Muhammad Jaasim Polin
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On the relevance of cultural intelligence to technology acceptance

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Abstract

Technology acceptance has been widely studied in information systems (Venkatesh et al., 2003) as several theories were developed explaining behavioral characteristics of individuals in accepting information technology. With the growth of globalization, technology is overcoming cultural barriers and is no longer isolated in usage and design. In the context of technology usage, technologies are developed to be used globally (Gregory et al., 2003). Studies have been conducted to explain how culture affects technology acceptance, but most of them are focused on an individual's national culture. We were not able to find studies that link openness to other cultures — often referred as "cultural intelligence" (CQ) — to technology acceptance. This study explores the concept of cultural intelligence and its impact on technology acceptance. A survey consisting of the Unified Theory of Acceptance and Use of Technology and the CQ scale is presented to explore the impact, if any, of CQ on technology acceptance.

Introduction

Information technology (IT) tools are used globally by institutions and organizations irrespective of culture and in various professional settings. Studies have been conducted to understand the cultural effects on the use of technology and its development (Linjun et al., 2003). According to Strite (2006), technology acceptance across cultures is an important factor to reap IT benefits in modern globalized businesses or organizations. Tools that were developed by designers in the United States are being used by people in China. Hence, technology users need cross-cultural understanding, motivation for cross-cultural interaction, and the skills to cope with cross-cultural differences (Gregory et al., 2009).

Research can shed light on the nature of opportunities and obstacles that are present in cross-cultural IT environments and "can enhance understanding of cultural factors relevant to adoption and use of technology" (Strite, 2006). Studying technology acceptance and its determinants is important because even though organizations and institutions adopt technologies within their business, they cannot guarantee that these tools are maximizing efficiency unless users are using them appropriately (Zakour, 2004). In this paper, we explore the relevant factors impacting the role of an individual's cultural openness in the acceptance of information technology. We start by exploring how culture and CQ have been viewed in the literature. We also examine models for technology acceptance and discuss studies that are related to culture and technology acceptance. We then present our hypothesis and how we plan to test it. Based on the data collected, we present our findings and conclude by discussing the implications and limitations of the study.

Chapter 1

| Literature Review

Literature Review

Introduction

With the growth of globalization, technology is overcoming cultural barriers – it is no longer isolated in usage and design. Yet, we know very little about the unique capabilities that technology users need to accept and use technology. In the context of technology usage, technologies are developed to be used globally (Gregory et al. 2009). Tools that are developed by designers in the United States are being used by people in China. Hence, users indeed need cross-cultural understanding, motivation for cross-cultural interaction and the skills to cope with cross-cultural differences (Gregory et al., 2009). Are we able to know whether our global readiness (i.e., cultural intelligence) will favor our acceptance of technology, in just the same way it favors human and business interactions? If our answer to this question appears to be true, could one imagine that usability and acceptance of technology can be shifted to preparing humans to be more globally aware and hence culturally intelligent?

IT systems and tools are used by organizations, institutions, and businesses in different professional settings. Several studies have been conducted to understand the effects of culture on the use of technology and its development. According to Strite (2006), technology acceptance across cultures is an important factor in reaping IT benefits in modern globalized businesses or organizations. Research can shed light on the nature of opportunities and obstacles that are present in cross-cultural IT environments and "can enhance understanding of cultural factors relevant to adoption and use of technology" (Strite, 2006). This study will try to understand the factors relevant to the cultural ability of individuals and their acceptance of information technology. Before describing the research completed for this thesis, it will be important to first investigate how researchers have approached and associated technology and culture. In this section, we will introduce the concept of culture and analyze the term cultural intelligence (CQ). Cultural models referenced in literature will also be covered. The relevance of culture and CQ in supporting the research on technology acceptance will also be discussed. The chapter will further discuss some aspects of the models used by researchers to measure technology acceptance and how these models have been applied in different contexts related to culture. Studying technology acceptance and its determinants is important because even though organizations and institutions adopt technologies within their business, they cannot guarantee that these tools are maximizing performance unless users are using them appropriately (Zakour, 2004). Hence, it is important to consider culture, technology, and the acceptance of technology in the literature.

Culture and Cultural Intelligence

To explore the effect of culture on individuals' performance while completing technology related tasks as well as the effect of culture on individuals' technology acceptance, it is essential to define the concept of culture. There have been various definitions of culture referenced in the literature. Kroeber (1985) explored over 160 definitions of the term "culture." Kanungo (2006) argued that almost all definitions of culture embrace the idea that culture is based on language, economy, religion, politics, social institutions, class, values, status, attitudes, material items, aesthetics, and education. Moreover, Hofstede (1980, cited in Van Berg (2008) and Thomas and Inkson (2003) clarified that "culture consists of shared mental programmes that condition an individual's responses to his or her environment." Moreover Early, Ang, and Tan (2006) in their study of cultural intelligence described culture "as the patterned ways in which people think, feel, and react to various situations and actions, and that are acquired and shared among people through the use of symbols and artefacts." Based on this definition, it means that the ways people think and feel have a great impact on different situations and activities that they partake in. Often, individuals are involved in cross-cultural interaction – dealing with different people and artifacts – that have a multitude of cultural elements and influence. In modern day communication at the workplace or in any institution, we are exposed to people from different cultures and artifacts that have different social values inherent to them (Van Bergh, 2008). Challenges are faced when people cannot adapt to these situations (Van Bergh, 2008; Inkson, 2003). According to Thomas and Inkson (2003), there are different strategies available that can help people overcome cultural differences and improve their relations toward individuals and artifacts that are culturally challenging to them. One strategy is the convergence theory in which others are expected to adapt to a dominant culture where "all cultures are converging to a common norm." This is visible within the design of different technologies. Websites, applications, and other devices are nowadays built to meet the demands of globalization. Supported by the phenomena of mass communication, technology tries to converge to a common norm so that people all around the world can reap its benefits and use it efficiently. Another method to overcome cross-cultural incongruences is to be become "culturally intelligent" (Thomas and Inkson, 2003). This approach, according to Van Berg, "implies being skilled and flexible about understanding a culture" and "gradually reshaping one's thinking and adjusting behavior to be more skilled when interacting with different individuals [and artifacts].” Cultural Intelligence is a new term that is built “on earlier concepts of intelligence, namely the Intelligence quotient (IQ), and Emotional Intelligence (EI) (Thomas & Inkson, 2003, cited in Van Berg (2008)).

