M	SD	M	SD	F	Sig.
Uncertainty Avoidance	3.50	.500	3.20	.478	3.41	.629	3.31	1.297	3.67	.577	.613	.545
Q8	3.25	.886	3.62	.805	3.32	.988	2.75	1.258	4.00	.000	.007	.993
Q9	3.38	1.302	2.57	.870	2.88	1.236	3.00	1.826	3.33	1.155	.507	.605
Q10	3.63	1.061	3.29	1.146	3.44	1.044	3.75	1.893	4.00	.000	.048	.953
Q11	3.75	.463	3.33	1.017	4.00	1.080	3.75	.957	3.33	1.155	1.572	.216
N Valid = 61	8		21		25		4		3		$\alpha = .05$	

Marital Status

Using the mean score of the four items aggregated, there was a significant effect of the demographic variable “Marital Status” on the mean scores of uncertainty avoidance, p-value = .013 (< .05). Post hoc multiple comparisons tests revealed that married respondents had significantly higher mean scores than respondents who had never got married. This suggests that married Qataris tend to be more uncertainty

Table 18: ANOVA impact of marital status on UA

Items	Marital Status						ANOVA	
	Never Married		Married		Divorced / Widowed / Prefer not to Say			
	M	SD	M	SD	M	SD	F	Sig.
Uncertainty Avoidance	3.18	.503	3.55	.588	2.75	1.090	4.700	.013
Q8	3.31	.788	3.56	.948	2.67	1.528	1.613	.208
Q9	2.62	1.098	3.13	1.157	2.33	1.528	1.759	.181
Q10	3.27	.919	3.66	1.181	3.00	1.732	1.160	.321
Q11	3.54	1.140	3.88	.907	3.00	.000	1.561	.219
N Valid = 61	26		32		3		$\alpha = .05$	

avoiding than Qataris who had never got married. This is an interesting finding, especially since the factor of ‘age’ was not found to impact on the people’s perceptions, and hence it indicates that marital status, and not just because married people would be on an average older, is impacting on their perceptions. Again, this finding provides scope for future research.

Higher Education

The Highest Education Level had no significant effect on either the mean scores or the individual scores of uncertainty avoidance dimension, p-values > .05. This indicates that Qataris with different education levels have similar perceptions with regard to the uncertainty avoidance dimension of culture.

Table 19: ANOVA impact of education on UA

Items	Highest Education Level						ANOVA	
	Secondary / Above Secondary but less than university such as diplomas		University Graduate (Bachelor)		Post-graduate (Masters or Ph.D.)			
	M	SD	M	SD	M	SD	F	Sig.
Uncertainty Avoidance	3.59	.499	3.38	.570	3.31	.603	.687	.507
Q8	3.75	.707	3.49	.853	3.24	.970	1.019	.367
Q9	2.75	1.035	2.97	1.124	2.82	1.286	.170	.844
Q10	4.00	.926	3.34	1.110	3.59	1.004	1.334	.271
Q11	3.88	.641	3.71	1.017	3.59	1.176	.220	.803
N Valid = 60	8		35		17		$\alpha = .05$	

Present Situation (work status)

Present Situation had no significant effect on either the mean scores or the individual scores of uncertainty avoidance dimension, p-values > .05. This indicates that Qataris with occupational situations have similar perceptions with regard to the uncertainty avoidance dimension of culture.

Table 20; ANOVA impact of work status on UA

Items	Present Situation								ANOVA	
	Student		Retired - not working / Unemployed / Housewife		Retired - working (Employed) / Private Businessman		Paid Employee			
	M	SD	M	SD	M	SD	M	SD	F	Sig.
Uncertainty Avoidance	3.50	1.049	3.38	.177	3.30	.567	3.50	1.049	.495	.687
Q8	3.50	1.378	3.50	.707	3.39	.856	3.50	1.378	.031	.992
Q9	2.83	1.472	2.00	.000	2.87	1.108	2.83	1.472	.492	.689
Q10	3.67	1.506	4.00	.000	3.33	1.076	3.67	1.506	1.014	.393
Q11	4.00	.632	4.00	.000	3.63	1.123	4.00	.632	.296	.828
N Valid = 61	7		6		2		46		$\alpha = .05$	

Power Distance

Power Distance dimension was measured using four items. Significant differences among the different groups (and categories) of Qatari respondents were investigated by the examination of the statistics of the ANOVA and T-tests performed. The results and findings are presented in the following tables, Table (21), Table (22), Table (23), Table (24), Table (25), Table (26), and Table (27) to find significant differences among groups in terms of location, gender, age, language used, marital status, highest education level, and present situation, respectively. The following are the key findings:

Table 21: ANOVA impact of location

Items	Location						ANOVA	
	Doha		Al Rayan		Rest of Qatar			
	M	SD	M	SD	M	SD	F	Sig.
Power Distance	3.51	.660	3.57	.746	3.53	.824	.033	.968
Q12	3.21	1.025	2.90	1.197	3.44	1.333	.597	.554
Q13	3.76	1.078	3.70	1.160	3.89	1.054	.076	.927
Q14	3.67	1.162	4.20	.919	3.44	.726	1.342	.269
Q15	3.40	.964	3.50	1.354	3.33	1.225	.059	.943
N Valid = 61	42		10		9		$\alpha = .05$	

Location had no significant effect on either the mean scores or the individual scores of power distance dimension. This indicates that respondents from the different cities in Qatar have similar perceptions with regard to the power distance dimension of culture.

Table 22: ANOVA impact of Gender

Ems	Gender				T Test	
	Male		Female			
	M	SD	M	SD	T	Sig.
Power Distance	3.61	.856	3.49	.625	.571	.570
Q12	2.94	1.181	3.29	1.058	-1.107	.273
Q13	3.94	1.063	3.71	1.079	.724	.472
Q14	4.00	1.095	3.62	1.072	1.204	.233
Q15	3.56	1.209	3.36	1.004	.671	.505
N Valid = 61	16		45		$\alpha = .05$	

Gender had no significant effect on either the mean scores or the individual scores of power distance dimension. This indicates that men and women in Qatar have similar perceptions with regard to the power distance dimension of culture

Table 23 ANOVA - Age Effect on Power Distance Respondents' Scores

Items	Age										ANOVA	
	18 - 24 years		25 - 29 years		30 - 39 years		40 - 55 years		55+ years			
	M	SD	M	SD	M	SD	M	SD	M	SD	F	Sig.
Power Distance	3.62	.267	3.55	.701	3.45	.740	3.50	1.061	3.75	.750	.193	.941
Q12	3.25	.886	3.33	1.017	3.04	1.172	3.00	1.826	3.67	.577	.370	.829
Q13	3.75	.463	3.81	1.123	3.72	1.208	3.50	1.291	4.33	.577	.279	.891
Q14	4.25	.463	3.52	1.167	3.80	1.080	4.00	.816	2.67	1.528	1.514	.210
Q15	3.25	.707	3.52	1.030	3.24	1.165	3.50	1.291	4.33	.577	.843	.504
N Valid = 61	8		21		25		4		3		$\alpha = .05$	

Age had no significant effect on either the mean scores or the individual scores of power distance dimension, p-values > .05. This indicates that respondents from the different age categories in Qatar have similar perceptions with regard to the power distance dimension of culture.

The Language used had no significant effect on either the mean scores or the individual scores of power distance dimension, p-values > .05. This indicates that respondents speaking Arabic, speaking both Arabic and English, or speaking other languages in addition to Arabic and English have similar perceptions with regard to the power distance dimension of culture.

Table 24 Language Used Effect on Power Distance Respondents' Scores

Items	Language Used						ANOVA	
	Arabic		Arabic & English		Arabic, English, & Other		F	Sig.
	M	SD	M	SD	M	SD		
Power Distance	3.71	.914	3.46	.665	3.82	.624	1.094	.342
Q12	3.17	1.169	3.13	1.104	3.71	.951	.888	.417
Q13	4.17	1.169	3.65	1.082	4.29	.756	1.576	.216
Q14	3.50	1.378	3.77	.994	3.57	1.512	.237	.790
Q15	4.00	1.095	3.29	1.051	3.71	.951	1.561	.219
N Valid = 61	6		48		7		$\alpha = .05$	

Marital Status had no significant effect on either the mean scores or the individual scores of power distance dimension, p-values > .05. This indicates that respondents with different marital statuses have similar perceptions with regard to the power distance dimension of culture

Table 25 ANOVA - Marital Status Effect on Power Distance Respondents' Scores

Items	Marital Status						ANOVA	
	Never Married		Married		Divorced / Widowed / Prefer not to Say		F	Sig.
	M	SD	M	SD	M	SD		
Power Distance	3.40	.548	3.63	.765	3.50	1.000	.738	.482
Q12	3.15	.881	3.25	1.270	3.00	1.000	.103	.902
Q13	3.54	1.029	3.94	1.045	4.00	1.732	1.071	.349
Q14	3.62	1.098	3.84	1.081	3.33	1.155	.514	.601
Q15	3.31	.970	3.47	1.107	3.67	1.528	.254	.776
N Valid = 61	26		32		3		$\alpha = .05$	

The Highest Education Level had no significant effect on either the mean scores or the individual scores of power distance dimension, p-values > .05. This indicates that Qataris with different education levels have similar perceptions with regard to the power distance dimension of culture

Table 26: ANOVA impact of education on PD

Items	Highest Education Level						ANOVA	
	Secondary / Above Secondary but less than university such as diplomas		University Graduate (Bachelor)		Post-graduate (Masters or Ph.D.)			
	M	SD	M	SD	M	SD	F	Sig.
Power Distance	3.34	.499	3.49	.721	3.62	.685	.453	.638
Q12	3.25	1.282	3.20	1.079	3.12	1.111	.048	.953
Q13	3.50	.756	3.66	1.083	4.06	1.144	1.065	.351
Q14	3.88	.641	3.74	1.067	3.59	1.326	.207	.814
Q15	2.75	.886	3.37	1.031	3.71	1.047	2.399	.100
N Valid = 60	8		35		17		$\alpha = .05$	

Table 27 ANOVA - Present Situation Effect on Power Distance Respondents' Scores

Items	Present Situation								ANOVA	
	Student		Retired - not working / Unemployed / Housewife		Retired - working (Employed) / Private Businessman		Paid Employee			
	M	SD	M	SD	M	SD	M	SD	F	Sig.
Power Distance	3.68	.345	3.67	.753	3.25	.354	3.49	.733	.327	.806
Q12	3.29	.756	3.83	1.169	2.50	.707	3.13	1.128	1.023	.389
Q13	3.86	.690	3.67	.816	3.00	1.414	3.80	1.147	.382	.766
Q14	4.29	.488	3.50	1.049	4.50	.707	3.63	1.142	1.182	.325
Q15	3.29	.756	3.67	1.033	3.00	1.414	3.41	1.107	.242	.867
N Valid = 61	7		6		2		46		$\alpha = .05$	

Present Situation had no significant effect on either the mean scores or the individual scores of power distance dimension, p-values > .05. This indicates that Qataris with occupational situations have similar perceptions with regard to the power distance dimension of culture.

Individualism vs. Collectivism

Individualism vs. Collectivism dimension was measured using four items. Significant differences among the different groups (and categories) of Qatari respondents were investigated by the examination of the statistics of the ANOVA and T-tests performed. The results and findings are presented in the following tables, Table (28), Table (29), Table (30), Table (31), Table (32), Table (33), and Table (34) to find significant differences among groups in terms of location, gender, age, language used, marital status, highest education level, and present situation, respectively. The following are the key findings:

Table 28: ANOVA - Location Effect on Individualism vs. Collectivism Respondents' Scores

Items	Location						ANOVA	
	Doha		Al Rayan		Rest of Qatar		F	Sig.
	M	SD	M	SD	M	SD		
Individualism vs. Collectivism	4.05	.453	4.25	.333	3.83	.625	1.904	.158
Q16	4.40	.544	4.50	.527	4.22	.667	.611	.546
Q17	4.76	.431	4.80	.422	4.56	.527	.918	.405
Q18	3.57	1.063	3.70	1.252	3.56	1.130	.060	.942
Q19	3.45	.942	4.00	.667	3.00	1.225	2.661	.078
N Valid = 61	42		10		9		$\alpha = .05$	

The location had no significant effect on either the mean scores or the individual scores of Individualism vs. Collectivism dimension. This indicates that respondents from the different cities in Qatar have similar perceptions with regard to the Individualism vs. Collectivism dimension of culture.

Table 29: ANOVA Effect of gender Individualism vs. Collectivism Respondents' Scores

Items	Gender				T Test	
	Male		Female		T	Sig.
	M	SD	M	SD		
Individualism vs. Collectivism	4.20	.430	3.99	.478	1.537	.130
Q16	4.69	.479	4.29	.549	2.575	.013
Q17	4.75	.447	4.73	.447	.128	.899
Q18	3.75	.931	3.53	1.140	.682	.498
Q19	3.63	.957	3.42	.988	.710	.480
N Valid = 61	16		45		$\alpha = .05$	

Gender had no significant effect on the mean scores of Individualism vs. Collectivism dimension. This indicates that men and women in Qatar have similar perceptions with regard to the Individualism vs. Collectivism dimension of culture. However, there was a statistically significant difference between men and women with respect to item Q16 stating, “It is important to help close and nearby people; to care for their well-being”, p -value = .013 ($< .05$). From Table (23), men had higher mean score than women, suggesting that men tend to be significantly more characterized by collectivist culture than women are. This again needs to be explored further, in terms of how gender may be playing out with culture in a specific country context.

Table 30 ANOVA - Age Effect on Individualism vs. Collectivism Respondents' Scores

Items	Age										ANOVA	
	18 - 24 years		25 - 29 years		30 - 39 years		40 - 55 years		55+ years		F	Sig.
	M	SD	M	SD	M	SD	M	SD	M	SD		
Individualism vs. Collectivism	4.22	.364	3.87	.472	4.21	.393	3.81	.747	3.83	.577	2.354	.065
Q16	4.63	.518	4.24	.539	4.44	.583	4.50	.577	4.33	.577	.836	.508
Q17	4.75	.463	4.71	.463	4.80	.408	4.75	.500	4.33	.577	.751	.562
Q18	4.00	.535	3.38	1.161	3.80	1.000	3.25	1.708	2.67	1.155	1.389	.250
Q19	3.50	.535	3.14	1.062	3.80	.913	2.75	1.258	4.00	.000	2.240	.076
N Valid = 61	8		21		25		4		3		$\alpha = .05$	

Age had no significant effect on neither the mean scores nor the individual scores of Individualism vs. Collectivism dimension, p -values $> .05$. This indicates that respondents from the different age categories in Qatar have similar perceptions with regard to the Individualism vs. Collectivism dimension of culture.

