THE CROSS-CULTURAL IMPLICATIONS OF LEARNER INITIATIVE ON THE TECHNOLOGY ACCEPTANCE OF MOBILE LEARNING AT THE CORPORATE LEVEL

Wendy Colleen Farrell

A Dissertation Submitted in Partial
Fulfillment of the Requirements for the Degree of
Doctor of Philosophy (Management)
International College,
National Institute of Development Administration
2018

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ABSTRACT

Title of Dissertation	THE CROSS-CULTURAL IMPLICATIONS OF LEARNER INITIATIVE ON THE TECHNOLOGY ACCEPTANCE OF MOBILE LEARNING AT THE CORPORATE LEVEL
Author	Wendy Colleen Farrell
Degree	Doctor of Philosophy (Management)
Year	2018

HR Training and Development (T&D) initiatives are often tasked with training as many employees as possible for as little money as possible while proving training efficacy. To accomplish this, e-learning and now m-Learning have been seen as viable options. Unfortunately, merely deploying the learning opportunities does not mean that the learners will actually use it (Swang et al., 2013) . In this context, learner initiative (LI) has been shown to be an obstacle for more distant (i.e. not co-located and synchronous) learning (Tuckman, 2007). Furthermore, culture has been shown to impact the acceptance and utilization of learning technology (Tarhini et al., 2016) . Not only does culture impact the way people learn, it also impacts if and how learners perceive engaging in the learning to be beneficial and useful. Understanding factors that could impact the global roll out of a learning initiative could help T&D implement the appropriate mechanisms to support a successful rollout. Accordingly, this study intends to understand how culture and learner initiative impact the acceptance of m-learning technology at the corporate level. This is accomplished by first filling the gap in the body of knowledge surrounding cross-cultural scales that can be used in moderating effect analysis, by developing scales to measure values and preferences at the individual level. Second, through a qualitative study, this research addresses what is considered m-learning with regards to general expectations as well as best practices at the corporate level. Finally, the study ties the elements together in a quantitative study designed to understand what effects culture has on learner initiative and the utilization of m-learning technology at the corporate level. The results indicate that Learner Initiative (LI) does indeed impact the intention to adopt m-learning technology and that there is a difference between respondents in different countries. Furthermore, a learner's initiative can be enhanced through the perception that others,

such as colleagues and senior managers, want the learner to use m-learning. The results also indicate that the cross-cultural element that most consistently has an impact on the model is Ambiguity Avoidance (AA), which is the extent to which processes and procedures are utilized to deal with the unknown and minimize uncertainty. The degree of AA in turn directly impacts the extent to which a learner would seek out the approval of others who are important to them regarding their utilization of m-learning. In this context it is recommended that focus be on manager/organization support of m-learning utilization to help enhance learner initiative when rolling out m-learning training initiatives.

ACKNOWLEDGEMENTS

A special thank you to my doctoral committee.

Prof. Dr. Stephan Böhm: Thank you for getting me started early and right. This allowed me to make the most of my studies and benefit from being able to utilize my classwork to develop my research. Throughout the process you offered me guidance and inspiration and helped me develop, especially in the field of information and communication technologies.

Assistant Professor Peerayuth Charoensukmongkol, Ph.D,: Thank you for your on-going guidance and for always making me believe in myself. Your insight into statistics, research methods, and getting published have proven vital in getting me to this point.

Mag. Dr. Pier Paolo Pasqualoni: Thank you for your guidance and support in all things culture. Your organizational and cross-cultural insight has been invaluable to me as I developed in these areas.

Furthermore, thank you to all those people without whom I could not have gotten to this point.

Loving gratitude for my host family in Germany (Renate, Michael, Justine, Mark, Kirsten, Beate, Reiner, Katie, Nils, Geri, Ben, Nic, and Charlie): Thank you for your love as well as your physical and mental support for both me and Robbie. This has been a long road and it has meant a lot that you were there for us along the way.

To my friend and colleague Thitival Hutasingh: Thank you for your unwavering support and help with everything from translating, to Thai cultural insight, to just being a good friend.

To my current department chair Dr. Radha Sirianakul: Thank you for all your support and understanding both personally and professionally.

Dr. Amonrat Thoumrungroje: Thank you for your guidance and for constantly boosting my confidence in myself.

Saifon Singhatong: Thank you for listening to the crazy rantings of a doctoral candidate at her wits end and thus for supporting her return to sanity.

Chanthawan Sathitsemakul: Thank you for leading the way and giving me the push I needed to take the steps necessary to follow my dream. Thank you for your support and assistance along the way.

Thank you to Bastian, Erik, and Judith of Team CAEBUS for helping me along the way. From moral support, to help with German translations, to just being in it together, your camaraderie helped me get to this moment.

Finally, with a special mention to those amazing individuals I had the pleasure to work with as part of the PRERS / BGRS Intercultural Training Group (Brenda Bellon, Beverly Zimmerman, Louis Lima, Mark Cooledge, Sharon Nakpairat, Jennifer Rowe, Chelsea Beechel, Pamela Molina, Jorge Gonzaga, Emma Dodwell-Groves, and the amazing admin team). Not only did you deepen my love for culture and the trials and tribulations associated with crossing cultures, the technology project work and corresponding e-learning development was the spark that ignited the questions surrounding this research.