Cultural Intelligence

Cultural intelligence is an important aptitude and skill that is being required in culturally diverse situations. These situations refer to environments in which individuals are exposed to people, symbols, and objects from differing cultural backgrounds. According to Ang and Van Dyne (2008), CQ is the capability to function and manage effectively in culturally diverse settings. An individual with high CQ is more attentive and naturally motivated to devote time and energy toward learning about and functioning in different cultural contexts (Templer et al., 2006). High CQ individuals can adjust their mental assumptions during and after interactions in different situations (Kim and Van Dyne, 2012). Ang et al. (2007) research’s about measurement and the effects of CQ provide strong empirical support for the reliability, stability, and validity of the Cultural Intelligence Scale (CQS).

Earley and Ang (2003) identified three loci of individual intelligence that have relevance in the way humans interact. These three are metacognitive, cognitive, motivational, and behavioral. Van Dyne and Ang describe these loci as:

(1) Metacognitive CQ – An individual’s cultural consciousness and awareness during interactions with those of different cultural backgrounds.

(2) Cognitive CQ – An individual's cultural knowledge of norms, practices, and conventions in different cultural settings.

(3) Motivational CQ - An individual's capability to direct attention and energy toward cultural differences.

(4) Behavioral CQ – An individual's capability to exhibit appropriate verbal and nonverbal behavior when interacting in culturally diverse situations.

Cultural Intelligence can be assessed using the theoretical framework defined by Van Dyne et al. (2006) using the CQS. It is a self-assessment instrument to determine a person's level of CQ based on the levels of cognition, behavior, and motivation. The instrument consists of a number of multiple choice questions using a 1-7 Likert scale (1 = strongly disagree; 7 = strongly agree) to rate the person's cultural aptitude. According to the Cultural Intelligence Center (a center created by Van Dyne and Livermore dedicated to improving the understanding of CQ), CQ is an individual capability. It is a set of capabilities that "leads to specific outcomes – such as decision making, performance." According to them, CQ is a state-like capability that is not fixed, more specific toward an individual's capabilities and NOT specific toward any particular culture. Van Dyne et al. further conclude in their study on the validity of the CQS that the meta-cognitive and behavioral CQ has an important effect on task performance.

Moreover, a study by Ye Li et al. (2012) shows that behavioral CQ is crucial for cross-cultural combination in Information Systems (IS) projects. They describe in their study of CQ and cross-cultural virtual collaboration that researchers in psychology and management have applied the concept of CQ to cultural adaptation in "daily life, to multicultural team performance, to performance in cross-cultural assignments." In an experiment by Chua, Morris, and Mor (cited in Ye Li, 2012) , the authors found out that participants with higher metacognitive CQ are more likely to develop “affect-based trust” with other individuals, which consequently facilitated interactions, information sharing, and task performance.

Ye Li et al.’s study suggest that IT developers should be aware of new requirements and “seek to develop culturally intelligent toolkits to support cross-cultural work.” There are also studies that show that managers with higher CQ contribute positively to performance in a multicultural team (Galya, 2011). However, even with CQ being a skill that is becoming highly prized in a globalizing world, there is a lack of research about the effects of CQ and technology acceptance.

Technology Acceptance

User acceptance of technology can be defined as the willingness of a user to employ and adopt an information technology for the tasks it has been designed to support. Technology acceptance models give insights on the factors that influence the decision of users to use and adopt a technology when they are presented with it. The key concept of the user acceptance model is that analysis of individual reactions toward a specific technology can predict the actual use of such technology (Venkatesh et al. 2003). Literature shows that there are two main approaches to technology acceptance (Davis et al. 1989). One is to focus on using intention or usage of a technology as a dependent variable (Davis et al. 1989, cited in Venkatesh et al. 2003). The other is to concentrate on the implementation success of the technology at the organizational level. (Leornard-Barton and Deschamps 1988, cited in Venkatesh et al. 2003). According to Venkatesh et al. (2003), using intention to predict behavior – that is, usage of the technology – “is very important and well-established in the field of information systems.”

Models of Technology Acceptance

To be able to understand how users accept and use technology, it is important to consider technology acceptance models that have been referenced in the literature. According to Davis (1989), the TAM (Technology Acceptance Model), is a theory that models how users accept and use technology and advocates that there are a number of factors that influence users' decisions about how and when they will use a particular technology.

Researchers in the IS field have been investigating theories and models that can predict and explain behavior for quite a long time (Venkatesh et al., 2003 Various models were developed to understand how the behaviors of users influence them to participate in activities related to technology. The first one was developed by Fishbein and Ajzen (1975) and is known as the Theory of Reasoned Action (TRA); it was later enhanced by Davis (1989) and became known as the Technology Acceptance Model. The TAM is a very robust model that has been tested and validated through the years, and it is considered influential in explaining technology adoption (Davis, 1989; Lu et al., 2003).

The basic concept of user acceptance of technology relies on the intention to use and the actual use of a technology (Davis 1989, Venkatesh 2003). Research shows that intention to use technology is a valid predictor of the adoption of the technology itself. Several models have been designed to decipher users' behavior when it comes to the intention of technology usage. The main theories are:

(1) Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975)

(2) Theory of Planned Behavior (TPB) (Ajzen, 1991)

(3) Technology Acceptance Model (TAM) (Davis, 1989)

(4) TAM2 (Davis and Venkatesh, 2001)

The (Theory of Reasoned Action) TRA, derived from the field of social psychology, is a model developed by Fishbein and Ajzen (1975, 1980) to predict behavioral intentions. The model suggests that a person's behavioral intention will depend on his or her attitude about the behavior. Therefore, it measures how likely a person is to perform a behavior based on his or her attitude toward it.

The Theory of Planned Behavior (TPB) by Ajzen is a revised version of the TRA. It features the addition of perceived behavioral control, which, according to Ajzen, improves the predictive power of the TRA. It principally links beliefs and behavior – an important factor that the TRA lacked.

The TAM is a widely accepted model that is based on the TRA and TPB of Fishbein and Ajzen (1975) and predicts the behaviors of people in specific situations. However, research in the 21st century has shown that the TAM excludes some important aspects. It does not include constructs such as the influence of social factors and does not include challenges such as time or money constraints as factors that can hinder technology use and acceptance. This is because of its generality (Mathieson et al., 2001). Consequently several variants of TAM models have been proposed to close the gaps left by Davis (1989) (Horton et al., 2001). Venkatesh and David (2000) found that the TAM lacks social influence, which is salient to user acceptance of IT. Together they constructed TAM2, which has social constructs to improve TAM's problem of generalizability. Moreover, the TAM does consider social norms in determining and predicting behavior. According to Zakour (2004), social norms vary across cultures and influence behavioral intentions to use technology – which causes a "cultural effect on IT use" (Zakour, 2004). Hence, it is important to choose an improved version of the TAM — such as the Unified Theory of Acceptance and Use of Technology (UTAUT) — that takes into consideration social influences that have the capability to better capture the influence of culture on acceptance of information technologies.