Table 31 Language Used Effect on Individualism vs. Collectivism Respondents' Scores

Items	Language Used						ANOVA	
	Arabic		Arabic & English		Arabic, English, & Other			
	M	SD	M	SD	M	SD	F	Sig.
Individualism vs. Collectivism	3.58	.717	4.09	.430	4.14	.318	3.557	.035
Q16	4.17	.408	4.40	.574	4.57	.535	.854	.431
Q17	4.67	.516	4.73	.449	4.86	.378	.332	.719
Q18	2.67	1.506	3.73	1.005	3.43	.976	2.799	.069
Q19	2.83	1.472	3.52	.899	3.71	.951	1.589	.213
N Valid = 61	6		48		7		$\alpha = .05$	

The Language used had a significant effect on the mean scores of Individualism vs. Collectivism dimension, p-value = .035 (< .05). From Table (25), we can say that Qataris speaking Arabic only had the least mean scores while Qataris speaking Arabic, English, and other language(s) had the highest mean score. Post hoc multiple comparisons tests indicated that Qataris speaking both languages of Arabic and English had significantly higher mean score than those speaking only Arabic, suggesting that the Qataris speaking Arabic and English tend to be significantly more collectivists than those speaking Arabic only. This finding would warrant further exploration, though via a separate study on Qatar culture. For the current study, it is sufficient to note that since the majority of people in Qatar are multi-lingual, the majority of the people are also collectivism oriented.

There was no significant differences between the three groups of respondents speaking different languages, when individual items were used, p-values > .05. This indicates that respondents speaking Arabic, speaking both Arabic and English, or speaking other languages in addition to Arabic and English have similar perceptions.

Table 32 ANOVA - Marital Status Effect on Individualism vs. Collectivism Respondents' Scores

Items	Marital Status						ANOVA	
	Never Married		Married		Divorced / Widowed / Prefer not to Say			
	M	SD	M	SD	M	SD	F	Sig.
Individualism vs. Collectivism	4.08	.379	4.09	.502	3.42	.577	3.031	.056
Q16	4.42	.504	4.41	.615	4.00	.000	.791	.458
Q17	4.69	.471	4.75	.440	5.00	.000	.666	.518
Q18	3.65	1.018	3.69	1.061	2.00	1.000	3.694	.031
Q19	3.54	.905	3.50	.984	2.67	1.528	1.097	.341
N Valid = 61	26		32		3		$\alpha = .05$	

Marital Status had no significant effect on the mean scores of Individualism vs. Collectivism dimension, p-values > .05. This indicates that respondents with different marital statuses have similar perceptions with regard to the power distance dimension of culture. However, there was a statistically significant difference with regard to the item Q24 stating “The economic system in this society is designed to maximize Collective interests”, p-value = .031 (< .05). Examining Table (28), we can see that respondents, who were divorced, widowed, or preferred not to say about their marital status had the least mean score amongst the three groups of respondents. Post hoc multiple comparisons tests revealed that the significant differences existed between respondents who were divorced, widowed, or preferred not to say about their marital status and the other two groups. The reason may be due to be the fact that people who were divorced, widowed or otherwise single, may not be so well connected within the society, and may value personal freedom, happiness, and expression over maintaining the pattern of the collective society. However, since a group of people forms a minority in the society as well as within the sample, the overriding theme of the Qatari culture can be safely quoted as collectivistic.

Table 33 ANOVA - Highest Education Level Effect on Individualism vs. Collectivism Respondents' Scores

Items	Highest Education Level						ANOVA	
	Secondary / Above Secondary but less than university such as diplomas		University Graduate (Bachelor)		Post-graduate (Masters or Ph.D.)			
	M	SD	M	SD	M	SD	F	Sig.
Individualism vs. Collectivism	3.97	.508	4.11	.426	4.03	.467	.444	.643
Q16	4.13	.641	4.43	.558	4.47	.514	1.158	.321
Q17	4.63	.518	4.77	.426	4.71	.470	.388	.680
Q18	4.25	.707	3.63	1.031	3.35	1.115	2.096	.132
Q19	2.88	.641	3.63	.942	3.59	.939	2.308	.109
N Valid = 60	8		35		17		$\alpha = .05$	

The Highest Education Level had no significant effect on either the mean scores or the individual scores of Individualism vs. Collectivism dimension, p-values > .05. This indicates that Qataris with different education levels have similar perceptions with regard to the Individualism vs. Collectivism dimension of culture.

Table 34 ANOVA - Present Situation Effect on Individualism vs. Collectivism Respondents' Scores

Items	Present Situation								ANOVA	
	Student		Retired - not working / Unemployed / Housewife		Retired - working (Employed) / Private Businessman		Paid Employee			
	M	SD	M	SD	M	SD	M	SD	F	Sig.
Individualism vs. Collectivism	4.07	.673	3.87	.685	4.50	.000	4.05	.414	.881	.456
Q16	4.57	.535	4.50	.548	4.50	.707	4.35	.566	.427	.734
Q17	4.86	.378	4.67	.516	4.50	.707	4.74	.444	.400	.754
Q18	3.71	1.254	3.33	1.506	4.50	.707	3.57	1.025	.606	.614
Q19	3.14	1.069	3.00	1.095	4.50	.707	3.54	.936	1.600	.200
N Valid = 61	7		6		2		46		$\alpha = .05$	

Present Situation had no significant effect on either the mean scores or the individual scores of Individualism vs. Collectivism dimension, p-values > .05. This indicates that Qataris with occupational situations have similar perceptions with regard to the Individualism vs. Collectivism dimension of culture.

Masculinity vs. Femininity

Masculinity vs. Femininity dimension was measured using four items. Significant differences among the different groups (and categories) of Qatari respondents were investigated by the examination of the statistics of the ANOVA and T-tests performed. The results and findings are presented in the following tables, Table (35), Table (36), Table (37), Table (38), Table (39), Table (40), and Table (41) to find significant differences among groups in terms of location, gender, age, language used, marital status, highest education level, and present situation, respectively. The following are the key findings:

Table 35 ANOVA - Location Effect on Masculinity vs. Femininity Respondents' Scores

Items	Location						ANOVA	
	Doha		Al Rayan		Rest of Qatar		F	Sig.
	M	SD	M	SD	M	SD		
Masculinity vs. Femininity	4.66	.366	4.75	.354	4.53	.551	.762	.471
Q20	4.79	.606	4.60	1.265	4.56	1.333	.377	.687
Q21	4.83	.437	5.00	.000	4.67	1.000	.966	.387
Q22	4.57	.501	4.80	.632	4.56	.726	.720	.491
Q23	4.45	.670	4.60	.516	4.33	.707	.401	.672
N Valid = 61	42		10		9		$\alpha = .05$	

The location had no significant effect on either the mean scores or the individual scores of Masculinity vs. Femininity dimension. This indicates that respondents from the different cities in Qatar have similar perceptions with regard to the Masculinity vs. Femininity dimension of culture.

Table 36 T Test - Gender Effect on Masculinity vs. Femininity Respondents' Scores

Items	Gender				T Test	
	Male		Female			
	M	SD	M	SD	T	Sig.
Masculinity vs. Femininity	4.59	.328	4.68	.415	-.732	.467
Q20	4.75	1.000	4.71	.815	.154	.878
Q21	4.94	.250	4.80	.588	.903	.370
Q22	4.38	.719	4.69	.468	-1.628	.119
Q23	4.31	.602	4.51	.661	-1.055	.296
N Valid = 61	16		45		$\alpha = .05$	

Gender had no significant effect on either the mean scores or the individual scores of Masculinity vs. Femininity dimension. This indicates that men and women in Qatar have similar perceptions with regard to the Masculinity vs. Femininity dimension of culture.

Table 37 ANOVA - Age Effect on Masculinity vs. Femininity Respondents' Scores

Items	Age										ANOVA	
	18 - 24 years		25 - 29 years		30 - 39 years		40 - 55 years		55+ years			
	M	SD	M	SD	M	SD	M	SD	M	SD	F	Sig.
Masculinity vs. Femininity	4.78	.248	4.69	.447	4.64	.315	4.44	.800	4.50	.250	.666	.618
Q20	5.00	.000	4.67	1.065	4.80	.500	4.00	2.000	4.67	.577	.992	.420
Q21	5.00	.000	4.81	.512	4.88	.332	4.25	1.500	5.00	.000	1.658	.173
Q22	4.75	.463	4.76	.436	4.48	.653	4.50	.577	4.33	.577	1.091	.370
Q23	4.38	.744	4.52	.602	4.40	.645	5.00	.000	4.00	1.000	1.232	.308
N Valid = 61	8		21		25		4		3		$\alpha = .05$	

Age had no significant effect on either the mean scores or the individual scores of Masculinity vs. Femininity dimension, p-values > .05. This indicates that respondents from the different age categories in Qatar have similar perceptions with regard to the Masculinity vs. Femininity dimension of culture.

The Language used had no significant effect on the mean scores of Masculinity vs. Femininity dimension, p-values > .05. This indicates that respondents speaking Arabic, speaking both Arabic and English, or speaking other languages in addition to Arabic and English have similar perceptions with regard to the Masculinity vs. Femininity dimension of culture. However, there was a statistically

Table 38 Language Used Effect on Masculinity vs. Femininity Respondents' Scores

Items	Language Used						ANOVA	
	Arabic		Arabic & English		Arabic, English, & Other			
	M	SD	M	SD	M	SD	F	Sig.
Masculinity vs. Femininity	4.42	.626	4.70	.345	4.54	.443	1.835	.169
Q20	4.17	1.602	4.88	.531	4.14	1.464	3.963	.024
Q21	4.50	1.225	4.92	.347	4.57	.535	2.884	.064
Q22	4.50	.548	4.58	.577	4.86	.378	.859	.429
Q23	4.50	.837	4.44	.649	4.57	.535	.140	.870
N Valid = 61	6		48		7		$\alpha = .05$	

significant difference between the three groups of respondents with respect to the item Q20 stating, “Would you say that “Religion” is very important in your life?”, p-value = .024 (< .05). From Table (32), we can say that respondents who speak Arabic and English had the highest mean scores. Although this could not be proven significant by the post hoc multiple comparisons tests, yet it is evident that somehow that respondents who speak both languages tend to have more feminine culture than others.

Table 39 ANOVA - Marital Status Effect on Masculinity vs. Femininity Respondents' Scores

Items	Marital Status						ANOVA	
	Never Married		Married		Divorced / Widowed / Prefer not to Say			
	M	SD	M	SD	M	SD	F	Sig.
Masculinity vs. Femininity	4.61	.425	4.72	.275	4.42	1.010	1.183	.314
Q20	4.62	1.023	4.91	.296	3.67	2.309	3.464	.038
Q21	4.81	.491	4.94	.246	4.00	1.732	5.101	.009
Q22	4.62	.571	4.56	.564	5.00	.000	.850	.433
Q23	4.38	.637	4.47	.671	5.00	.000	1.232	.299
N Valid = 61	26		32		3		$\alpha = .05$	

Marital Status had no significant effect on the mean scores Masculinity vs. Femininity dimension, p-values > .05. This indicates that respondents with different marital statuses have similar perceptions with regard to the Masculinity vs. Femininity dimension of culture. However, there was a statistically significant difference between groups for items Q20 and Q21, stating that “Would you say that Religion is very important in your life?” and “Would you say that Family is very important in your life?” p-

values $< .05$. The mean score values in Table (33) show that married respondents had the highest mean score values. Post hoc multiple comparisons tests revealed that married respondents had significantly higher mean scores than others for item Q26, indicating that married respondents tend to be more feminine than others with respect to religion. With respect to the family, respondents who were divorced widowed, or preferred not to say about their marital status had significantly lower mean scores than the other two groups of respondents.

Table 40 ANOVA - Highest Education Level Effect on Masculinity vs. Femininity Respondents' Scores

Items	Highest Education Level						ANOVA	
	Secondary / Above Secondary but less than university such as diplomas		University Graduate (Bachelor)		Post-graduate (Masters or Ph.D.)			
	M	SD	M	SD	M	SD	F	Sig.
Masculinity vs. Femininity	4.72	.282	4.65	.403	4.72	.263	.283	.754
Q20	5.00	.000	4.74	.852	4.76	.562	.420	.659
Q21	5.00	.000	4.83	.453	4.94	.243	.975	.383
Q22	4.88	.354	4.49	.612	4.71	.470	2.082	.134
Q23	4.00	.926	4.54	.561	4.47	.624	2.399	.100
N Valid = 60	8		35		17		$\alpha = .05$	

The Highest Education Level had no significant effect on either the mean scores or the individual scores of Masculinity vs. Femininity dimension, p-values $> .05$. This indicates that Qataris with different education levels have similar perceptions with regard to the Masculinity vs. Femininity dimension of culture.

Present Situation had no significant effect on either the mean scores or the individual scores of Masculinity vs. Femininity dimension, p-values $> .05$. This indicates that Qataris with occupational situations have similar perceptions with regard to the Masculinity vs. Femininity dimension of culture.

Table 41 ANOVA - Present Situation Effect on Masculinity vs. Femininity Respondents'

Scores

Items	Present Situation								ANOVA	
	Student		Retired - not working / Unemployed / Housewife		Retired - working (Employed) / Private Businessman		Paid Employee			
	M	SD	M	SD	M	SD	M	SD	F	Sig.
Masculinity vs. Femininity	4.82	.238	4.42	.626	4.75	.354	4.66	.374	1.205	.316
Q20	5.00	.000	4.33	1.633	4.00	1.414	4.76	.766	1.166	.331
Q21	5.00	.000	4.50	1.225	5.00	.000	4.85	.420	1.140	.341
Q22	4.71	.488	4.50	.548	5.00	.000	4.59	.580	.501	.683
Q23	4.57	.787	4.33	.816	5.00	.000	4.43	.620	.621	.604
N Valid = 61	7		6		2		46		$\alpha = .05$	

5.2.5 The validity of the research survey sample

These findings underline the fact that the research's main findings (regarding the profiling of the culture) not affected by any of the demographic characteristics of the respondents. The cultural profile developed by this study is therefore objective, and not skewed by demographic characteristics.

The findings also indicate that none of the demographic factors would have had any specific or extraneous impact on the results; and that the results can apply to the entire population. The above analysis has further established the validity of the research sample and gives assurance that its relatively smaller size (at only 68 usable responses) did not dilute its representativeness to the actual population of Qatar.

5.3 Primary Data-Interview :(Qualitative)

Ghauri and Gronthug, (2010) explained that Qualitative research projects usually employ a limited number of interviews or observations to explain the studied concept. Therefore, based on the quantitative analysis to survey results profiled Qatar's national culture as high power distance, high uncertainty avoidance, moderate to low masculinity and moderate to low individualism.

The aim of the current interviews was to add further interpretation and meaning to the quantitative findings and to enable describing ways in which the SECI conversion process, product and process innovations, were either limited or sustained.

Based on reviewed literature in section 2.4, the crucial inferences are:

- **Socialization** as a knowledge management process requires activities, which are based on collaboration mechanism of control. It requires low levels of power distance, uncertainty avoidance, and individualism while it requires high levels of masculinity.
- **Externalization** process of knowledge management requires activities that are based on competition. This requires low levels of power distance, uncertainty avoidance, individualism and high levels of Masculinity.
- **Combination** process of knowledge requires activities that attempt to create knowledge. This requires high levels of power distance, individualism and masculinity, and low levels of uncertainty avoidance.
- **Internalization** as a knowledge management process requires activities based on control. It requires high levels of uncertainty avoidance, individualism, masculinity, and a moderate level of power distance.