Venkatesh et al. (2003) created the UTAUT. They argue that there are four main additional elements (performance expectancy, effort expectancy, social influence, and facilitating conditions) omitted from the TAM that play a substantial role in determining users' technology acceptance and behavior (Venkatesh et al., 2003). The UTAUT incorporates a different behavioral model than the TRA, TAM, Motivational Model (MM), TPB, and TAM2.

The UTAUT

The UTAUT model as developed by Venkatesh et al. (2003) is designed to withstand minor changes and its effectiveness and reliability should not be harmed by changes in the systems and settings in which it can be applied (Venkatesh et al., 2003). The UTAUT model helps to understand the drivers of acceptance of new technologies and specifically considers social influences. However, the UTAUT model does not use culture as a direct determinant.

Relationship between Technology Acceptance and Culture

As these models and theories prove, a number of factors influence technology acceptance, and researchers have recognized the important role of culture (Ebrahimi et. al, 2010). There are many approaches to culture, and several studies have been done to link technology and culture (Strite, 2006; Linjun et al., 2003; Templer et al., 2006; Ebrahimi et al., 2010). According to Ebrahimi et al. (2010), culture is a set of values that control the attitudes that we adopt toward change and how we approach the introduction of something new.

UTAUT has been replicated and extended by quite a large number of studies; however, few researchers have explored and tested the impact of cultural factors on usage behavior (Ebrahimi et al., 2010). Several studies have been conducted on how different cultures respond to technology adoption and use (Ebrahimi et al., 2010; Zakour, 1997, 2004; Linjun et al., 2003). According to Linjun et al. (2003), when cultural differences are taken into account, different usage patterns and technology acceptance are observed. Nevertheless, the application of technology acceptance models across cultures is considered "still unclear" because of inconsistent findings and differences (Zakour, Straub et al. 1997). Most, if not all, of these studies about culture and technology acceptance use Hofstede (see the Culture and CQ section) as a model to support differences in technology acceptance across cultures. Studies have found out that behavioral culture has an impact on technology acceptance (Zakour, 2004; Ebrahimi et al., 2010). Moreover, according to Hofstede (1997), culture is a "collective programming of the mind [that] distinguishes members of one group or category of people from another." However, Hofstede's sets of cultural dimensions have been developed to characterize the concept of national culture (Zakour, 2004).

According to Pettigrew (1990), culture represents behavior patterns that are based on value systems in the societies to which individuals belong. However, McCoy et al. (2005) argued that national cultural values cannot predict individual behavior – because each country collectively reflects the culture of all the individuals in that country. Based on this notion, because UTAUT in particular reflects individual behavior, cultural constructs such as Hofstede's that are widely used may be inappropriate. Oshlyansky's (2007) study of cultural models in human computer Interaction, as well as those of Hofstede's and the technology acceptance models, revealed that it may not be possible to use Hofstede's model to account for differences in technology acceptance based on culture – and it may be promising to extend the UTAUT to explore these differences. Massey (2001) explained that negative and positive reactions to communication — across cultures — can be more predictable when an individual's cultural context is taken into account. He further mentions that a particular technology can "enable or hinder the ability of an individual" when it comes to use a technology with a style that is inherent to the individual's cultural background. Because technology can suggest different meanings and reactions among users with different cultural orientations, this shows that when using a particular technology, there is a need to study closely an individual's cultural aptitude.

In light of the gap in the literature, the present thesis aims at challenging the influence of CQ on the acceptance and use of IT. This research is intended to find the effect of users' CQ on technology adoption and use behaviors. The study will make use of the UTAUT theoretical framework to measure the acceptance of technology and also use the CQS to assess individuals' level of CQ. The findings of the research will help identify possible correlations between an individual's CQ and its impact on his or her intention to use or accept a particular technology.

Chapter 2

| Research Design And Methodology

Research Design and Methodology

The objective of this research is to study the relevance of CQ to technology acceptance. This chapter will discuss the research models and how we conducted the study.

Research Question and Significance of the Study:

Research Question: To determine if an individual's CQ affects his or her acceptance of technology.

Significance of the study: The study will attempt to examine the potential correlations that exist between individuals' CQ (as defined by Van Dyne et al. 2008) and their acceptance of IT (as measured by Venkatesh et al. 2003). It is an empirical study that will try to find if the level of CQ increases or decreases behavioral intention to use and accept a technology. The research intends to investigate various technologies that are being used on higher educational campuses, how they are being accepted by students, and the effect of CQ, if any, on the acceptance rate. With the introduction of new technologies in the classroom, students are constantly challenged to accept and adopt these technologies as part of their educational experience. This study will involve using a survey instrument with two parts, one for surveying students about their acceptance of new technology systems, and part two for assessing their CQ. The results of this study will improve insights into technology design and address how interfaces can be improved for greater acceptance by taking CQ into consideration.

Research Methodology

Research Model

The UTAUT and its constructs: This study makes use of the UTAUT model to predict intention to use technology. The table below (Figure 1) shows the constructs from the UTAUT model (Venkatesh et al., 2003).

Figure 1: Constructs Definitions (adapted from Venkatesh et al, 2003):

Construct	Definition
Performance Expectancy	The degree to which an individual believes that using the system will help him or her to attain gains in job performance.
Effort Expectancy	The degree of ease associated with the use of the technology.
Social Influence	The degree to which an individual perceives that important others believe he or she should use the new technology.
Facilitating Conditions	The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the technology.
Behavioral Intention	The degree to which a person has formulated conscious plans to perform or not perform some specified future behavior related to the technology.

The figure below (Figure 2) is a diagrammatic representation of the UTAUT model by Venkatesh et al. (2003).

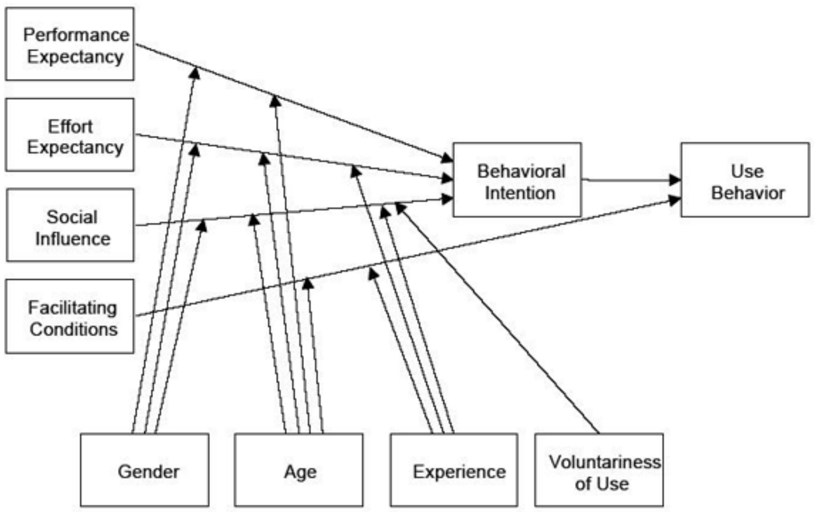


Figure 1. UTAUT and its constructs
(Venkatesh et al. 2003)

The CQ and its constructs

In the literature review section we discussed methods for assessing CQ and chose the CQS by Van Dyne et al. (2007). Because technology acceptance is related to an individual's behavior and intention, a global method that assesses cultural understanding, such as Hofstede's method, cannot be used in this study. CQ is specifically designed to overcome the issues of national culture because it focuses on the specific ability of an individual rather than on the culture he or she belongs to.

The following table describes the constructs available in the CQS (Soon Ang et al. 2008):

Constructs	Definitions
Metacognitive CQ	"Individual's cultural consciousness and awareness during interactions with those of different cultural backgrounds."
Cognitive CQ	"Individual's cultural knowledge of norms, practices, and conventions in different cultural settings."
Motivational CQ	"Individual's capability to direct attention and energy toward cultural differences"
Behavioral CQ	"Individual's capability to exhibit appropriate verbal and non-verbal when interacting in culturally diverse situations."

The figure below describes the theoretical framework of CQ according to Soon Ang et al. (2003):

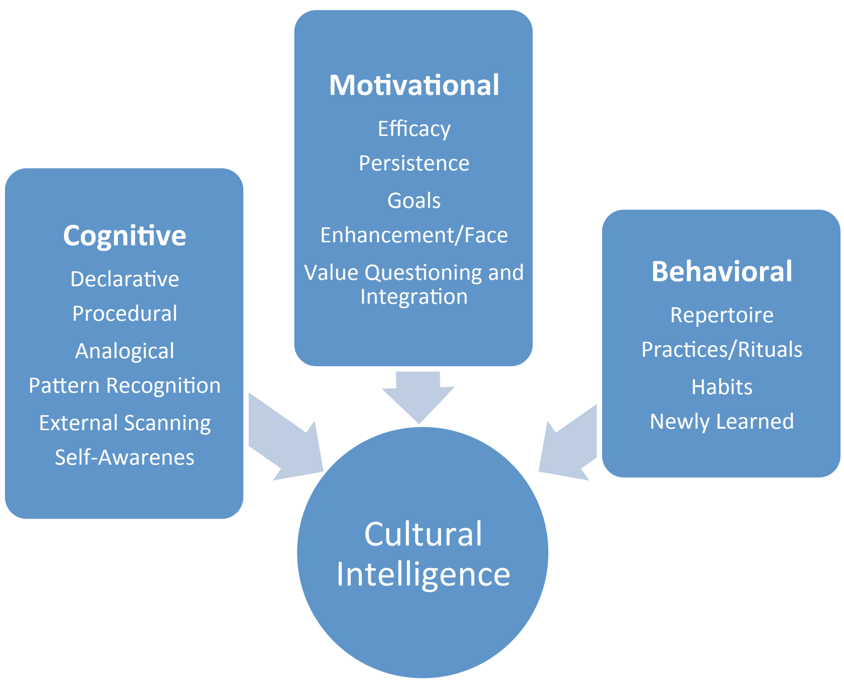


Figure 2. Theoretical Framework of CQ by Earley and Ang (2003)

Hypotheses:

Based on the literature review of CQ, technology acceptance, and related research models (Figures 1 2), we propose to test the following hypotheses:

Null Hypothesis:

$H_{0:}$ A high CQ has no significant positive relationship with technology acceptance.

Alternate Hypothesis

H_a: A high CQ has a significant positive relationship with technology acceptance.

H1.1: A high overall CQ score has a positive relationship with technology acceptance.

If relationships exist between CQ and technology acceptance, it is assumed that an overall high CQ Score (high CQ) will have a positive effect on technology acceptance (behavioral intention to use a technology). This means that if an individual has a high CQ score, his or her reaction will be positive toward a new technology.

H1.2: A high overall CQ score has a positive relationship with performance expectancy.

Because metacognitive intelligence refers to control of cognition, which is the process individuals use to acquire and understand knowledge, it is assumed that it will have a positive relationship on performance expectancy (the degree to which the individuals believe that the technology will help them to increase job performance).

H1.3: Metacognitive CQ will have a positive influence on performance expectancy.

According to Soon Ang et al. (2003), metacognitive CQ refers to how people think critically about the habits and assumptions of other cultures while interacting with them. Individuals with a high metacognitive CQ will evaluate their mental maps better so that they can increase the accuracy of their understanding (Soon Ang et al. 2003). According to Ye Li (2012), metacognitive CQ facilitates interactions and information sharing that leads to task performance. Based on the UTAUT constructs, performance expectancy is directly related to job performance. The original UTAUT study by Venkatesh et al. (2003) showed that when individuals perceived the usefulness of the technology and its valued outcomes, they were more likely to believe that the technology would enhance their job performance.

H1.4: Metacognitive CQ will have a positive influence on social influence.

Soon Ang et al. (2003) also argued that metacognitive CQ is the ability of individuals to actively think about other cultures during interactions with them (cultural awareness). The author believes that this ability will have a positive impact on the social influence factor of the UTAUT. Social Influence, according to Venkatesh, refers to subjective culture (interpersonal agreements). It is the degree to which an individual perceives that important others believe he or she should use the new technology. This hypothesis will test if someone with a high metacognitive CQ will try to blend in with other cultures, and hence be influenced to use a new technology by other individuals in the same social groups.

H1.5: Cognitive CQ will have a positive influence on performance expectancy.

Ang et al. (2003) advocated that cognitive CQ is the foundation of decision making and performance in cross-cultural interactions. The author assumes that cognitive CQ will have a positive impact on performance expectancy. An individual with knowledge of different cultures, norms, practices, and conventions will be better able to perceive the usefulness of a technology than those who lack this knowledge.

H1.3: Cognitive CQ will have a positive influence on social influence.

Social influence as described by Venkatesh et al. (2003) is an individual's perception of the use of a technology based on how other people believe he or she should use the system. It is often related to the subjective norms of the individual. Hence, having a high cognitive CQ will allow individuals to conform better to norms and have a better chance of using a particular technology.

H1.5: Motivational CQ will have a positive influence on performance expectancy.

Soon Ang et al. (2003) defines motivational CQ as the capability of someone to direct energy and attention toward cultural differences. If a person has a high motivation CQ, it is assumed that he or she will have intrinsic motivation to use a technology. This intrinsic motivation (the perception of having valued outcomes from a technology (Venkatesh)) and having a sense of confidence will indeed have a positive influence on task and job performance.

H1.5: Motivational CQ will have a positive influence on social influence.