Aligned with the interview data analysis section 5.3 it can be seen that Qatar may be successful at internalization of knowledge and some degree of combination, yet very weak at socialization and externalization. Consequently, acuities related to competition and collaboration for the creation of new knowledge would be very difficult. This is further explained in the conclusion chapter 7.1 and figures 25 and 26

In this study, as explained in the research methodology chapter section 4.5.2, eight semi-structured personal interviews were conducted, and two telephonic interviews. Questions taken from the questionnaire were rearticulated, and rearranged according to a topic sequence, so questions covered the same issues (Appendix III). Due to the semi structured nature of the interview, new topics were discussed as well, such as the kind of knowledge interviewees believe they needed to achieve to do their jobs, how this knowledge could be obtained, and how easy or difficult to get this knowledge and why. Interview questions formulated to investigate and study in detail the impact of culture on each process of the SECI model. However, the sequence of the questions left to the discretion of the interviewer along with the opportunity to as unplanned yet relevant questions in an attempt to gain more insights into the investigated topic.

The researcher became so adept at understanding the interviewees that the next question in the sequence flowed naturally based on the previous answer of the interviewee.

Interviews were conducted in Arabic language. All interviews took place in the workplaces. The participants were male and female executives in the energy sector, finance sector, and government sector, and as such, certain formalities had to be observed. Each respondent was briefed on the nature of the study and the general procedure of the interview. They were informed of the criteria and the

selection process of the participants, and what was the information needed by the researcher. Interviewees also were informed of confidentiality and the right to pause, stop or withdraw from the interview at any point, Saunders et al. (2009, p. 191). The interviews ran for about 90 to 120 minutes. None of the ten interviews was voice-recorded and only hand written notes were taken. None of the interviewees had seen the questionnaire before the interviews and only three of them received the questioner via email but did not respond.

Sampling and interview questions development techniques, as well as the interviews questions and format, were explained in “research methodology” chapter.

5.3.1 Economic Incentives and Institutional Regime

“Once a year we hear about long-term strategies as we need to align our projects KPIs with the Long-Term organizations’ objective. This usually at the end of the year when we start working on next years’ operating plan”

Enabler	Properties
People	6 out of 10 interviewees stated that any long-term strategy was usually not communicated by the board of directors. 4 respondents stated that long-term strategy is dynamic and influenced by economic and political variables.
Process	8 of 10 interviewees were not aware of any external review process that was administrated by the regulator for any of the existing relevant regulation. 2 respondents stated that Qatar economy is a young economy, and regulations are still in the formation in certain areas and sectors. 3 respondents stated that progress is measured based on the achievement of KPIs. 1 Responded that every 3 to 5 years an assessment exercise is conducted by a consulting service provider to generate a progress report. 6 of the interviewees believe that there is a process to measure progress towards the long-term goals but they are not aware of such process.
Technology	All interviewees agreed that they are not aware of any electronic means to express their views during the formulation of any new regulation.

“Five years published strategy usually changes every three years”

The findings indicate that majority of people (6 out of 10) are not aware of the long-term strategy of their company/departments. There was also opinion expressed that the goals were set using economic and political cues.

“I am sure that top management has a way to assess the organizations’ performance. But I am sure that we do good as receive good bonus every year”

“My company existed long before the formation of the regulator. We set the rules”

In addition, it is seen that while most (6 out of 10), are aware that there is some kind of process in place for tracking goals, there is considerable lack of clarity on what that process is. 8 respondents are not aware of any external evaluation process, while 3 think the goals are evaluated in terms of KPIs, and 1 stated that evaluation was done once between 3 and 5 years.

In terms of technology usage for giving an opinion about regulations, none of the interviewees believed they had ever used it. These findings strongly hint toward a lack of enabling circumstances for setting up an economic incentive and institutional regime.

“If allowed, we do not know how to give our feedback on any relevant rules at any stage of its development”

The findings also highlight the fact that the conversion of knowledge in the above scenario would be extremely difficult. Tacit to explicit knowledge conversion happens through externalization, a process that requires protocols, best practices, rules and some framework in existence which can capture the tacit knowledge, record it and then develop explicit manuals.

5.3.2 Education and Human Resources

Enabler	Properties
People	All respondents stated that they have an institutionalized EDP employee development plan (it is mandatory for government sector) for all Qataris employees but not for expatriate.
Process	All respondents stated that they have clear process for education sponsorship and for training requests.
Technology	All respondents stated that there are no team collaboration platform or employee bulletin board or anything similar to facilitate employees’ teamwork and communication. All respondents stated that state of the art technologies related to electronic communication does exist yet not heavily utilized.

“The mandatory Qatari (employee development plan) program is really great. We are even allowed to be trained anywhere in the world if the requested training is not available locally”

The findings indicate that the companies seem to have well-developed and well-defined plans for employee learning and development of their knowledge and competencies and that the employees were well aware of the process and paths to take.

“HR meet all Qatari employees at the beginning of the year to develop and formalize the annual EDP and monitor our progress through the year”

However, teamwork and collaboration do not seem to be facilitated either by technology or by managerial vision. These findings indicate that Qatar needs to develop further on this indicator of education and human resource management, both in terms of strategic vision as well as technological support.

“I only use email to communicate and collaborate with my coworkers”

Lack of team working in organizations indicates at the low chance that tacit knowledge is transferred, as people will not get to observe and work closely with each other to imbibe the tacit knowledge and skills.

5.3.3 The Innovation System

Enabler	Properties
People	3 interviewees stated that the organization environment encourages them to speak up their mind, express their opinion; and think of new ways of doing things, 7 interviewees stated that their organization is well organized and structured, and everyone is expert in their various areas of expertise, and their way(s) of doing things are very well established and tested, and no need to think of other ways. They also stated that consensus is not really required as the decision is taken by one authorized person.
Process	All interviewees agreed that they are not aware of any process or procedures that facilitate new ideas or invention or even new ways of doing things. All interviewees agreed that they are not aware of any communication channels to external stock holders or customers or client to act as conduit to new ideas or innovations to satisfy certain needs.
Technology	All interviewees agreed that they are not aware of any decision support systems or knowledge depository.

“We have limited to no communication with the top guys so we cannot suggest anything new”

The findings indicate that the country is really low on the ability to think new, involve participative decision making or discuss new ideas. Instead, as can be seen from the responses of 7 out of 10 respondents, people in authority are considered as experts and all decision making is concentrated in their hands.

“If you have a new idea of any sort, you do not know where to go or what to do with it”

“National funding and incubation programs are complicated and not promoted”

“Top management are not really open to hear ideas about new ways of doing things”

This is also reflected in the fact that all respondents seem to think external stakeholders like customers were neither consulted nor encouraged to provide new ideas. Further, technology deployment to facilitate capturing of new ideas was unheard of. These findings underscore the fact that Qatar is a low performer on the indicator of Innovation Systems. These findings also highlight the fact that there is no process to capture tacit knowledge and transform it into explicit knowledge as neither process nor facilitating technologies seem to exist.

5.3.4 ICT

Enabler	Properties
People	All interviewees consider technology is a way to speed things up, allow faster communication and it is a requirement for operation and production. The issue of technology as a way to overcome culture barriers is an angle of technology utilization that they never considered.
Process	6 responses confirmed constant improvement of their ways of doing things. 4 interviewees stated that they reconsider the way they do things only in case of measure restructuring or new regulations.
Technology	All respondents stated that there are no team collaboration platforms. 4 stated that they have an enterprise Project management tool and it is utilized 2 stated that they have an enterprise Project management tool but it is not utilized

“Email and phones allow us much more efficient and comfortable means of communication especially between men and women”

None of the respondents seems to be aware of the fact that technology can be enlisted to overcome cultural barriers, though they realized the importance of technology for efficiency in communications.

“Project Management tools are mainly to allow finance to pay invoices based on the pre-arranged payment plan”

Six respondents believed that they were involved in the process of continuous improvement, while four mentioned that changes were sought only in case of new regulations or restructuring. As for the deployment of technology for facilitating collaborations, there were mixed opinions ranging from the existence of such technological platforms and their utilization to their non-existence.

“I do not know what intranet means”

“We have an electronic system that allows customers to give immediate feedback on the quality of service they received. However, I have never seen the results of such feedback.”

These findings again highlight that the country is low on the indicator of ICT. Lack of team collaboration prevents the transfer of tacit knowledge, as there is a less socializing process. Also, the organizations seem to lack a clear supporting mechanism to facilitate tacit to explicit conversion or externalization, or even development of new linkages between existing explicit knowledge.

5.3.5 Interview data imitations and concerns

Interviewing 10 Qatari individuals did provide insights into management approach and organizational culture in the perspective of Knowledge Economy pillars in a horizontal view of the three enablers' people process and technology. The data collected for the interviews was not intended to provide solid descriptive evidence about management approach or organizational cultures in Qatar.

The goal of the interviews was to interview top Qatari executives. As a foreigner and expatriate access to those individuals was not easy due to the difficulty in securing access to approach them.

The very small sampled population (250000 people as per the last census) and identifying accessible individuals to represent different genders, educational background, and age group, in different sectors was challenging and forced compromisation on the targeted managerial level. Seven of the interviewees are middle management.

During the interviews, some difficulties were faced which included issues of access, especially to the junior and female participants; and also faced the problem of getting reliable and relevant information on the topics on which questions were posed

5.3.6 Country's' Specific Issues

Nationalization policies

Among others, the reasons for the inactive national population include inadequate experience and an inability to find suitable work conditions (especially for women), Ministry of Development, Planning, and Statistics (2016). Women who have the same (sometimes, even a higher) level of education and competence than their male colleagues, do not benefit from the same opportunities and do not rise to the top as soon or as quickly Barsh, Cranston, & Craske (2008). To compensate, Qatar uses quota scale measurement to increase the local workforce's contribution, also referred to as “Qatarization,” Hertog (2014).

For the above reasons and for an evident linear career succession path which provides for short and inadequate periods to prepare individuals for their next passage, Charan, Drotter, & Noe (2011), all interviewees lacked the in-depth knowledge of their own organization and domain.

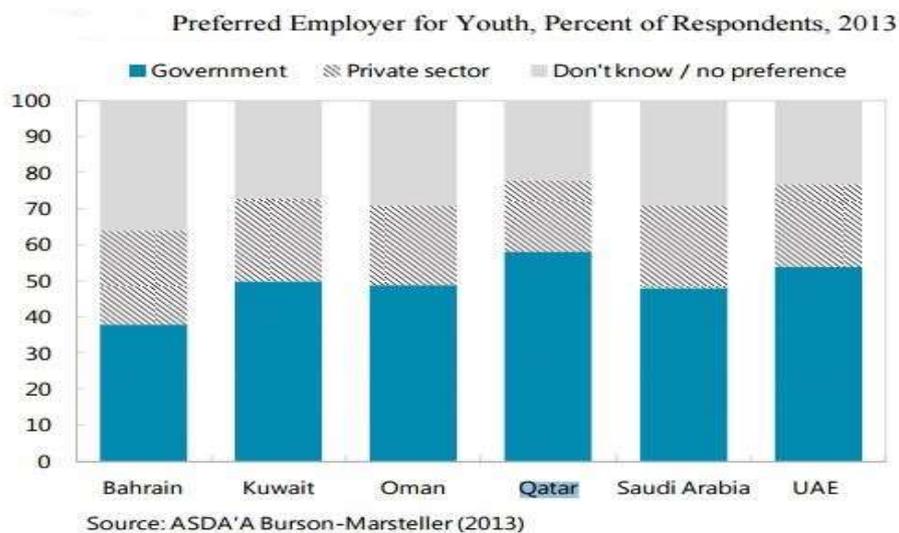
Culture and Gender segregation

Due to gender segregation in the workplace, and I as a male foreign researcher, it was extremely difficult to interview female candidate.

Sectors Demography

Only 1% of Qatari nationals employed in private sector. Qataris prefer the government sector because of high salaries and attractive benefits. Less working hours, two-day weekends and long holidays during festivals like Eid also considered huge attraction. The private sector, on the other hand, offers shorter holidays, often work six days a week and long working hours. Salaries are also far less than what the government sector can offer, Gupta (2014).

Figure 23: Preferred Employer for Youth



Data from five GCC countries shows that on 2013 the total number of Qataris employed in the private sector is about 12,000, the lowest in the region.

Qatar Low quota of nationals in private sector:

Table 42: Economically active population (15years and above) by nationality, gender & sector

Sector	الجنسية والتوع Nationality & Gender								
	المجموع Total			غير قطريين Non-Qatari			قطريون Qatari		
	المجموع Total	نساء Females	رجال Males	المجموع Total	نساء Females	رجال Males	المجموع Total	نساء Females	رجال Males
Government Department	135,527	39,958	95,569	64,648	14,782	49,866	70,879	25,176	45,703
Government Company/ Corporation	71,885	13,080	58,805	58,416	8,567	49,849	13,469	4,513	8,956
Mixed	58,663	8,450	50,213	49,865	5,662	44,203	8,798	2,788	6,010
Private	1,606,550	102,510	1,504,040	1,596,340	98,210	1,498,130	10,210	4,300	5,910
Diplomatic/International/Regional	5,044	1,519	3,525	4,820	1,449	3,371	224	70	154
Non profit	4,427	1,586	2,841	4,063	1,376	2,687	364	210	154
Domestic	172,406	108,942	63,464	172,406	108,942	63,464	0	0	0
Total	2,054,502	276,045	1,778,457	1,950,558	238,988	1,711,570	103,944	37,057	66,887

Not including persons seeking work for the first time

Qatar Statistical Authority Census Data 2017

Sectors maturity

One prime example is Oil & Gas sector vs. Government sector.

The first is far mature due to partnerships with MNC, the heavy acquisition of technologies and the sector domination by Expatriates. On the other hand, the government sector is old; loaded with legacy systems and it is the preferred sector for Qatari workforce.

The striking imbalance between sectors maturity may invalidate any collusions based on the cross-sectorial analysis.

The initial plan was to use the analysis for the interview results to further support the conclusion of “national culture impact on knowledge management process and transition to knowledge economy” study second to global indicators that measure the progress of Nations’ transition towards a knowledge economy and to provide more analysis to indicators relevant variables. Accessibility issues (gender segregation), a striking imbalance in nationals’ employment per sector, and very small population led to the selection of the un-stratified sample.

Key findings:

Despite interviews limitations and concerns, information was collected, segregated and analyzed on the four key KEI indicators and the three levels of people, processes, and technology.

Information and communication technology: All the interviews agreed that the use of ICT was essential for productivity. Its use for overcoming cultural barrier was never considered. At the usage level 6 out

of 10 indicated improvements in the way of doing things while 4 out of 10 indicated that they were likely to use only in case of change required. All participants indicated that collaboration tools were not made available or were not being used.

Use of ICT as a tool for socialization exchange of ideas and comments has not percolated in the population. Presently being used to do analysis and work execution. Thus, the use of ICT is mostly for exploitation of knowledge. This is in line with the hierarchical culture with high power distance and high uncertainty avoidance.