Having the ability to direct energy, and attention toward cultural differences, an individual will be able to have a positive perception about a technology if it is being used by other people in his or her environment. The author assumes that if someone is motivated to learn other cultures, he or she will intend to use a technology so as to enhance his or her image in relation to the technology.

H1.5: Motivational CQ will have a positive influence on facilitating conditions.

Facilitating conditions are explained by Venkatesh et al. (2003) as the environmental factors that make a technology easy to use. It is often related to self-efficacy, which is an individual's belief in his or her own ability to complete tasks and reach goals. In the same context, Soon Ang et al. (2003) explained in the original study of the CQS that motivational CQ is related to the self-efficacy and intrinsic motivation of the individual – that is, having a great sense of confidence in cross-cultural interactions. The author believes having a motivational CQ will most probably allow individuals to perceive that there exist facilitating conditions (or environmental factors) that will make the technology easy to use.

Experiment design:

Objective:

The purpose of this study is to evaluate the relevance of CQ to technology acceptance by testing the stated hypotheses. The CQS by Van Dyne et al. (2004) will be used to measure participants' CQ, and the UTAUT model by Venkatesh et al. (2003) will be used to examine the participants' acceptance of technology. Both results will be compared to test the hypotheses.

We chose to focus our study on the student population of our university. A number of technologies introduced in fall 2013 and spring 2014 courses were identified as possible cases to test. The students taking the identified courses were asked to take the UTAUT and the CQ surveys/tests (see the appendix for this survey). The data collected was used to test the hypotheses.

Participants:

Potential participants were recruited by sending an e-mail to the university students' mailing list. The population size required for the study was set at 30-40 students. Students taking the courses listed below (see recruitment procedure) and offered on campus were invited to participate in the student surveys. The study was conducted during the spring semester of 2014. Consenting participants were requested to complete the 48 questions of the survey online.

Eligibility and Recruitment Procedure:

The condition for participation was that particpants were full-time students pursuing undergraduate studies at Carnegie Mellon University-Qatar. Participants were asked to confirm that they were at least 18 years old and to discard the survey if they were not. Students were eligible to participate if they took a fall 2013 semester or a spring 2014 semester course from the list below:

67-102 Concepts of Information Systems (Tablet Computer: iPad)

15-110 Principles of Computing (Tablet Computer: iPad)

15-122 Principles of Imperative Computation (Tablet Computer: iPad)

67-315 Interaction Design for the Web

67-316 Human Computer Interface Design and Testing

67-323 Enterprise Systems: Concepts and Practice (ERP System: SAP)

67-373 Software Development Project (Project Management Tool: Pivotal Tracker)

Potential participants were recruited by sending an e-mail to the courses' mailing lists. Permission was obtained from the associate dean of education to send the recruiting e-mail with a link to a survey. Survey participation was, of course, voluntary.

Data Collection Schedule

Data collection was done online through SurveyMonkey®. A URL to the survey was sent to potential students (as described above). The survey was open March 20 to March 27.

Survey Instrument

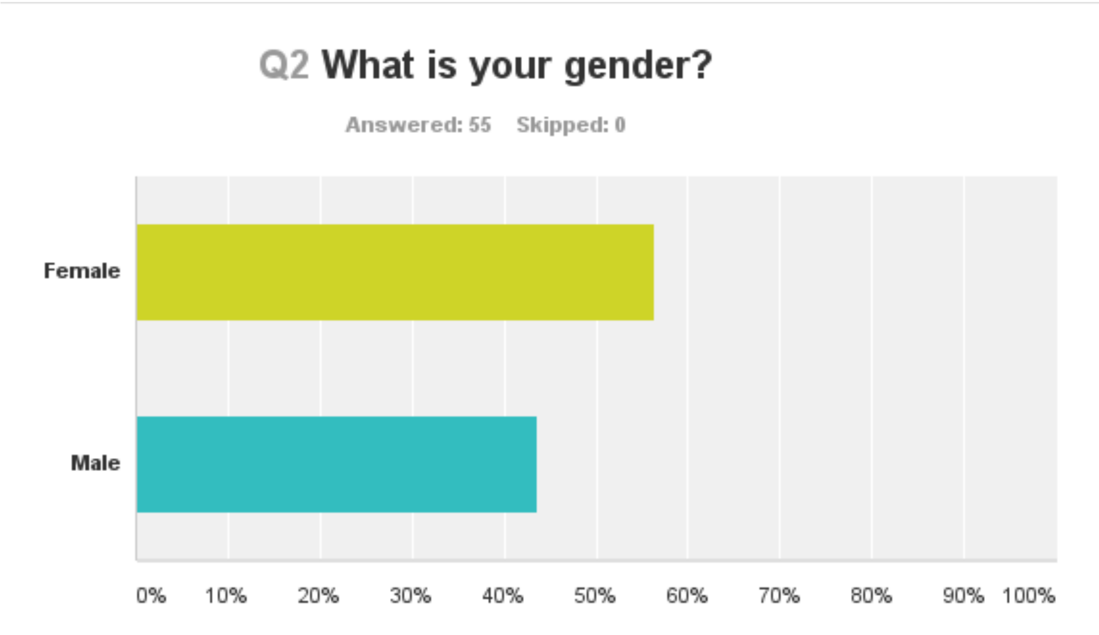
Students who took the required courses for this study were invited to complete one set of 28 question related to technology acceptance and a second set of 20 related to their CQ. Please refer to the appendix for the survey questions. Completion of the survey was expected to require 10-15 minutes.

Chapter 3

| Data Analysis

Participants' characteristics

The participants' characteristics are shown in the figure below:



All participants were 18 or older and full-time students on the Carnegie Mellon University in Qatar campus. The total number of participants was 55: 31 were female and 24 were male. However, 20 participants did not complete the survey. The research data were subsequently examined further for data accuracy and missing values. After data cleansing, usable data was taken from 36 participants (N=36). The final data used for analysis consisted of 22 females and 14 males.

Results and Findings

This chapter discusses the assessment and testing of the impact of the relevance of CQ to technology acceptance. The analysis presented in this chapter consists of two parts. The first involves assessment of the model fit (validity); the second part involves hypotheses testing for the study. Technology acceptance was confirmed by measuring the behavioral construct in the UTAUT. **Our analysis reveals that there is a possible relationship between CQ and technology acceptance**. However, the correlations were found to be weak because of limitations in the study. The evidence is presented below.

Cultural Intelligence (CQ Score)

Participants were asked to give a score from 1 (strongly disagree) to 7 (strong agree) for all items on the CQ scale (metacognitive, cognitive, motivational, behavior). The CQ was calculated from the score the participants indicated.