The most critical inference one can draw from the information collected is that as linked to the model of SECI, Nonaka and Takeichi (1995), the processes of socialization and combination will be affected fully while externalization will be affected partially. These, in turn, will reduce the quality of knowledge internalized. The maximum impact will be on the education system where the need for these four processes as interlinked to infuse a new generation with proper and appropriate knowledge and work ethics will be affected. A look at the detailed indicators of Arab knowledge index for Qatar may substantiate this point.

Education and human resources: All the interviewees agreed that there existed a clear-cut employee development plan and a process for sponsorship and training. There are no collaboration platforms. Incidentally, there is no mention of corresponding outputs of the processes put in place for example, what is the enrollment and success rate in technical and non-technical streams.

The interview data only highlights the presence of a process, but its use and effectiveness are not at all discussed and hence can be assumed to be much less based on the declining index. One reason identified peculiar to Qatar is that 88% of the people work in the government sector and there is strong preference for this sector. Second, incentivization is there for employing Qataris. These may reduce the incentive to learn and educate oneself to a higher level.

Economic and institutional regime: All the interviewees agreed that both economic regulation and policy instruments exist, but neither one properly communicated, or they are not aware of it. Secondly, people are aware of a progress review process but are ignorant of the actual process and details. Finally, none of the interviewees was aware of any mechanism where they could express their views and suggestions at the time of policy formulation.

Innovation: all the interviewees indicated that they were not aware of any ICT based knowledge repository or decision support system. They also were not aware of any communications to external stakeholders or customers nor were they aware of any mechanism for seeking views, ideas, and inputs from employees. A large percentage (7/10) felt no need for any new ways of doing existing work, and it was already well established.

5.4 Economic Indicators from Literature (Secondary data)

The purpose of putting forth this literature enfolding, Eisenhardt (1989) of the linkages between culture and knowledge management is to further support the study as it investigates the impact of National culture influence on knowledge management processes essential to country's' successful transition to a knowledge-based economy.

Although the concept of SECI knowledge-spiral has been originally discussed in organizational contexts, scholars has established that it can be applied to a national level-analysis. Although actors at the national level may vary, the key processes and theories of knowledge conversion, Nonaka (1994, 1995) still valid. This is supported by the most crucial findings of all studies that national culture influences organizational culture and it is organizational culture which influences economic productivity of firms and in turn national economic output, Watanabe and Saenoo (2009); Al Alawi et al (2007); Alawyi, Kayworth, and leidner (2005), (2006); DeLong and Fahey (2000).

Knowledge management researchers continue to agree that quantitative approaches need to be supplemented by qualitative analysis. This section will present secondary data from several indexes citing Knowledge economy pillars (as identified by WB) indicators data relevant to Qatar's performance and triangulate the concluded patterns with the national culture, as profiled based on the survey results and the impact on SECI knowledge management process as suggested by the interview results.

The outputs for knowledge economy have been defined by the project of the World Bank –knowledge for development program –wherein the process of measuring and what indicators to use to get the Knowledge economy index (KEI) has been established (World Bank KAM4 2010). Based on these indicators, this study identified relevant values for Qatar until the year 2012.

5.4.1 Knowledge economy pillars and indicators

The research considers four pillars for a knowledge-based economy as developed by World Bank forming Knowledge Economy index, which is the main framework that guides analysis

- Information and communication technology (ICT)
- Education
- Innovation
- Economy and regime

These are discussed exhaustively in the Literature Review chapter.

For each of these pillars, Qatar progress towards transitioning to knowledge economy deliberated through the analysis of relevant indicators.

The aim is now to look at the outcomes as measured and reported for Qatar in both KEI –World Bank and AKI 2016.

Table 43- Comparative figures for Qatar—sources World Bank

indicator	1995	2000	2012	2014
KEI	5.95	5.81	5.84	5.84
KI	5.95	5.81	5.5	5.5
ICT	7.45	7.05	6.65	6.65
INNOVATION	4.79	5.51	6.42	6.42
EDUCATION	5.52	4.85	3.41	3.41
ECONOMIC INCENTIVE	5.64	6.64	6.87	6.87

The score on the ICT dimension for Qatar has come down from 7.45 out of 10 in 1995 to 6.45 out of 10 in year 2012/14. It indicates a fall in the use of ICT. This only substantiates the findings of the interviews.

The score on the education index has come down from 5.52 out of 10 in 1995 to 3.41 out of 10 in 2012/14. This is a sharp fall in progress of the education system in Qatar.

The score on Economic Incentive index of the KEI for Qatar has increased from 5.64 in 1995 to 6.87 in 2012/14. This shows a significant improvement in the index.

The score of Qatar on innovation was 4.79 in 1995 and 6.42 in 2012/14. This indicates a moderate improvement in the index.

Subsequently the interest of the Gulf cooperation council members to measure their economic transition processes to knowledge economies resulted in the Arab knowledge index (2015) under the aegis of UNDP and the Mohammed bin Rashid Al Maktoum Foundation.

Table 44: comparison of indicators of Qatar and other Arab countries on Arab knowledge index—source AKI 2016

INDICATOR	QATAR	UA E	BAHRAIN	KUWAIT	S ARABIA
PRE UNIVERSITY INDEX	66.22	68.56	66.51	63.02	67.39
TECHNICAL VOCATION AND TRG INDEX	59.32	60.79	51.51	55.27	56
HIGHER EDUCATION INDEX	59.41	72.55	28.67	49.40	62.43
ICT INDEX	76.22	77.47	69.12	56.20	69.58
ECONOMY INDEX	75.58	77.59	62.11	42.75	64.72
INNOVATION INDEX	40.45	50.07	36.28	36.62	56.84
KNOWLEDGE CAPITAL	61.19	71.85	78.16	73.11	79
ENROLLMENT AND COMPLETION	76.23	73.64	67.51	77.13	68.47
OUTPUTS	46.14	70.05	88.81	69.09	89.53
ENROLMENT TVET	4.11	36.52	35.63	10.27	24.97
ENTREPRENEURSHIP	92.17	89.52	82.15	68.68	88.41
NEW BUSINESS DENSITY	97	79.04	0	0	0
ENROLMENT	33.04	20.21	47.9	35.49	52.9
OUTPUTS HIGHER ED	47.87	70.64	8.17	37.41	61.1
KNOWLEDGE CAPITAL	0	84.42	0	0	0
ICT RESEARCH AND INNOVATION USE	48.18	58.46	45.27	52.65	95.56
AFFORDABILITY	41.75	51.34	77.57	6.88	48.24
USAGE BY, IND GOVERNMENT AND COMPANIES	76.5	85.54	81.27	52.91	72.68
OPENESS TO OUTSIDE WORLD	80.2	84.6	55.45	17.50	47.54
COMPETITVENESS AND CREATIVE DEVELOPMENT	72.96	81.25	67.53	39.62	68.95
TECH KNOWLEDGE EXCHANGE IN ECONOMY	37.39	7.92	20.28	50.43	65.48
ENABLING ENVIRONMENT	85.61	95.4	81.16	56.43	80.53
RESEARCH AND DEV OUTPUTS	26.56	30.57	14.37	39.74	95
INNOVATION	41.53	50.33	45.97	25.49	51.37
SOCIO ECONOMIC ENVIRONMENT	66.58	78.06	57.20	64.9	53.54
HUMAN CAPITAL	40.51	46.19	34.16	47.49	59.83

The Arab knowledge index (2016) elaborates on key indicators in education across all the three sectors primary, vocational and higher. The scoring of Qatar in the year 2015 is as follows

- Enrollment in vocational courses –4%
- Enrollment in higher education 33%

- Outputs in higher and school education –47%
- Knowledge capital –minimal.

These data substantiate that in Qatar policy instruments exist to improve education and human resources. However, intent and action outputs are clearly missing. This only substantiates the case of fall in the value of education index over the years.

- Key indicators for socio-economic environment from the Arab knowledge index 2016 are as given below:
 - Openness to outside world -80%
 - Competitiveness and creative development 73%
 - Tech knowledge exchange -37%
 - Enabling environment -85%

The critical thing as the inference is that policy environment is ripe for pushing the improvement of education and ICT pillars of the knowledge economy.

The figures establish the basis for improvement in the index over time. Policy instruments are in place. The environment has become conducive. It is mechanisms to generate outputs such as tech knowledge exchange and competitiveness, which have to be improved upon. The issue of low-tech knowledge exchange is perhaps due to low enrollment in tech courses and very poor socialization mechanisms driven by a poor intent underlying high uncertainty avoidance and power distance.

- The Arab knowledge index (2016) elaborates on key indicators of innovation are as given below:
 - Research and development outputs-26%
 - Innovation—42%
 - Socio-economic environment-66%
 - Human capital -40%

Additional Observations

Hofstede and Hofstede (2005) propose that people in the Arab world score highly on the Uncertainty Avoidance, and staff perceive this as managers avoiding the responsibility and potentially causing conflict because sometime staff does not understand what is required and thereby each of them struggles to interpret what is required. The managers appear to be not taking the initiative and instead, hiding behind procedures and rules (to avoid uncertain situations), instead of providing hands-on guidance.

Qatar is highly dependent on expatriate workers - comprising 88 % of the total workforce of Qatar. When nationals comprise less than 20% of the national population, and 88% of the workforce are expatriate that could introduce a new and unique factor that may affect the knowledge transfer process.

This fact needs to be kept in mind when extending the findings from the current research, which are based on the opinions of just the Qatari natives.

The large majority of nationals choose to work for the public sector where wages are sometimes several factors higher than that elsewhere, Forstenlechner and Rutledge (2010, p. 48). Qatar is perhaps the extreme welfare state when it comes to the treatment of their nationals, Toledo (2013). As a result, the country faces the lack of motivations typical in welfare states. The generous wages for the nationals in the public sector demotivate them from moving to the private sector.

This background indicates that there is less scope for encouraging people to be innovative – since they already are well taken care of. The process of motivation and incentives needs to be re-designed probably to encourage freethinking and innovation.

The quota system in Qatar is good because it helps nationals acquire the skills they needed in the private sector. Nationals are trained by expatriates and end up in a higher position than their trainers or even replacing them. However, the quota system has very negative impact as the fast movement of locals through the hierarchy creates opportunities for unqualified personnel to become decision-makers, thus leading to low-quality decision-making in organizations. This would also mean lowered participation in the private sector and low entrepreneurship, and hence low overall economic progress.

Localization program, called Qatarization, is being implemented. This again may undermine merit and place incompetent people in positions of power and decision-making.

The distinctive labor market conditions in Qatar affect each of the four pillars of KE, and so deserve special consideration. Cultural diversity, due to the presence of a large number of expats and migrant workers, may impact on the effectiveness of the knowledge conversion process.

Limited career development opportunities weaken the expatriate knowledge workers willingness to remain in the country for long time due to the inability to upskill, Abdulla et al. (2011). Expats may not be able to translate their tacit knowledge to explicit if they are not in the location for sufficient time; or they may not get the support or resources to imbibe new knowledge, assimilate it and create new knowledge if there is no continuity in their tenures.

High turnover would ultimately lead to the loss of valuable country specific knowledge. This will require more time and efforts to rebuild in the new expatriates.

Gender segregation: schooling and workplace are gender-segregated “Qatar ranking in gender equality index”. Such workplaces may not only hinder the transfer of knowledge but also impact upon the overall conversion process.

5.5 Summary

5.5.1 Survey Data

The Hofstede dimensions of national culture are Power Distance, Uncertainty Avoidance, Individualism versus Collectivism, and Masculinity versus Femininity. This chapter discussed the key traits and characteristics of the society of the state of Qatar, using the scores obtained from Qatari respondents who participated in the survey of the four Hofstede dimensions of national culture. The statistical analysis of the survey data revealed that Qatari society is uncertainty-avoiding culture (Figure 16), has high distance power (Figure 18), has a collectivism culture (Figure 20), and is high on femininity (Figure 22).

The Geert Hofstede analysis for the Arab World, which includes the countries of Egypt, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia, and the United Arab Emirates, demonstrates the Muslim faith plays a significant role in the people's lives, Hofstede (2001).

High Power Distance and Uncertainty Avoidance are the leading Hofstede dimension characteristics in the Arab region. This is because it has been found that Muslim faith has a sweeping and intricate impact on the people's lives, and as such on the culture. The Arab countries - Egypt, Kuwait, Iraq, Lebanon, UAE, Saudi Arabia, and Libya – are all predominantly Muslim, and as such share cultural traits as well, Carlson (2013). These societies are more likely to follow a caste system that does not allow significant upward mobility of its citizens, Hofstede (2001), which is indicative of a high power distance culture. They are also highly oriented with laws, rules and regulations, to reduce the amount of uncertainty, while inequalities of power and wealth have been allowed to grow within the society, Carlson (2013). Hofstede (1983) research in 50 countries has revealed that societies high on uncertainty avoidance are likely to be high on power-distance and accept stringent protocols that prevent new ideas or thoughts from materializing.

The Masculinity index found to be slightly higher in most Arab countries for which Hofstede data is available. However, in the current research, it was found that Qatar had a slight tilt toward a feminine culture that respected relationships, personal time, religion and caring for others.

The lowest Hofstede dimension for the Arab world is the Individualism, compared to a world average. This explains the Collectivist society and is revealed in a close long-term commitment to the family, extended family, or extended relationships. Loyalty in this society is vital especially because of the tribal nature of the society where loyalty ties are of great significance, from which the current Arab, as well as Qatari culture, is derived, Carlson (2013).

5.5.2 Interview Data

All these quotations from interview excerpts from the economic and innovation indices substantiate a lack of processes, which encourage debate or allow questioning of existing assumptions. The data also indicates a lack of participation and willingness to look at external sources of data for any activity.

The analysis of the data collected from interview show that Qatar has put in place the policy and regulatory instruments. However, the awareness amongst the public of these instruments is poor.

Actionable items covering externalization, creation and competing for knowledge activities is nonexistent. Some degree of internalization is seen but it is affected by poor creation and hence knowledge internalized is static.

Gender segregation and preferences for oversight jobs preclude activities related to actions, which may lower the strength of knowledge combination.

In a workplace where there is lack of processor facilitating technology to capture the tacit knowledge, the conversion is likely not to take place.

There is the scope of conversion of explicit knowledge to tacit (via well-defined plans of training and development), but there is lack of scope for combining, where explicit knowledge is combined with the additional explicit knowledge to create new knowledge.

5.5.3 Indexes

Qatar's progress to become a knowledge economy has not attained the desired rate of progress. A look at the progress on World Bank indicators from 1995 to 2012 indicates a downward trend in the knowledge index, in use of ICT and education index while it has stagnated overall in KEI and marginally increased in innovation and economic index.

Very low scores on the output and process indicators –especially in education and innovation sectors. These two are the cornerstones of the KEI and knowledge economy.

The linkages to the poor performance on education and innovation sectors seem to be linked to high power distance and uncertainty avoidance, which is further intensified by the incentivization of Qataris for government jobs and segregation of genders.

Qatar has a small population. This is an advantage and a disadvantage. A small population can facilitate rapid change in dimensions of culture and improve socio-economic environment while on the other hand, it may continue dependency on critical non-Qataris or expatriates to maintain the economic growth. This is a tradeoff, which has to be balanced.

5.6 Summary of all findings:

On the national culture dimensions, Qataris high on power distance, uncertainty avoidance, collectivism, and femininity. The high power distance and uncertainty avoidance have affected the adversely the actionable items of cultural characteristics of discussion, approachability to top management, the frequency of interactions, problem-solving, orientation to existing knowledge, knowledge sharing, teaching and learning from mistakes.

This has in turn adversely affected the actionable items under knowledge management processes of encouraging debate and seeking to change existing assumptions, which have led to very poor knowledge creation, combination, and socialization. This is reflected in the very poor output indices in the educational and innovation sub-indices of the Arab knowledge index.

Possible reasons for the persistence of high power distance and uncertainty avoidance are poor output at all education levels especially higher education where debate, discussion, and knowledge-based obedience can be furthered. Gender segregation and implicit obedience being taught in families further reassure power distance and uncertainty avoidance.

Government's incentivization for jobs to Qataris irrespective of merit undermines individual initiative and merit manifested in an inefficient quota system; a culture that is focused more on prestige than performance and strict cultural practices concerning women in the workforce, Williams, J., Bhanugopan, R. and Fish, A. (2011, p.193-206). The Extreme preference for government jobs impacts the key role of government in economic transition if Qataris are to be an essential part of it.

Also, the lack of monitoring of outputs at all knowledge index pillar levels until date, distort the fact that policy and economic instruments and directives exist but show lack of intent of use and exploitation by the population.

The differences between Arab countries are not very large. Aligned with the social structure of Qatar population as presented within the context of the gulf cooperation council, all the Arab countries score high on power distance and will all be affected similarly as Qatar. (Appendix I).

Incidentally Western culture exhibit low power distance and uncertainty avoidance (KEI), which with moderated masculinity and individualism facilitate initiative and competitiveness. Arab countries seem to be on the opposites of the USA on cultural dimensions.

6 CHAPTER SIX: DISCUSSION AND INFERENCES

The previous chapters discussed in detail the logic for the choice of this study, the choice of research methodology and design, the research approach and the data collected by the various methods employed.

This chapter discusses the findings derived from the analysis of both Survey Data 5.1, and Interview data 5.2, bringing together findings to address research objective number (3) profiling Qatar's national culture based on Hofstede cultural dimensions and assessing their impact on knowledge management processes.

6.1 Introduction

The rationale behind this research grew out of the initial observation that in all management disciplines there is substantial literature that acknowledges that nations has a unique, dominant and describable culture and that culture shapes everything. Hickson and Pugh (1995, p. 90). Given that the influence of national culture is so pervasive, one can expect that the way in which individual manage knowledge in their work would also be influenced by national culture, Yoo, Y. and Torrey, B. (2002).

The research explores critical success factors for sustainable knowledge management processes required for developing knowledge-based economy.

Having collated and analyzed the data, we now proceed to make sense of the data collected in terms of findings and position the meaning of findings in terms of extant literature on culture knowledge management and knowledge economy.

Showcasing Qatar, the research adopted a phenomenological approach to understand how these dimensions impact Qatar national strategic plan to become a knowledge-based economy by understanding the status of Qatar's national processes concerning knowledge creation, sharing and acquisition. This contributes to the research objective (4) exploring the development of culturally aware knowledge management and conversion processes.

The research realizations and corollaries, derived from empirical analysis and reviewed literature identifies Economic Indicators as measurable characteristics of a Knowledge-based economy linked to the cultural aware knowledge conversion model. Aligned with research objectives 1 and 2, this chapter introduces a conceptual framework and model of knowledge management that will apply in a culturally aware environment and identify measurable characteristics of a Knowledge-based economy.

Sections 6.2 to 6.4 present the discussions relating to Culture and national culture profile, knowledge management, and the knowledge economy, the impact of national culture on the adopted knowledge conversion model. This contributes to answering the following research questions:

Research question 1: What is Qatar's national cultural profile? (Modified Value survey across sectors and demographics to profile local national culture)

Research question 2: How Qatar’s national culture profile influence knowledge facilitation as categorized in Nonaka and Takeuchi’s Knowledge Process Model?”

Research question 3: What is the impact of Qatar national cultural profile on the internationally relevant indicators of Qatar’s progress towards knowledge-based economy?

Section 6.5 presents the discussion as it relates to the use of the international indicators reflecting the economic transformation towards knowledge economy for the state of Qatar to further contributes to addressing the following research question:

Research question 4: How Qatar’s’ national culture profile influence the currently adopted knowledge transfer process and its influence on the process of Qatar’s transition to a knowledge-based economy?

Sections 6.6 to 6.8 and further identifies and summarize key findings for the research.

6.2 Culture and national culture profile

Holden (2002) states that culture is a set of traditions and values, which determine actions and behaviors of a group of people. Long and Fahey (2000) added that, it is a set of norms, values, and practices. The dimensions of culture and their strength vary with the geographical area and the unit of the population defined. This variability leads us to believe in changing nature of culture supported by attempts of populations to adapt to problems.

The idea of discussing the adopted definition of culture as given by Holden (2002) and Long and Fahey (2000) is to raise the issues that culture changes slowly and it goes through a stage like transformation as evidenced in organizations, Cameron and Quinn (2006).

No better example than that of countries located in the Middle East and belonging to the Gulf cooperation council who are attempting to change economically from hydrocarbon-based rentier economies to knowledge-based developed economies. Given this requirement of adaptation of the national economies, a country like Qatar requires reorienting the behavior of its citizens to learn, become knowledgeable, change business lines, compete with others and become more thrifty, Qatar National Development Strategy (2011-2016), Qatar National Vision 2030 (2016).

Has it been able to achieve this transformation is the moot question which is being attempted to be answered. The research aims to assess the country’s national culture impact on knowledge management processes and introduces a culturally aware conceptual framework that includes knowledge conversion model and identifies measurable characteristics of a Knowledge-based economy and its relevant indicators. The research further explores the need to develop knowledge management and conversion processes that are more effective and accommodating to the state of Qatar local culture.

The detailed analysis of data collected from the survey is presented in section 5.1. The demographic characteristics indicate a gender-biased sample, which shows a high level of educational achievement, are economically well off and cosmopolitan and perhaps belonging to the newer generation. Such a sample, although biased in gender was found to be representative of the population characteristics of

Qatar as discussed in 5.2. The advantage of such a sample is that the dimensions of culture obtained from the survey results represent the dimensions in the newer and educated part of Qatar's population. Such a sample is what is supposed to lead the transition process to a knowledge economy since a knowledge economy is supposed to have mechanisms which facilitate creation, transmission, combination and recombination and assimilation through the core process of socialization, DeLong and Fahey (2000); Watanabe and Saenoo (2010). The results of the sample can become a starting point for comparison and enfold of literature, Eisenhardt (1989) with other frameworks of culture-which is what this study has done.

6.3 Dimensions of national culture

The study looked and measured four of the five dimensions of culture.

Moderately high value on uncertainty avoidance shows a great preference for orderliness, rules, directions, a lack of initiative and preference for obedience. The moderately high value on power distance indicates that power distribution unequally distributed with more power at the top with obedience expected from juniors and subordinates. Contradiction or discussion of topics with seniors is not supported. A high degree of collectivism indicates a societal preference for group loyalty, do well to society, help people in the group and improve the collective economy. The collectiveness in this indicates group loyalty at relationship level not at the nation level. The high degree of femininity indicate a preference for caring and relationships and do not prefer aggressiveness, competitiveness, individual achievements and power.

In summary, it is seen that the survey results indicate that Qatari national culture is dominated by collectivist and feminist tendencies where group loyalty, clan loyalty, relationships and caring are the dominant emotions and attitudes. This is linked with a tendency to a moderately high degree of uncertainty avoidance and power distance where obedience is implicitly expected for being taken care of. All these characteristics indicate relational based group mechanisms of work and life activities. This is an evolutionary continuance of tribal hierarchy and way of living, extended into the nation as a hierarchical system, Cameron and Quinn (2006).

The research showcase Qatar to abstract the idea of national culture impact on knowledge management process and country's transition to the knowledge economy.

Although it is not the research objective to compare Qatar's National culture with other culture, comparisons with countries evolved from the same societal and cultural especially the gulf cooperation council members base –as explained in appendix 1, allows drawing some more inferences. These inferences become even more important as all the members of the Gulf cooperation council, and to a lesser extent countries in the Middle East, are trying to achieve strategically the same economic transition.

In line with previous studies that identified Arab culture as characterized by high uncertainty avoidance, gender discrimination, and high power distance (Globe project), the research data analysis shows Qatar as high in both power distance and uncertainty avoidance.

On the dimension of masculinity versus femininity, Hofstede's extended study of cultures found that Arab culture has both moderate masculine and feminine characteristics, and Bjerke and al-Meer (1993) added that Arabs culture considered to be more on the feminine side. The research shows that the Qatari culture is more oriented towards femininity. From that, we can draw that as based on how Hofstede (2001) defines masculinity versus femininity, in Qatar's feminine culture, Qataris "work to live" as opposed to a masculine society where people "lives to work".

In Hofstede's classification, Arab countries have a more collective than individualistic culture. In such countries, people are more dependent on groups as well as on power figures than on individuals, Hofstede (1994). Qatar's national culture dimensions seem to mimic the Arab world culture.

Key inference, which can be drawn, is that while Qataris feel the need to do social good and maintain relationships, the overarching hierarchical power mechanisms coupled with an unwillingness to take initiative, which is not allowing the coming through of initiative, risk-taking and innovation activities, which are at the core of a transformational knowledge economy.

6.4 Inferential statistics

As explained in section 4.5.1 inferential statistical analysis are used to generalize and to help drawing conclusions that could be applied to similar scenarios, Creswell (2015). It also evaluates the difference between groups within the sample and its influence on the sample performance to investigate the sample dependability and validity. In section 5.2.3 inferential statistical analyses highlight the differential understanding on dimensions of culture for gender and education status. While gender will score differently because of the differences in the roles attributed to females and males in a society and therefore can explain the more conservative nature of males and more liberal nature of females. However, despite an apparently skewed sample towards females, conservatism seems to be dominating all the dimensions of national culture in Qatar. Section 5.2.5 explains that inferential statistics established that the sample was not skewed by its demographic characteristics, and it is a representative sample.

To further understand the role of demographic variables and the sample characteristics of the respondents, one-way ANOVA analysis was done on the demographic characteristics. The main findings are discussed in the chapter on data analysis. In the majority of the cases involving the demographic variables, no significant relationship was seen concerning dimensions of national culture. However, at an individual question level, some significant relationships were noticed.

Men were significantly scoring higher on uncertainty avoidance concerning tradition and unwillingness to break organizational rules. Despite a skewed sample towards female gender, overall uncertainty

scoring was high. It only indicates that in terms of family and organizations females are less conservative than males, which is reflected in the averaging of the scores for the entire dimensions.

Married population significantly higher levels of uncertainty avoidance. This is explained by the fact that risk-taking or managing uncertainty would be less preferable after marriage given the added responsibilities of the family. In a clan-based hierarchical society –as seen in Qatar, as power is at the top (invariably male) responsibility of the family is also at the top, hence the reluctance to take uncertainty.

Men also score significantly higher scores on collectivism –especially in terms of helping others in the group. This is in line with the scoring of females on tradition and organizational rule breaking – indicating more individualism in females.

It was seen that Qataris are speaking Arabic and English—indicating a more cosmopolitan disposition were scoring significantly higher scores for collectivism. This reflects the acceptance of collective good more than group loyalty.

6.5 Knowledge management and knowledge economy

Having identified the dimensions of the national culture of Qatar, a qualitative approach was taken to collect data on the progress of transition of the economy of Qatar to a knowledge-based economy as desired in the Qatar national vision 2030.

Shanhong (2002), Suggests that knowledge management, as a sub-discipline of the knowledge economy is a method of management that seeks the conversion of the intellectual qualities of the staff of an organization through competitive power and new value. The research presents success factors as means to identify and simplify the analysis of issues relevant to national culture impact on knowledge management process enabling country's transition to the knowledge economy. Linked to the work of H.J. Leavitt (Harold J. Leavitt in 1973), critical success factors Diamond model, the research identifies and adopt three enablers as essential success factors for national economic transformation. “People”, as they perform their roles based on “Processes” supported and facilitated by “Technology”.

Applying the SECI knowledge spiral on a national level in the context of knowledge economy development presents the enablers of the knowledge conversion process. People, process, and technology, enable access and transmission of knowledge and the creation of knowledge, as the knowledge economy promotes the generation of new knowledge through education, ICT infrastructure, the economic and institutional regime and innovation.

As presented in section 5.3, the collection of data in the interviews was based on the four pillars of the Knowledge economy as developed by the world bank and was linked to the three enablers of people, processes, and technology.

In line with the hierarchical culture with high power distance and high uncertainty avoidance, the use of ICT as a tool for socialization exchange of ideas and comments has not percolated in the population. It is presently being used to do analysis and work execution. Thus, the use of ICT is mostly for exploitation of knowledge.

The most critical inference one can draw from the information collected is that as linked to the model of SECI, the processes of socialization and combination will be affected fully while externalization will be affected partially. These, in turn, will reduce the quality of knowledge internalized. The maximum impact will be on the education system where the need for these four processes as interlinked to infuse a new generation with proper and appropriate knowledge and work ethics will be affected.

The data collected only highlights the presence of a process but its use and effectiveness are not at all discussed. One reason identified peculiar to Qatar is that 88% of the people work in the government sector and there is a strong preference for this sector. The second incentivization is there for employing Qataris. These may reduce the incentive to learn and educate oneself to a higher level.

No clear mechanism where stakeholders could express their views and suggestions at the time of policy formulation.

Although concepts such as open data and freedom of information were somehow mentioned in Qatar National strategy 2012-2016 and Qatar National vision 2030, national or organizational knowledge repository or decision support system are not known to Qatari people. The present study confirms that the awareness amongst the public of these instruments is poor.

The lack of accessibility to explicit knowledge and the ability to socialize or externalize the tacit knowledge via ICT means, and based qualitative analysis as explained in details in section 5.3, placing Qatar in the passive quadrant in Choi and Lee (2002) knowledge process model is justified.

Choi and Lee (2002) show that knowledge management process could be system-oriented, human-oriented, or dynamic, and passive (Figure1).

6.6 National culture impact on the adopted knowledge conversion model.

The research used the standard Hofstede's Value survey method questionnaire of 2008, duly modified based on a pilot study to adapt to the Qatari context to determine the values of the main dimensions of its national culture. Having found the main dimensions of Qatar's national culture, it then used a phenomenological approach to understand how these dimensions were impacting the Qatari national strategic plan to become a knowledge-based economy by understanding the status of Qatar's national processes concerning knowledge creation, storage, assimilation, exploitation, and exploration.

Findings of the interviews as discussed in details in section 5.3 were undertaken to understand what factors were facilitating and what factors were impeding the national transition to a knowledge-based economy.

As Cultural factors proposed as being important in explaining IT usage behavior, Straub et al. (1997), the data shows that, although ICT considered essential for productivity, it is rarely used as a way for overcoming cultural barrier as suggested by Qatar national culture profile. Collaboration tools are not available or not being used. The absence of such tools suggests that employees are not properly equipped to access knowledge, work together or exchange knowledge. This is in line with Gales (2008) inference that, high power distance cultures less likely to adopt new innovative technologies because it may cause a change or a shift in the organization power structures.