The scores of each of the four dimensions were calculated separately by taking the mean of the items in that construct. The procedure was repeated for the remaining constructs. Consequently, the overall CQ score was calculated by the sum of the means of each construct (metacognition, cognition, motivation, behavior).

As it can be seen from Table 3, the mean level of CQ for all participants (N=36) is 20.46.

CQ Score	
Mean	**20.46**
MAX	27.10
MIN	11.48
STDEV	4.02

Table 3

The lowest score is **11.48,** and the highest is **27.1.**

The Cronbach's coefficient alpha for the CQ scale was calculated. This value indicates the reliability of the scale by finding the average correlation among the items included. The

Cronbach alpha coefficient for the scale is **0.94** (see Table 4), which can be considered an indicator of high reliability.

CQS Reliability	
Cronbach Alpha	0.935588
No. of items	20

Table 4

The UTAUT

Participants were asked to give a score from 1 (strongly disagree) to 7 (strongly agree) for all items. The Cronbach's coefficient alpha for the UTAUT was calculated to find the reliability of the questions used in the model. This value provides an indication of the consistency of the model used by finding the average correlation among the items included. The Cronbach coefficient for the UTAUT questions was **0.73,** which shows that the model used was reliable.

UTAUT Reliability	
Cronbach Alpha	0.73113
No. of items	31

Table 5

Hypothesis testing

The objective of this research was to explore the relevance of CQ to technology acceptance. The research found that CQ and technology acceptance are related. However, the correlations among these two concepts proved to be weak because of limitations in the study.

The table below (Table 6) shows the correlation matrix between different constructs of the CQ scale and the UTAUT:

	Strategy	*Knowledge*	*Motivation*	*Behavior*	*CQ*	*PE*	*EE*	*SI*	*FC*	*BI*	*SE*	*ANX*	*UTAUT*
Strategy	1												
Knowledge	0.665804	1											
Motivation	0.768675	0.615882	1										
Behavior	0.47464	0.439727	0.54596	1									
CQ	0.869562	0.833687	0.875155	0.740209	1								
PE	0.237599	0.195201	0.254705	0.323673	0.303385	1							
EE	0.408066	0.17919	0.340551	0.183803	0.328365	0.645852	1						
SI	0.466778	0.267051	0.501072	0.40846	0.488284	0.527019	0.3666	1					
FC	0.452857	0.328345	0.44768	0.342864	0.469935	0.682941	0.697724	0.566386	1				
BI	-0.01103	-0.15793	-0.21536	-0.05594	-0.13479	-0.12041	-0.03111	0.114601	0.084105	1			
SE	0.177653	0.076462	0.186267	0.265759	0.209404	0.320223	-0.07919	0.563018	0.198251	-0.0442	1		
ANX	-0.11174	0.163454	0.064545	0.136736	0.083318	0.157818	-0.15088	0.298979	0.158949	-0.06769	0.370454	1	
UTAUT	0.260587	0.095719	0.149492	0.248227	0.223479	0.492015	0.387168	0.66336	0.617968	0.704937	0.383432	0.298931	1

Table 6

H1.1: A high overall CQ score has a positive relationship with technology acceptance.

The main alternate hypothesis of this study is to test whether a high overall CQ score has a positive relationship with technology acceptance. Respondents' CQ scores were calculated by taking the sum of the mean of all the constructs in the CQ scale. All the questions were measured on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). According to the data analysis, the mean of the CQ score across the study was **20.46**.

To explore if there is any correlation or relationship between a participant's overall CQ score and his or her acceptance of technology, a bivariate Pearson correlation test was conducted. The following table shows the results from the test.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.22347932							
R Square	0.049943							
Adjusted R Squ	0.02200015							
Standard Error	3.70434371							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	24.52598614	24.52599	1.787327	0.190129226			
Residual	34	466.55352	13.72216					
Total	35	491.0795062						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	16.5434122	2.996101111	5.521647	3.61E-06	10.45460221	22.63222	10.4546	22.63222
UTAUT	0.75212395	0.562584105	1.336909	0.190129	-0.391184505	1.895432	-0.39118	1.895432

Table 7

The Pearson's correlation for CQS and the UTAUT was **0.223** at $p<0.01$

This means that individuals who have high CQ tend to accept technology better than those with lower CQ. Because the correlation value is between 0.1 and 0.5, we can conclude that **there is a weak positive relationship between CQ score and acceptance of technology**.

H1.2: A high overall CQ score has a positive relationship with behavioral intention.

This hypothesis tested if there is a possible relationship between a participant's CQ score and his or her direct intention to use a particular technology.

Table 8 below shows that the Pearson correlation was **0.1347** significant at **$p<0.01$**.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.13479423							
R Square	0.01816948							
Adjusted R Squ	-0.01070788							
Standard Error	3.76577796							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	8.922661698	8.922662	0.629195	0.433151752			
Residual	34	482.1568445	14.18108					
Total	35	491.0795062						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Ipper 95.0%*
Intercept	21.2228093	1.145227764	18.53152	2.41E-19	18.89542642	23.55019	18.89543	23.55019
BI	-0.0899818	0.11343894	-0.79322	0.433152	-0.320517461	0.140554	-0.32052	0.140554

Table 8

We can conclude that an overall CQ score has a very weak relationship with behavioral intention to use a technology. **According to this result, the overall CQ score may not directly predict if a person will accept a technology because** the correlation coefficient is weak (<0.5).

H1.2: A high overall CQ score has a positive relationship with performance expectancy.

To test this hypothesis a bivariate Pearson correlation analysis was used once again to find if there is a possible relationship between an individual's CQ score and his or her belief that using the technology will help him or her to attain gains in task/job performance.

Table 9 below shows that the bivariate Pearson correlation was **0.3033** significant at **p<0.01**.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.30338549							
R Square	0.09204275							
Adjusted R Squ	0.06533813							
Standard Error	3.6213387							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	45.20031056	45.20031	3.446697	0.072060902			
Residual	34	445.8791956	13.11409					
Total	35	491.0795062						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*lpper 95.0%*
Intercept	16.9613717	1.980313098	8.564995	5.26E-10	12.93689131	20.98585	12.93689	20.98585
PE	0.72446715	0.390226838	1.856528	0.072061	-0.068569198	1.517504	-0.06857	1.517504

We can deduce that CQ score has a weak but positive relationship with performance expectancy. This implies that **a person of high CQ will be more likely to perceive that the technology is usefu**l. This partially complements the research done by Van Dyne et al. (2003) to prove that CQ has an effect on task performance.

H1.3: Metacognitive CQ will have a positive influence on performance expectancy.