Huysman and Wulf (2006) argue that collectivist societies are more successful in adopting and implementing collaborative software systems. The interview data does not support this argument. Qatar national culture as profiled in this research is low in individualism high on collectivism, however; the interview data analysis suggests lack of any collaboration tools that may promote knowledge sharing or knowledge exchange. This may be contributed to Country's' Specific Issues as explained in section 5.3.6

House et al. (2004, p. 602) identify uncertainty avoidance as a cultural dimension that strongly correlates with technology adoption. Uncertainty avoiding cultures resists change but not necessarily resisting technology acquisition, in fact, cultural practices associated with uncertainty avoidance promote technology development. On the contrary, Sundqvist et al. (2005) studies revealed that uncertainty avoiding cultures need more time to adopt new technologies.

This study acknowledges the difference between technology as valued for physical functionality and Information technology as valued for functions related to data. This may explain the contradiction between the country's aptitudes towards technology adoption. The data in section 5.3.4 suggest that Qatar uncertainty avoiding culture may resists or poorly implement information technologies yet in Arab Knowledge index 2016 rank Qatar near the top on ICT index.

6.6.1 National culture Impact on SECI

Section 2.4 discusses the components of Knowledge Management Models as described by Bhagat et al. (2002), Maier (2007), Grover & Davenport (2001) and others. Heisig (2009) analysis of around 160 frameworks identified "People" as one of the most important components of Knowledge Management models and frameworks. The literature suggests and confirm that the way people collaborate and communicate is based on culture. In turns, Knowledge Management activities like knowledge sharing are strongly influenced by culture, Pawlowski, J.M. and Bick, M., (2015).

Section 2.4.1 presents DeLong and Fahey (2000) identified four frameworks and suggested actionable cultural characteristics. Abou-Zeid (2003) explains how useful DeLong and Fahey models identifying areas in which national cultures may influence knowledge conversion process, yet those models do not explain how cultural characteristics impact the specifics of knowledge-oriented behaviors within the contest specific knowledge management process.

More hands-on overview of how exactly the process of knowledge conversion and sharing takes place Nonaka and Takeuchi (1995) introduced (SECI) Model of Knowledge Conversion. Based on the literature reviewed in section 2.4.2 the research adopted the SECI and suggested culture dimensions benchmark as relevant to a successful knowledge conversion process. (Figure 25)

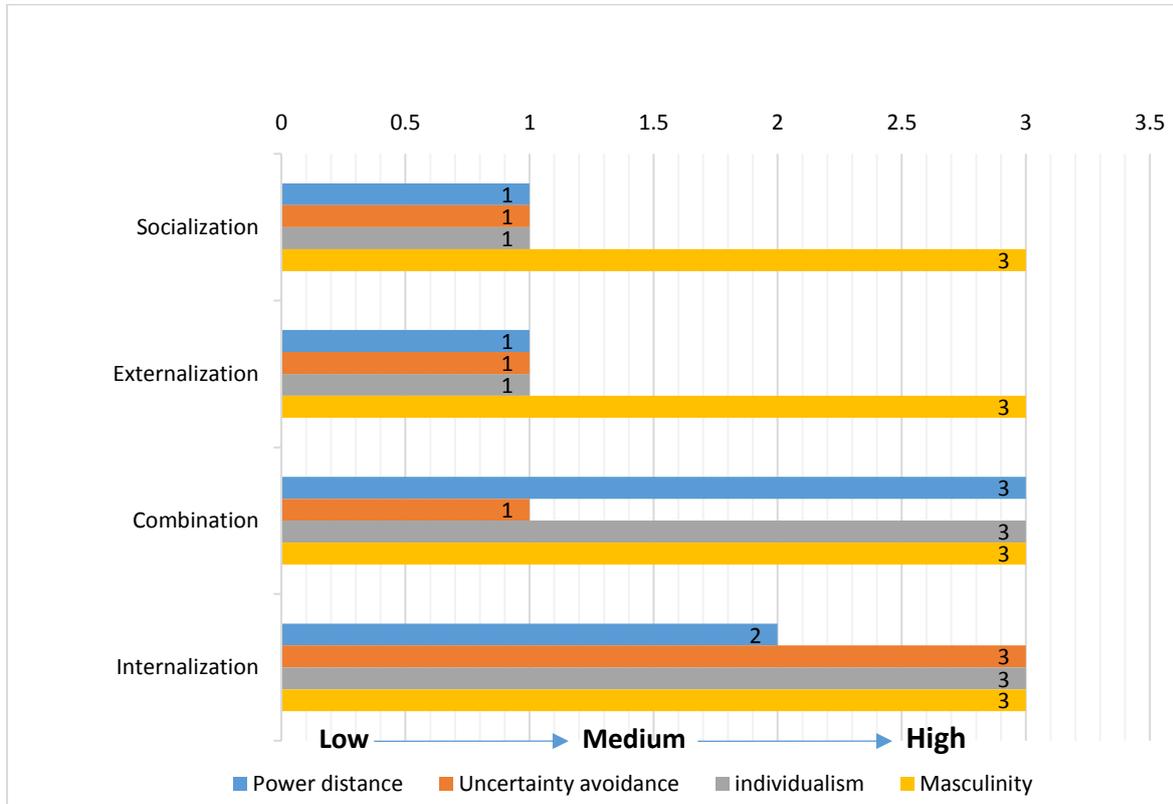


Figure25: SECI **Ideal** cultural characteristics

The research complements the literature as it introduces and investigates the relationship between National culture dimensions of Hofstede and Knowledge management processes of SECI, actionable items on culture and knowledge processes which when linked by impact explain the transition process or otherwise to a knowledge economy.

The results of interview analysis presented in section 5.3 suggest clear influence of Qatar National culture on knowledge conversion process based on Nonaka and Takeuchi SECI model. The research findings complement reviewed literature suggesting that National cultures impact upon leadership styles and organizational culture and frame personal orientations Michael and College, (1997); Watanabe and Saenoo (2010); Ang and Massingham (2007).

Interview data analysis in Section 5.5.2 suggests that Gender segregation and preferences for oversight jobs preclude activities related to actions, which may lower the strength of socialization and knowledge combination. This is in contrast to Weir and Hutchings (2005) views on the difference between the

Western and the Eastern in the contexts of knowledge creation as they suggest that socialization happens quite effectively in the Arab context.

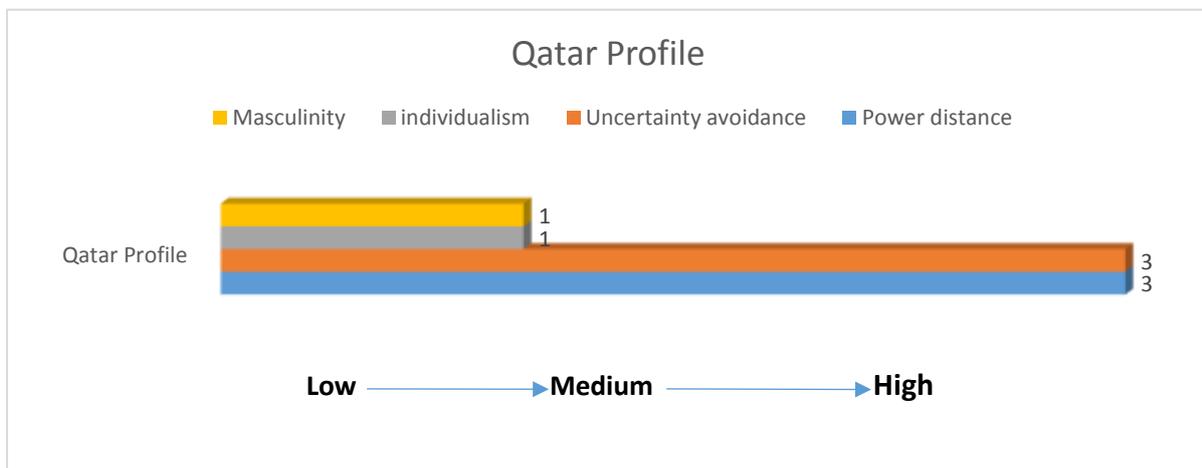
The key features are:

A low power distance is critical for transitioning to a knowledge economy. Second to this is a low level of uncertainty avoidance. A low power distance facilitates Discussion, approachability to top management, the frequency of interactions, problem-solving, orientation to existing knowledge, knowledge sharing, teaching and learning from mistakes. All these characteristics will encourage the use of external knowledge as a starting point, debate, high level of participation and ways to challenge existing assumptions. Knowledge can only be realized, learned by people through active association in all these cultural characteristics, which prime them through intent to do debate, break assumptions and reset their knowledge.

Low uncertainty avoidance impact positively orientation to existing knowledge, knowledge sharing, teaching and learning from mistakes. These thus facilitate new knowledge creation and combination and correct externalization.

Based on the data analysis in Section 5.5.1 the research present Qatar National culture profile as high on power distance and uncertainty avoidance, low masculinity and low individualism.

Figure 26: **Qatar** cultural profile



Qatar’s transition has been affected by the persistence of high power distance and uncertainty avoidance. Interviews data analysis in section 5.3 substantiates this evidence. Improvement in dimensions of power distance and uncertainty avoidance is possible when schools and educational institutions permit discussions, debate, questioning of prior assumptions, and easy approachability to top management like faculty to enable all these activities. The same can be promoted by avoiding gender segregation and allowing women to take the lead in teaching children in these activities at home. Men as head of the family have to show more tolerance for these discussions

As masculinity and individualism impact discussion and approachability to top management, Qatar feminist, and collectivist culture profile do not encourage the debate of existing assumptions. A critical process for creation of new knowledge and correction of old ones. This is what determines success in innovation and research and development. New knowledge creation in form of new ideas and combination of old and new ideas leads to both knowledge exploitation and exploration in which socialization, combination, and externalization are important requirements.

The four knowledge management processes of SECI model can be mapped on to the cultural dimensions of competing Hofstede model. This will enable and interlinked mapping as given below.

We had established the criticality of a low power distance and uncertainty avoidance and a moderated masculinity and individualism to complement them to facilitate a transition to a knowledge economy. We also established how these affect the actionable items at cultural characteristics and knowledge processes.

We now take this to the final conclusive step where we derive the process framework combining all the factors up to the economic impact of knowledge –outputs and then map the findings of our study to identify the deviations or drawbacks.

6.7 International indicators for Knowledge economy pillars

Having looked at the starting point of the economic transition process, first at dimensions of national culture, second on the impact of intervening variables such as actionable items in the form of cultural characteristics and knowledge management processes, we now add the outputs in the form of knowledge indicators and complete the process framework. We then position the data collected as part of the thesis against the framework and look for deviations.

Findings of the interviews conducted with employees and managers of firms in Qatar had been analyzed to understand the progress made in the transition to knowledge-based economy. This was compared to data obtained on the KEI and Arab knowledge index parameters to give a deeper meaning to the analysis.

The analysis of data collected through the survey and interviews, and positioning these inferences against the data available in the public domain on the Knowledge economy index and the Arab knowledge index enable us to understand how and if Qatar's economy has progressed at the desired rate of transformation.

The Arab knowledge index is a report prepared by the Mohammed bin Rashid Al Maktoum Foundation in collaboration with the United Nations development program. The AKI is a composite of six key indicators, which focus on knowledge and its use. The key concept is that use of knowledge is the way to sustainable development and knowledge use consists of the processes covering research, scrutiny,

analysis, criticism, and deduction. These mimic the four processes of Socialization, externalization, internalization, and combination of the SECI model.

To further grasp the essence and identify the required corrective measures, the research introduces a framework for transformation. The framework is based on Hofstede’s culture model, SECI model, processes success factors and WB knowledge economy pillars. The mapping of the identified components and the analysis of indicators values will detail the influence of cultural dimensions on the knowledge economy pillars.

Section 2.6.4 introduces the secondary research data for knowledge economy key indicators as identified by WB knowledge economy index and Arab Knowledge index AKI.

As Section 5.4 and 5.5.3 attempts to answer the fourth research question, the introduced framework claim that economic transition is a process, which is carried out over time. It has factors, processes, and outcomes. Components that consist of the independent, intervening and dependent variables.

Based on Watanabe and Saenoo (2010); DeLong and Fahey (2000); Cameron and Quinn (2004); and Schien (2006) claim that the National culture influence on organizational cultures impact knowledge management processes and influence the processes of combination, externalization, creation, and transfer of knowledge, the introduced framework suggest that at the macro level, national culture and national strategic direction are intervening variable. At the middle level, the knowledge conversion process and its success factors are independent variables, yet the efficiency of the process execution and the conversion of knowledge are characterized by the national culture intervening variable. The

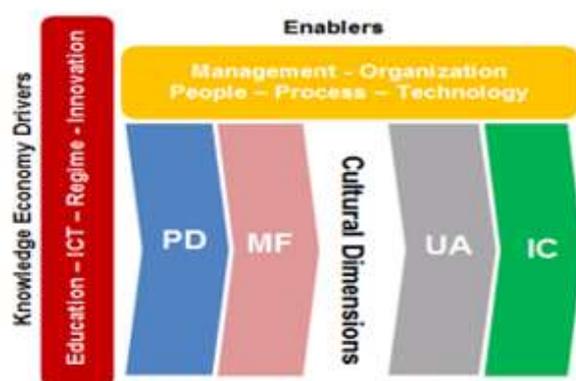
knowledge exploitation or exploration processes at the micro level as linked to the final national economic performance are dependent variables.

ICT as the infrastructure utilized by a knowledge-driven economy suggests that ICT revolution and the introduction of KE are strongly interrelated; however, ICT alone cannot produce knowledge (Lundvall and Foray

1996).

The country low score ICT indicator and the analysis in Section 5.3.4 reveal that the lack of team collaboration tools prevents the transfer of tacit knowledge, as there is a less socializing process.

Figure 24 : KM Enablers/Culture dimensions/KM Drivers



Organizations seem to lack a clear supporting mechanism to facilitate tacit to explicit conversion or externalization, or even development of new linkages between existing explicit knowledge.

The interview data analysis confirm the country's fast rate of technology acquisition, and Qatar's law score in KEI ICT indicator, are not in contradiction as the acquisition of ICT should not be regarded as a goal in itself, but rather a means to achieve higher productivity and economic growth, Al-Rahbi (2008, p.57); Whelan (2000).

The innovation pillar is an output-like pillar. The success of an innovation culture depends on the appropriate involvement of government, which is the key promoter of the whole cycle including government institutions, the private sector, the local think tanks, and individuals with indigenous knowledge Aubert (2005).

Knowledge economy emphasizes the need of new skills, such as communication and intellectual skills, and career and personal development to adapt to the constant changes in the business environments (OECD 1996). Attainments of education and on the job training positively correlate with economic growth and society's human capital development, Hanushek and Kimko (2000), Barro (1991), Al-Rahbi (2008, p. 52).

Education is the basis of a knowledge-driven economy and its improvement lead to an economic development. Education facilitates logic and communication, which are essential factor of any innovation system. Carayannis and Campbell (2012) explained that new ideas and inventions are produced in educated environments where scientific or complex communication is essential.

The data substantiate that in Qatar policy instruments exist to improve education and human resources, nevertheless intent and action outputs are apparently missing. Porter (1990) confirmed that legal and political environment are critical to the nation's competitiveness. He added that economic incentives facilitates efficient resource management, encourages entrepreneurship, and the creation and dissemination of knowledge. It also facilitates local markets development and promote foreign investments and joint ventures needed for the acquisition of new knowledge and the adoption of advanced ICT, Al-Rahbi (2008, p.46). This ranging from business environment, finance and banking, macroeconomic framework, regulations, and governance.

However, this may require more than just a change in laws. It may need major changes in the society's value system Javidan (2004).

6.8 Summary of key findings

In view of the broad guideline of knowledge management in global context, the research contributes to the literature with regional focus, showcasing Qatar's national culture possible impact on knowledge management process, in the context of the country's transition to knowledge based economy. The research put forward the following framework that spans over Macro / Micro spectrum and introduce

the governing variables of national culture and knowledge management processes that influence the dynamics of an economic transition to knowledge based economy.

The research does not suggest tools to manage the intervening variables nor discuss ways to govern the various dynamics. As such, the model proposed by the research is in the form of broad-based guidelines only.

The research proposes a model which introduces national culture dimensions as an intervening variable that determine the evolution of countries economic transition to knowledge economy as it influence the knowledge management process and its success factors, Figure 27.

The model developed from the literature and the research concluded quantitative and qualitative data analysis, which combined insights on cultural dimensions, knowledge economy pillars, and knowledge conversion process and its success factors.

The context of the research objective 1.4 and based on the research conclusions 7.1, the model propose a macro impact of National Culture dimensions on Knowledge conversion dimensions as each dimension of the four adopted dimensions impact the efficiency and effectiveness of each process of the assumed SECI knowledge conversion model.

A look at the performance of the success factors as reflected in the knowledge economy index indicators reveal the intervening influence of the national culture dimensions on knowledge conversion process supported by evidence on micro level.

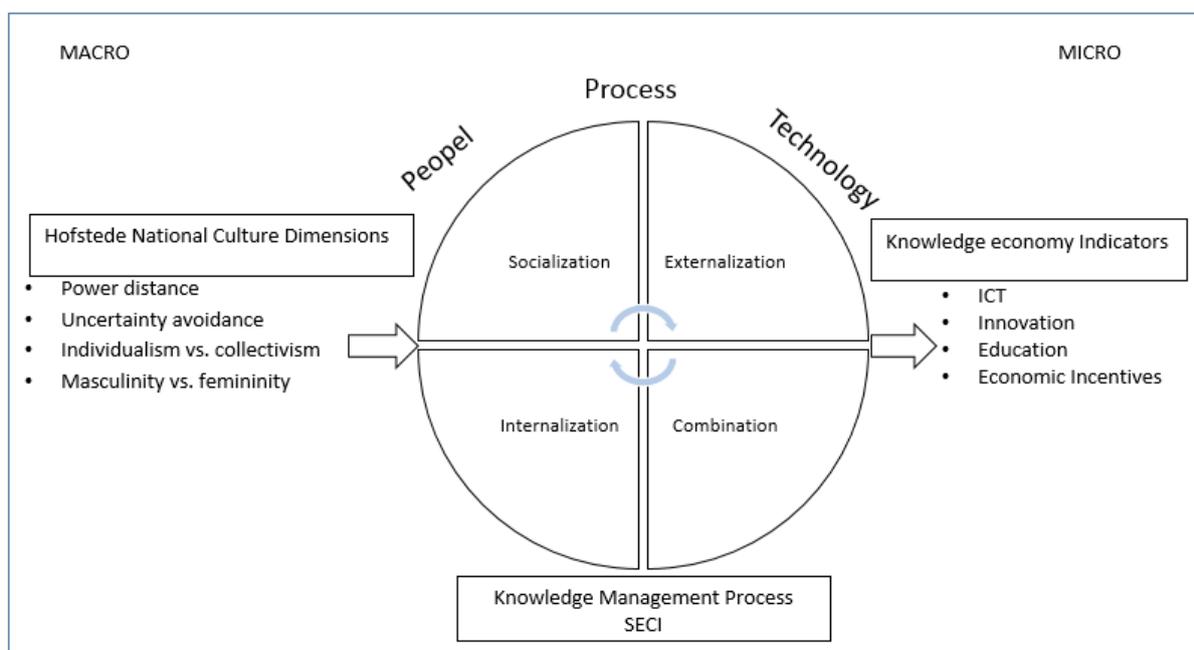


Figure 27 : National Culture impact on knowledge economy performance

6.8.1 Knowledge management and knowledge economy

Knowledge conversion process and its success factors as a sub-discipline of management lays in the heart of the economic transition process to knowledge economy. Knowledge has become fundamental not just as input for economic processes but as the ultimate output of knowledge economy.

6.8.2 Knowledge spiral as a national model

The influence of national culture on economic activity within a country silhouette work related behaviors. This further contribute to literature confirming the identified link between national cultures and organizational culture.

6.8.3 National culture impact on Knowledge spiral

Based on the adopted definition of culture and knowledge conversion process, people are the primary mediators of knowledge conversion process and culture determines the norms of all relevant activities. In line with DeLong & Fahey (2000) statement that 80% of knowledge management related to people and organizational culture, the efficiency and effectiveness of the process affected by new social aspect of involved agent's culture.

6.8.4 National culture impact on tacit knowledge transfer

Tacit knowledge observed through involvement and active participation therefore it is susceptible to humans' ability to communicate or to other socially and culturally induced behaviors. As they described with respect to knowledge creation, acquisition and dissemination, tacit knowledge process fundamentally related to human action.

6.8.5 The role of National culture in a national economic transition

National culture dimensions have a significant impact on the process of knowledge management at the national and at organizational level. For an economy to become a high performing knowledge based economy, the national culture must be able to successfully facilitate the knowledge conversion process and create an accommodating environment based on the identified knowledge economy pillars.

7 CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

This chapter proceed to establish the logic for the findings and impute implications for theory and more so for practice, especially for Qatar's strategic plan 2030. The study concludes this chapter with the limitations of this study, both in terms of research methodology applied and the imputation of the findings to practice.

7.1 Conclusion

The aim of this research was to develop an understanding of the influence of National culture dimensions on knowledge management processes in the context of economic transformation to a knowledge economy, showcasing Qatar.

According to Holden (2002), research indicates while the path to knowledge management and knowledge-based economy is well defined, the failure to attain it often stems from ignoring factors related to culture.

The research findings is in line and vividly aligned with Haag et al. (2010), and Davenport and Prusak (2000) work concerning the significant impact of culture on knowledge transfer, and the extensive personal interaction required for tacit knowledge transfer and its influence on socialization process of SECI. In addition, the research reveals that the effectiveness of knowledge management processes, at the national and at organizational level depend on culture dimensions as it intervene in each stage of knowledge conversion processes leading to a significant impact on the development of knowledge economy.

The research adopts Pearlson (2001) views on knowledge management, as he believes that it is a process impacted upon by the technology, processes, and people. The research findings concur with Pauleen and Murphy (2005) that knowledge management models particularly in global context should include the influence of national culture. The research data analysis revealed that Knowledge could only be realized, learnt by people through active association influenced by cultural characteristics lead them through the intent to do debate and reset their knowledge.

Based on the proposed model (figure 27) , this research assert the possible positive or negative influence of national culture on knowledge conversion processes as critical to the success of country's economic transition to knowledge economy. This confirmed as the research suggests that the National culture dimensions of Qatar have influenced the economic transformation from a hydrocarbon economy to a knowledge-based economy.

The coupled data from the case country and reviewed literature indicated that in practice Qatar is still at the infancy of the transition to a functional knowledge economy. The hierarchical culture demanding obedience and strict observance of rules has not changed much, which in turn has affected the knowledge creation, dissemination and application processes. Furthermore, the study infer the likely

fact that educational parameters of Qatar at actionable items may also be poor which we discuss using the Arab knowledge index in the forthcoming paragraphs.

In the case of Qatar, it was seen that a high level of power distance and uncertainty avoidance vitiated this requirement and hence slowed or even stagnated this economic transformation.

A significant finding as discussed in section 5.4.1 “Knowledge economy pillars and indicators” is the very low scores on the output and process indicators especially in education and innovation sectors. These two are the cornerstones of the KEI and knowledge economy and need to be transformed. The linkages to the poor performance on education and innovation sectors seems to be linked to high power distance and uncertainty avoidance which is further intensified by the incentivization of Qataris for government jobs and segregation of genders.

The policy instruments through institutions affect all these starting with the education system. The analysis of the data collected from interview, the WB Knowledge Economy Index and Arab Knowledge Index reports clearly show that Qatar has put in place the policy and regulatory instruments. However, Utilization of instruments requires an awareness or assessment and identify the nature of use. Nearly all Arab countries for which data was available show similar features

For an economy to become a high performing knowledge based economy, the national culture must be low on power distance and uncertainty avoidance with moderated levels of masculinity and individualism. This explains why different countries may achieve deferent rates of progression achieving its vision in transitioning to knowledge economy. The implications on knowledge economy is that dimensions of national culture may affect knowledge conversion process in ways that may impede or speed the economic transition.

7.2 Contributions

The research contributes to literature on impact of national culture on knowledge management process in the context of national economic transition to knowledge economy.

The research applies the concept of the knowledge spiral to nations and further study the success factors for knowledge conversion lifecycle as they relate to knowledge economy progress.

The research supplements the initial quantitative data analysis approach by qualitative data analysis and triangulation. As explained in section 2.4.2, the research investigates the impact of national culture dimensions on the efficiency and effectiveness of knowledge conversion process. The research qualitative approach are particularly important in exploring the national culture influence on knowledge conversion process and the national economic transition to knowledge economy. Based on the identified success factors in section 2.4, the conducted semi structured interviews provision a better understanding of the impact on knowledge conversion and the country’s transition to knowledge economy. To further

inveterate the conducted qualitative and quantitative data analysis, the research triangulate the results and map it to relevant knowledge economy indicators as explained in section 5.4.1.

The research identified the following interacting variables and proposed a theoretical framework, which help explain global differences in national economic transition rates and performance of knowledge economies.

National Culture dimensions

Knowledge conversion dimensions

Success factors (Enablers)

Knowledge economy indicators

7.3 Reflection and limitations of research

The objective of this research is to explore how perceived cultural dimensions influence national economic transition to a knowledge-based economy. The research approach this by investigating the impact of national culture on knowledge management processes. Vast amounts of information could be found on cultural differences influencing the knowledge conversion process. However, it became clear that only some researches had been done on the topic of cultural differences influencing knowledge conversion process based on the three enablers of People, Process, and Technology and in the context of a national economic transition to a knowledge-based economy.

It was confusing that knowledge transfer was quite often used as a synonym for knowledge exchange, as if both definitions are the same. It was also quite difficult to figure out how all variables in this research influenced each other, and many different articles of different writers had to be used to produce a good literature review to start the research.

7.3.1 Limitations

While care has been taken to adhere to the strict guidelines of a research thesis, constraints of time, contexts, and resources have had their impact. The impact has been more on the volume of sample achieved both in the survey on determining the dimensions of Qatar's national culture and in the interviews of key informants covering the process of knowledge conversion as they relate to the country's transition to knowledge based economy. However as clearly indicated and discussed in section 4.2.7.4, a minimum representative sample between 50 and 100 is adequate for the survey-based determination of a national culture. The research look at the two critical variables of national culture and economic transformation, which are difficult to study and so data collection involved its own difficulties. Both objectives have been achieved in this research.

Qatar has a small population. This is an advantage and a disadvantage. Small population can facilitate rapid change in dimensions of culture and improve socio economic environment while on the other

hand it may continue dependency on critical non-Qataris or expatriates to maintain the economic growth. This is a tradeoff, which has to be balanced.

In the case of interviews, it is the quality of data, which is more crucial to draw important conclusions than the actual number of interviewees. During the interviews, some difficulties were faced which included issues of access, especially to operation level and female participants, and faced the problem of getting reliable and relevant information on the topics on which questions were posed.

Difficulties were faced in accessing the key informants for the study, compounded by gender segregation at work place and unwillingness of managers to speak freely about their views and observations. These issues raise issues about validity of the findings of the study.

For key informant's interviews to understand the transformation process, only ten subjects participated mostly from middle management and line employees. However, given the fact that the findings of the interviews were corroborated by the data from the Arab knowledge index, this study has been able to establish validity of the findings through triangulation. A larger sample of interviews of key informants would have added richness to the qualitative portion of the study and perhaps detailed out the entire process of impact of culture on knowledge management processes.

This research adopted Hofstede's four cultural dimensions, Nonaka, and Takeuchi (SECI) Model of Knowledge Conversion. However, it is necessary to indicate that many articles have challenged both. Major critiques on the work of Hofstede, and Nonaka, and Takeuchi were summarized and discussed in chapter 3 and 4.

7.3.2 Recommendations for Further Research

The research contribute to the subject of knowledge management, particularly in proposing National culture impact on knowledge economy development Framework. This framework needs to be verified and tested in case studies. There is a need to build behavioral indicators covering the cultural characteristics and knowledge management processes as developed by Delong and Fahey (2000) which will enable an assessment of how culture is transforming. A cultural transformation is a must before long lasting economic transformation is seen.

The work of culture impact on economic transformation, especially knowledge management has been studied mostly in the western context. This study looked at this issue in the context of the Arab world. Larger and more detailed studies are required in the Arab context. An offshoot of the inferences could be a larger application to the economic transitioning process of Gulf Cooperation Council countries and countries of the Middle East.

Replacement of expatriates in private sector can only be done if Qataris themselves equip themselves with skills required along with knowledge, which will facilitate a gradual transformation of culture dimensions of power distance and uncertainty avoidance. This in turn will feed into improvement on

education and innovation indexes. More importantly, it must influence the dimensions of national culture for change to be set in and progress in a permanent way.

Smart Cities and smart countries, IOTs (Internet of things), Big data, and Open data, may impact and change the way we approach knowledge conversion process. The vast amount of data that will be generated, the advancement of Data Mining, Artificial intelligence and machine learning, Data analytics, the unimaginable processing power of Quantum computing and the very fast data transmission speed of the fifth generation of GSM Networks (5G) may vigorously challenge old models of knowledge conversion and its all suggested phases. The People, Process, and Technology, enablers may remain valid but the role that each plays in the knowledge conversion process may be challenged.

The research propose this to be an area of further research for KM.

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APPENDIX I: “The state of Qatar”

Qatar located in the Middle East region and a member of the Gulf Cooperation Council (GCC). The Council consists of the Arab Gulf states of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. The GCC was established in May 1981. Its constitution describes it as an organization for realizing and coordinating integration and cooperation in all economic, social and cultural affairs among its member countries, Abdel karim, A., (1999). With the exception of Oman, all Gulf States are rooted back to Saudi Arabia. Nevertheless, in spite of Qatar’s growing global significance, observers and scholars of the Middle East have long neglected the smaller states of the Arabian Peninsula, and those who have studied the region have mostly focused on Saudi Arabia and to some extent on the United Arab Emirates, Fromherz, A.J., (2017).