A bivariate Pearson correlation analysis was done to find if there is any relationship between an individual's metacognitive CQ score and his or her belief that using a technology will help him or her to attain gains in job performance,. Table 10 below shows that the Pearson correlation was **0.195** significant at **p<0.01**.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.19520139							
R Square	0.03810358							
Adjusted R Squ	0.00981251							
Standard Error	1.25607695							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	2.124950901	2.124951	1.346841	0.253915201			
Residual	34	53.64279601	1.577729					
Total	35	55.76774691						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Ipper 95.0%*
Intercept	3.7731847	0.686880138	5.493221	3.93E-06	2.377276314	5.169093	2.377276	5.169093
PE	0.15708056	0.135351862	1.160535	0.253915	-0.117987519	0.432149	-0.11799	0.432149

Table 10

The Pearson correlation coefficient of 0.195 shows there is a very weak but positive relationship between metacognitive and performance expectancy. This implies that **a person who has cultural awareness of other cultures during interactions might be more likely to perceive that the technology is useful** and might help increase his or her job performance.

H1.4: Metacognitive CQ will have a positive influence on social influence.

To proceed with the testing of this hypothesis, a bivariate Pearson correlation analysis was used to find if there is a relationship between an individual's metacognitive CQ score and his or her social influence on the use of a technology.

Table 11 below shows that the Pearson correlation was **0.267** significant at **p<0.01**. From this value, we can derive two main conclusions. The first is that there is a positive relationship between the two constructs. Second, because the number of the coefficient is between 0.1 and 0.5, it shows that the correlation is weak and not significant.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.26705097							
R Square	0.07131622							
Adjusted R Squ	0.04400199							
Standard Error	1.23420136							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	3.977145045	3.977145	2.610955	0.1153706			
Residual	34	51.79060187	1.523253					
Total	35	55.76774691						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*lpper 95.0%*
Intercept	3.49651921	0.673274068	5.193307	9.64E-06	2.128261683	4.864777	2.128262	4.864777
SI	0.22465045	0.139029706	1.615845	0.115371	-0.057891903	0.507193	-0.05789	0.507193

Table 11

H1.5: Cognitive CQ will have a positive influence on performance expectancy.

Using the Pearson correlation, we tried to find if there is a relationship between a respondent's cognitive CQ score and his or her performance expectancy in using a technology

Table 12 below shows that the Pearson correlation was **0.1952** significant at **p<0.01**.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.19520139							
R Square	0.03810358							
Adjusted R Squ	0.00981251							
Standard Error	1.25607695							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	2.124950901	2.124951	1.346841	0.253915201			
Residual	34	53.64279601	1.577729					
Total	35	55.76774691						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*lpper 95.0%*
Intercept	3.7731847	0.686880138	5.493221	3.93E-06	2.377276314	5.169093	2.377276	5.169093
PE	0.15708056	0.135351862	1.160535	0.253915	-0.117987519	0.432149	-0.11799	0.432149

Table 12

We can conclude that a high cognitive CQ score has a very weak positive relationship with performance expectancy. This implies that **a person of high CQ might be more likely to perceive that the technology is useful**.

H1.3: Cognitive CQ will have a positive influence on social influence.

To proceed with the testing of this hypothesis, a bivariate Pearson correlation analysis was used again to find if there is a relationship between a participant's cognitive CQ score and his or her social influence on the use of a technology.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.26705097							
R Square	0.07131622							
Adjusted R Squ	0.04400199							
Standard Error	1.23420136							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	3.977145045	3.977145	2.610955	0.1153706			
Residual	34	51.79060187	1.523253					
Total	35	55.76774691						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Ipper 95.0%*
Intercept	3.49651921	0.673274068	5.193307	9.64E-06	2.128261683	4.864777	2.128262	4.864777
SI	0.22465045	0.139029706	1.615845	0.115371	-0.057891903	0.507193	-0.05789	0.507193

Table 13

Table 13 above shows that the Pearson correlation was **0.2670** significant at **p<0.01**. Hence, a high cognitive CQ score will have a weak but positive relationship with social influence.

H1.5: Motivational CQ will have a positive influence on performance expectancy.

To test this hypothesis, a bivariate Pearson correlation analysis was used to find if there is any relationship between an individual's motivational CQ score and his or her belief that using the technology will help him or her attain gains in task performance.

The table below shows that the Pearson correlation was **0.2547** and significant at **p<0.01**.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.25470526							
R Square	0.06487477							
Adjusted R Squ	0.03737109							
Standard Error	1.05056758							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	2.603352428	2.603352	2.358767	0.133835298			
Residual	34	37.52553646	1.103692					
Total	35	40.12888889						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	4.81520359	0.57449825	8.381581	8.73E-10	3.647682677	5.982725	3.647683	5.982725
PE	0.17386592	0.113206662	1.535828	0.133835	-0.056197694	0.40393	-0.0562	0.40393

Table 14

The value of the coefficient implies that metacognitive CQ has a weak but positive relationship with performance expectancy. This implies that **a person more culturally conscious and more attuned to different cultural backgrounds will be more likely to perceive that a technology can improve his or her performance while performing tasks – hence, more likely to accept the technology**.

H1.5: Motivational CQ will have a positive influence on social influence.

To test this hypothesis a bivariate Pearson correlation analysis was used to find if there is a relationship between an individual's motivational CQ score and his or her social influence on the use of a technology.

Table 15 below shows that the Pearson correlation was **0.501** significant at **p<0.01**.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.50107156							
R Square	0.25107271							
Adjusted R Squ	0.22904544							
Standard Error	0.94017552							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	10.07526887	10.07527	11.39827	0.001852883			
Residual	34	30.05362002	0.88393					
Total	35	40.12888889						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Ipper 95.0%*
Intercept	4.00680296	0.512878866	7.812377	4.3E-09	2.964507701	5.049098	2.964508	5.049098
SI	0.3575608	0.105908427	3.376132	0.001853	0.142328984	0.572793	0.142329	0.572793

Table 15

Because the coefficient is 0.5, this shows that there is positive and moderate relationship between the two constructs. This proves that if **a person who has a high capability to direct attention and energy in understanding other cultures will be more influential socially in acceptance of a technology**.

H1.5: Motivational CQ will have a positive influence on facilitating conditions.

This hypothesis was tested to find if there is a possible relationship between an individual's motivational CQ score and his or her facilitating conditions in the use of a technology.

Table 16 below shows that the Pearson correlation was **0.448** significant at p<0.01.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.44767963							
R Square	0.20041705							
Adjusted R Squ	0.17689991							
Standard Error	0.97145094							
Observations	36							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	8.042513568	8.042514	8.522167	0.006184671			
Residual	34	32.08637532	0.943717					
Total	35	40.12888889						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Ipper 95.0%*
Intercept	3.23513282	0.844778398	3.829564	0.000526	1.518336557	4.951929	1.518337	4.951929
FC	0.43136247	0.147763553	2.919275	0.006185	0.131070799	0.731654	0.131071	0.731654

Table 16

From the values obtained, we can derive two main conclusions. First, it shows **that someone who is willing to understand other cultures will be more likely to perceive the acceptance of technology better when resources (people) or infrastructures are available to support the technology**. Secondly, the value 0.448 shows a tendency for a moderate relationship between these two constructs.