Over 50 years ago, Qatar was not what it is today. The tribal structure of the population dominated political and social structure of the population of Qatar. Similar to that, elsewhere in the gulf was populated by of Bedouin. They usually entered Qatar from the Arabian mainland during the winter months. Zahlan, R.S., (2016)

Qatar has been inhabited by people from Saudi and Persian origins, and was the center of pearl extraction trade. Around the second half of the 19th century, the British gained access to the land, though Turks influence too increased. However, in the 20th century when oil is discovered and commercial production begins, the British have taken practical control though the Emir continued to be the ruler. Fromherz, finds the historical roots of the modern power configuration of Qatar, arguing that the British understanding of the Sheikh domes as authoritarian, desert aristocracies created the legal foundations of present day authoritarianism. During the last century, Qatar continued to develop through oil industry, and started making social investments in the form of schools and hospitals.

Zahlan, R.S. added that, modern institutions, which have been established since independence, have been adopted to the traditional forms. The old style of living of Bedouins did not extinct as most Bedouin families still have their farms, but not the whole family dedicates its life to it. About 80 percent of Qatar’s population lives in Doha, the capital city.

Some Qataris continue to keep settlements in desert. Also, there are still Bedouin families that continue to live out in the desert and cherish their own sub culture of dialects, dress and religious and social values. The tribal customs are largely primitive in nature, and are bounded by similarity of dialect, habits, laws of inheritance, laws of marriage and laws of hierarchy. The tribal cultures have a rigid hierarchical system that respects elders and leads to extreme cohesiveness and protects the sanctity and identity of the tribe. However, the mostly oral and implicit nature of cultural knowledge makes it difficult for the people to follow an explicit rule of law or long term plan for economic or social development. Tribe cohesiveness trumps over central authority or national culture, and this cohesiveness is the result of intense emotional and subconscious bonding between members of the tribe who are largely related to each other. Collectivism and not individualism are promoted, and family and clan is considered sacrosanct .

No doubt about Qatar's present economic importance, Zahlan, R.S., (2016). Mathew Gray (2013) confirmed that, GCC states have become more globalized and they are spending their wealth more wisely to develop their economies and societies, expand away from their reliance on hydrocarbon resources, and build new state's relationship with the society.

Qatar has a flourishing of schooling system which are different from the original traditional and informal katateeb schools. Now Qatar has schools specifically for people from different countries residing in the state, and follows compulsory primary education system. Qatar provides free education to its citizens, and is focusing on higher education as well. The country has a rich tradition of traditional sports, like falconry and camel racing. Qatar is also investing substantially in developing itself as a tourism hub, in order to add to its economic diversification initiatives. Moreover, under the guidance of Emir Hamad, Qatar made strides in communications and established the first pan-Arab news channel, Al Jazeera. The country peacefully resolved its border disputes with Saudi Arabia and Bahrain. The country has experienced peace and prosperity and is the highest per capita income country in the world. It supports liberal progress and is committed to improving the country's basic institutions and infrastructure and is preparing to host 2022 World Cup.

Qatar's 2030 vision and Qatar's National ICT Plan 2015 recognizes a knowledge-based economy as enabled by quality education, innovation and entrepreneurship. In addition, Qatar aims at economic diversification as the way to decrease the region's vulnerability to shifts in international demand and to get ready for complete transition to a post-hydrocarbons economy. Qatar consider the knowledge economy as the chosen ecosystem for knowledge concentrated industries required to create jobs for Qatar nationals.

Qatar National Vision2030:

- Sustainable and diversified economy
- Supports and promotes "private sector"
- Robust Health and education systems
- Less dependency on hydrocarbon economy
- Attract best talents, and entrepreneurs to facilitate knowledge transfer
- Enable knowledge economy by sustainable knowledge acquisition and creation processes.

Qatar's belief that knowledge produces more knowledge and the more acquired knowledge the more knowledge created drive its quest to transition to knowledge economy.

Qatar facts

The Ministry of Development Planning and Statistics

- Population:
2,685,000 (March 2018.)
- Ethnic groups:

Non-Qatari 88.4%, Qatari 11.6% (2015 est.)

- Languages:

Arabic (official), English commonly used as a second language

- Religions:

Muslim 67.7%, Christian 13.8%, Hindu 13.8%, Buddhist 3.1%, folk religion <.1%, Jewish <.1%, other 0.7%, unaffiliated 0.9% (2010 est.)

- Age structure:

0-14 years: 12.63% (male 148,021/female 144,252)

15-24 years: 12.35% (male 206,055/female 79,859)

25-54 years: 70.59% (male 1,359,383/female 274,334)

55-64 years: 3.42% (male 61,051/female 18,203)

65 years and over: 1% (male 14,932/female 8,217) (2017 est.)

- Urbanization:

Urban population: 99.4% of total population (2017)

Rate of urbanization: 1.63% annual rate of change (2015-20 est.)

- Major urban areas - population:

DOHA (capital) 718,000 (2015)

- Sex ratio:

15-24 years: 2.64 male(s)/female

25-54 years: 4.91 male(s)/female

Total population: 3.41 male(s)/female (2016 est.)

(CIA-The World Fact book, 2016).

- Education expenditures:

3.5% of GDP (2014)

- Literacy:

Total population: 97.3%

Male: 97.4%

Female: 96.8% (2015 est.)

- Unemployment, youth ages 15-24:

Total: 0.6%

Male: 0.2%

Female: 2.2% (2015 est.)

APPENDIX II: “The Survey”

National Culture impact on knowledge conversion processes.

تأثير الثقافة المحلية على إدارة المعرفة

Thank you for taking the time to complete this important questionnaire.

The survey is about your use and opinions towards Qatar’s National Culture Dimensions

If you have any queries or concerns please contact
or write to aismael@ict.gov.qa

Important: Before we begin, please be aware that the information you provide in this survey will be treated as strictly confidential, and your individual response will not be shared with any third party. So, I request that you give your candid responses to each question.

السلام عليكم

اشكر لكم تعاونكم بتخصيص جزء من وقتكم الثمين لإنجاز هذا الاستبيان الهام.
تتناول الدراسة أبعاد الثقافة المحلية لدولة قطر

في حال كان لديكم استفسارات يرجى المراسلة عبر البريد الإلكتروني aismael@ict.gov.qa

ملاحظة مهمة: قبل أن نبدأ، أود أن أعلمكم أن كافة المعلومات التي تقدمونها في هذا الاستبيان ستعامل بسرية تامة، وأنه لن يتم الإفصاح عن إجاباتكم الشخصية لأي جهة أخرى. ولذلك اطلب منك ان تجيب بدقة وصرامة عن الأسئلة.

1. LOCATION

محل الإقامة الدائم-المدينة

- Doha الدوحة
- Al Rayan الريان
- Al Wakra الوكرة
- Al Khor الخور
- Umm Salal ام صلال
- Al Shamal لشمال
- Al Daayen الضعابين
- Rest of Qatar قطر

2. Gender

الجنس

- male ذكر
- female انثى

3. AGE

السن

- 18 - 24 years سنة 18 – 24
- 25 - 29 years سنة 25 – 29
- 30 - 39 years سنة 30 – 39
- 40 - 55 years سنة 40 – 55
- 55+ years فوق 55 سنة

4. What languages are you able to use? Are you able to read, write, or speak in the given language?

(Please tick all that apply for each language; do not ask respondent's mother language as listed in previous quest

ما هي اللغات التي تستطيع استخدامها؟

- English الإنجليزية
- Arabic العربية
- Other أخرى

5. What is your marital status?

الحالة الاجتماعية

- Never married لم يسبق لك الزواج
- Married متزوج
- Divorced مطلق
- Widowed أرمل
- Prefer not to say أفضل عدم التصريح

6. Highest education level you have achieved:

أعلى مستوى تعليم حصلت عليه :

- Illiterate أمي
- Read and write يقرأ ويكتب
- Primary ابتدائي
- Preparatory and Vocational إعدادي ومهني
- Secondary ثانوي
- Above Secondary but less than university such as diplomas أعلى من ثانوي وأقل من جامعي مثل دبلوم
- University Graduate (Bachelor) خريج جامعي (بكالوريوس)
- Post-graduate (Masters or Ph.D.) دراسات عليا (ماجستير، دكتوراه)

7. Which of the following statements apply to your present situation?

اي من العبارات التالية تنطبق على وضعك الحالي؟

- Student طالب
- Retired – working (Employed) متقاعد – أعمل

- Retired - not working متقاعد لا يعمل
- Unemployed لا يعمل
- Housewife ربة منزل
- Paid Employee موظف براتب
- Private businessman without employees صاحب عمل خاص بدون موظفين
- Private businessman with employees صاحب عمل خاص بموظفين

8. In this society, orderliness and consistency are stressed, even at the expense of experimentation and innovation. (UA)

في هذا المجتمع، يطبق بشدة النظام والاتساق، حتى على حساب التجريب والابتكار

- Strongly Agree أوافق بشدة
- Agree أوافق
- Neutral غير محدد
- Disagree لا أوافق
- Strongly Disagree لا أوافق بشدة

9. A company's or organization's rules should not be broken - not even when the employee thinks breaking the rule would be in the organization's best interest (UA)

لا ينبغي أن تكسر القواعد في اية شركة أو منظمة حتى وإن اعتقد الموظف ان كسر القاعدة سيكون في مصلحة المنظمة

- Strongly Agree أوافق بشدة
- Agree أوافق
- Neutral غير محدد
- Disagree لا أوافق
- Strongly Disagree لا أوافق بشدة

10. In this society, societal requirements and instructions are spelled out in detail so citizens know what they are expected to do. (UA)

في هذا المجتمع الإرشادات والمتطلبات والتوجيهات المجتمعية معلنة بالتفصيل حتى يعرف المواطنون ما يتوقع منهم القيام بها.

- Strongly Agree أوافق بشدة
- Agree أوافق
- Neutral غير محدد
- Disagree لا أوافق
- Strongly Disagree لا أوافق بشدة

11. Tradition is important to follow the customs handed down by family. (UA)

من المهم اتباع التقليد والعادات المتوارثة عائلياً

- Strongly Agree أوافق بشدة
- Agree أوافق
- Neutral غير محدد
- Disagree لا أوافق
- Strongly Disagree لا أوافق بشدة

12. In this society, followers are expected to obey their leaders when in disagreement without question (PD)

في هذا المجتمع متوقع من التابعين والمرؤوسين طاعة قادتهم في حالة الخلاف دون سؤال

- Strongly Agree أوافق بشدة
- Agree أوافق
- Neutral غير محدد

- لا أوافق Disagree
- لا أوافق بشدة Strongly Disagree

13. In this society, power is Concentrated at the top of the society (PD)

في هذا المجتمع السلطة مركزة في الطبقة العليا

- أوافق بشدة Strongly Agree
- أوافق Agree
- غير محدد Neutral
- لا أوافق Disagree
- لا أوافق بشدة Strongly Disagree

14. "Obedience" is a quality that children can be forced to learn at home. (PD)

"الطاعة" هي صفة يجب إجبار الأطفال على تعلمها في المنزل

- أوافق بشدة Strongly Agree
- أوافق Agree
- غير محدد Neutral
- لا أوافق Disagree
- لا أوافق بشدة Strongly Disagree

15. Subordinates are afraid to contradict their boss (or students their teacher) (PD)

المرووسين يخشون مخالفة او مجادلة رؤساءهم (أو الطلاب ومعلمهم)

- أوافق بشدة Strongly Agree
- أوافق Agree

- Neutral غير محدد
- Disagree لا أوافق
- Strongly Disagree لا أوافق بشدة

16. It is important to help close and nearby people; to care for their well-being (I/C)

من المهم مساعدة الناس القريبة لنا ورعايتهم والاهتمام برفايتهم

- Strongly Agree أوافق بشدة
- Agree أوافق
- Neutral غير محدد
- Disagree لا أوافق
- Strongly Disagree لا أوافق بشدة

17. It is important to this person to do something for the good of society. (I/C)

من المهم أن الفرد يفعل شيئاً من أجل خير المجتمع

- Strongly Agree أوافق بشدة
- Agree أوافق
- Neutral غير محدد
- Disagree لا أوافق
- Strongly Disagree لا أوافق بشدة

18. The economic system in this society is designed to maximize Collective interests (I/C)

تم تصميم النظام الاقتصادي في هذا المجتمع لتحقيق أقصى قدر من المصالح الجماعية

- أوافق بشدة Strongly Agree
- أوافق Agree
- غير محدد Neutral
- لا أوافق Disagree
- لا أوافق بشدة Strongly Disagree

19. In this society, leaders encourage group loyalty even if individual goals suffer. (I/C)

في هذا المجتمع تشجع القادة ولاء الجماعة حتى لو تعاني الأهداف الفردية

- أوافق بشدة Strongly Agree
- أوافق Agree
- غير محدد Neutral
- لا أوافق Disagree
- لا أوافق بشدة Strongly Disagree

20. Would you say that "Religion" is very important in your life (M/F)

هل تقول إن "الدين" مهم جدا في حياتك

- أوافق بشدة Strongly Agree
- أوافق Agree
- غير محدد Neutral
- لا أوافق Disagree
- لا أوافق بشدة Strongly Disagree

21. Would you say that "Family" is very important in your life (M/F)

هل تقول أن "العائلة" مهمة جدا في حياتك

- Strongly Agree بأوافق بشدة
- Agree بأوافق
- Neutral غير محدد
- Disagree لا بأوافق
- Strongly Disagree لا بأوافق بشدة

22. Would you say that "Leisure time" is very important in your life. (M/F)

هل تقول أن "وقت الراحة والاستجمام" مهمين جدا في حياتك

- Strongly Agree بأوافق بشدة
- Agree بأوافق
- Neutral غير محدد
- Disagree لا بأوافق
- Strongly Disagree لا بأوافق بشدة

23. Would you say that "Friends" are very important in your life . (M/F)

هل تقول أن "الأصدقاء" مهمين جدا في حياتك

- Strongly Agree بأوافق بشدة
- Agree بأوافق
- Neutral غير محدد

APPENDIX III: “Interview questions”

Name _____ (optional)
Position _____
Organization _____
Education _____
Main industry _____
Number of working year’s _____
Age _____ (optional)
Gender (optional)
Filled in by moderator (for transcript identification)
Interviewee ID _____

Education

How national culture impact employee development and building the local capacity?

- Does your company encourage employees to learn and develop their knowledge and competencies? Is there any investment on skills improvement of employees?
- Does your company encourage people to do the work via teamwork? Is cooperation across different parts of your company actively encouraged?

ICT

Does the use of technology overcome cultural barriers? And how?

- Is it easy to coordinate projects across different parts of the company?
- Does your company continually adopt new and improved ways to do work?

Regime

Does the national culture shape the overall institutional national economic and business eco system?

- Does your company have a clear long-term strategy?
- What is the process of decision-making in your company? Is decisions making by managers or, consulting with related employees?

Innovation

Does the national culture impact R&D function? How and why?

- How does your company deal with customer’s recommendations and comments?
- Is new ideas and taking a risk encouraged by your company? Does the company open to continually learn new ways? Does learning be an important objective in your daily job?