Chapter 4

| Discussion and conclusion

Discussion and Conclusion

Based on the statistical analysis performed, we can see that an overall CQ score has weak but positive relevance to technology acceptance (Pearson correlation: 0.2). An overall CQ score had a particular influence on the social influence and facilitating conditions of the UTAUT. The correlations of these two constructs (social influence and facilitating conditions on overall CQ) were 0.46 and 0.48, respectively. This shows that a person with higher CQ will perceive that a technology is useful if he or she is influenced by other people in his or her environment. Also, this reveals that a person with higher CQ will tend to view support provided by others (facilitating conditions) to be important in the process of accepting a new technology. Further in-depth analysis between the constructs in the two models (CQ and UTAUT) reveals that the most correlated items (Pearson correlation >0.4) between the constructs are metacognitive CQ and social influence and also motivational CQ and social influence. This gives new insights on technology acceptance because it hints – as far as this study is concerned – that acceptance of technology depends considerably on the social environment of an individual. A person who has cultural awareness and consciousness of other cultural backgrounds (metacognitive CQ) and is willing to direct attention and energy toward cultural differences (motivational CQ) will be more influenced socially in accepting a new technology. We can see that this gives new directions for research in user technology acceptance. People with higher CQ will tend to accept a technology easier if they are mostly influenced by the people in their environment who are using the same technology.

Limitations

The results from the data analysis show that almost all bivariate correlations were between 0.1 and 0.5, which shows that there were weak correlations between the variables. We think that this major limitation is because of the size of the sample. The number of participants in the survey was very small, which prevented us from obtaining a higher confidence level in terms of data analysis. Moreover, focusing on technologies that were used in the classrooms limited the scope of the research. The sample size per technology was very small, which made it very difficult to perform an analysis of CQ per technology. The context in which the technology was used could have a different perception for the user as well. For example, the choice of technology is considered to be imposed on the participants (students), and there might be other factors that were not relevant to the study that will influence the participants to give a positive feedback on technology acceptance – such as difficulty of the course or likability of the instructor.

Furthermore, because only a small number of students were surveyed, the validity of the answers of the participants are dubious as well – because individuals usually have a positive view about themselves and might have chosen a higher score to describe themselves better. The soundness of the responses also is influenced by the fact that 21st century university students are very comfortable with technology and might have already been exposed to these technologies before.

Future directions

Several suggestions for future research can be made based on the findings of this study. We think that the same research can be conducted again but with different technologies and different settings. We have to take into consideration technologies that are more individually oriented and that are new to the participants. Because of time constraints and the objectives of this research, the study was limited to a small number of technologies, a small number of participants, and restrictions on the questions in the survey. If the study were conducted again, the culture or social group of the individuals could have been studied, along with the age of the participants. This would have given us more understanding of the reliability of the answers in both the UTAUT and CQ surveys.

In the context of ensuring successful technology adoption, if further research proves that there is a strong correlation between these two models, organizations and institutions should provide the appropriate environment and training to increase one's CQ before introducing new technologies. Because CQ is tied to the social aspect of technology acceptance and adoption, technology developers should take into consideration new requirements to support users in accepting a new technology. For example, toolkits to better provide feedback and communication among people (in the same social environment) will improve facilitating conditions and social influence in the use of new technologies.

| Appendix

Appendix

Survey Questions:

The UTAUT:

This survey is adapted from the original UTAUT study by Venkatesh et al. (2003). Some minor rewording was done to fit the context in which the survey will be administered. The survey questions below will be answered according to a Likert scale (1-7).

Performance expectancy statements

1. I will be able to do my assignments more quickly if I use the system
2. Using the system would increase my productivity in class
3. It will be easier for me to do my assignments with the system
4. I would find the system useful in my class
5. Using the system will help me to get better grades

Effort expectancy statements

6. My interaction with the system would be clear and understandable.
7. Learning to use the system would be easy for me.
8. It would be easy for me to become skillful at using the system.
9. I find the system easy to use.

Attitude toward using the technology

10. It is good/bad idea to use the system.

11. The system makes my homework more interesting.

12. Working with the system is fun.

13. I like to use the system.

Social Influence

14. People who are important to me think that I should use the system.

15. People who influence my behavior (e.g., friends) think that I should use the system

16. Professors in this university have been helpful in the use of this system

17. The university has supported the use of this system

Facilitating conditions statements

18. I have the resources necessary to use the system.

19. I have the knowledge necessary to use the system.

20. I think that using the system fits well with the way I like to work.

Behavioral intention statements

21. I intend to use the system in my studies.

22. I would use the system to do different things (school or not school related).

23. I intend to use the system in the next <n> months.

24. I predict I would use the system in the next <n> months.

25. I plan to use the system in the next <n> months.

Self-Efficacy

26. I could use the system better if there was no one around to tell me what to do.

27. I could use the system better if I could call someone for help if I got stuck.
28. I could have done my homework better using the system if I was given more time.

Anxiety

29. I feel apprehensive about using the system.
30. I hesitate to use the system for fear of making mistakes.
31. The system is intimidating to me.

The CQ Scale

The following statements will try to assess your CQ. Please select the answer that BEST describes you AS YOU REALLY ARE (1 = strongly disagree; 7 = strongly agree).

CQ Strategy:

1. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
2. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar.
3. I am conscious of the cultural knowledge I apply to cross-cultural interactions.
4. I check the accuracy of my cultural knowledge as I interact with people from different cultures.

CQ Knowledge:

5. I know the legal and economic systems of other cultures.
6. I know the rules (e.g., vocabulary, grammar) of other languages.

7. I know the cultural values and religious beliefs of other cultures.
8. I know the marriage systems of other cultures.
9. I know the arts and crafts of other cultures.
10. I know the rules for expressing nonverbal behaviors in other cultures.

CQ Motivation:

11. I enjoy interacting with people from different cultures.
12. I am confident that I can socialize with locals in a culture that is unfamiliar to me.
13. I am sure I can deal with the stresses of adjusting to a culture that is new to me
14. I enjoy living in cultures that are unfamiliar to me.
15. I am confident that I can get used to the shopping conditions in a different culture.

CQ Behavior:

16. I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.
17. I use pause and silence differently to suit different cross-cultural situations.
18. I vary the rate of my speaking when a cross-cultural situation requires it.
19. I change my nonverbal behavior in a cross-cultural situation.
20. I alter my facial expressions when a cross-cultural interaction requires it.

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