Wendy Colleen Farrell

December 2018

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DEDICATION

I dedicate this dissertation first and foremost to my mother Linda Farrell who supported me till the day she died. She traveled around the world and back, stepping out of her comfort zone, and readying herself for the next crazy adventure, all in order to support my efforts to achieve this goal. Even as her body was preparing for her to leave this world, her spirit fought on, trying to see me make it all the way to the finish line. This is as much her victory as it is mine.

To my son, Robert V. Farrell, for being my sweet angel from heaven. I began this journey with you when you turned 7 and for the past three and a half years you have given me support and encouragement. It has been my great honor to share this adventure with you. I thank you for your love and for your understanding all the times I focused more on my research than I did on you, especially on weekends and holidays. More than you will ever know, you motivated me to do more and be better so that I can offer you the future you truly deserve. You have been my guiding light since the day you came into my life.

Finally, to my father, Robert E. Farrell for taking care of all the loose ends every time my adventure took me in another direction. Thank you for being there and for being my rock. Thank you for also traveling the world and even coming out of retirement after 13 years to teach with me and support my research efforts in Thailand. You have been there every time I needed you. You supported me with sage advice and you supported my every time I just needed to stomp up and down the stairs and have someone hear me as I rant about how my research is not doing what I want it to.

I love you all so much and could not have gotten here without you.

LIST OF ABBREVIATIONS

Abbreviations	Term
A	Attitude toward usage
AA	Ambiguity Avoidance
ADDIE	Analyze, Design, Develop, Implement, and Evaluate
ATD	Association for Talent Development
BI	Behavioral Intention to Use
BYOD	Bring Your Own Device
CFA	Confirmatory Factor Analysis
EFA	Exploratory Factor Analysis
HCC	High Context Communication
HR	Human Resources
IDV	Individualism vs. Collectivism
KSA	Knowledge, Skills, and Awareness
LAP	Learner Autonomy Profile
LBS	Location Based Services
LC	Locus of Control
LI	Learner Initiative
LMS	Learning Management System
LTO	Long Term Orientation
MAS	Masculinity vs. Femininity

MNC	Multi-National Corporation
MOOC	Massive Open Online Course
PD	Power Distance
PEOU	Perceived Ease of Use
PLS SEM	Partial Least Squares Structural Equation Modeling
PU	Perceived Usefulness
SA	Status Ascription
SN	Subjective Norm
T&D	Training and Development
TAM	Technology Acceptance Model
UAI	Uncertainty Avoidance Index
UK	United Kingdom
UMPC	Ultra-mobile PC
USA	United States of America
UTAUT	Unified Theory of Acceptance and Use of Technology
WVS	World Values Survey

CHAPTER 1

INTRODUCTION

Chapter one strives to gives an overview of the intentions of this study, including insight into the background of the subject matter, the objective of the study and its contributions to the current body of knowledge.

1.1 Background

Since at least the 19th century, businesses have used training and development (T&D) to help meet their business and productivity needs (Eurich & Wade, 1986). Over the years, T&D techniques were improved upon and new technologies were incorporated. Recently those new technologies revolved around the use of personal computers to deliver training in what has come to be known as e-learning. According to Brown, Murphy and Wade (2006), the concept of e-learning encompasses the digital delivery of most T&D initiatives ranging from training to knowledge and performance management. This concept has evolved as technology has progressed and become more mobile and has resulted in the new concept of mobile learning (m-learning). But how m-learning differs from e-learning is still to be seen. M-Learning is considered to be many things by many people. For the purpose of this study, however, m-learning will be considered as any learning which uses a mobile device for content delivery (T. Brown & Mbati, 2015).

M-learning is becoming more and more part of Corporate T&D initiatives. This point is highlighted in various m-learning surveys. Wigley (2013) refers to a 2012 survey showing “65.7% of those surveyed said they intended to use m-learning in the workplace” (p. 12). Furthermore the results of a 2013 survey by the Brendon Hall Group indicate that 73% of organizations surveyed were already taking advantage of m-learning (Wentworth, 2013). Farrell (2015) considers the need to train “a globally dispersed, multi-cultural employee population in a cost effective and consistent manner" (p. 165) as one concern leading T&D departments to turn to m-learning. While m-learning can bridge many gaps in learning content delivery there are still many obstacles to global implementation that must be overcome. For example, Wigley (2013) identifies the global scale, i.e. geographic, cultural, and language barriers, as well as security and distribution as an organization's biggest obstacles for implementing learning. Accordingly, this research will focus on the m-learning technology acceptance and the cultural variables that could ultimately impact the behavioral intention to use that technology.

1.2 Statement of the Problem

The concept of m-learning means different things to different people. Some consider m-learning to be web-based learning accessible across multiple devices, while others only consider it m-learning if it takes a more native approach, thus able to take advantage of the contextual features inherent in smart phones, tablets, and phablets (cross between a large phone and small tablet). Using qualitative analysis, one part of this research will be to establish what the overarching understanding is of m-learning with regards to general expectations as well as best practices at the corporate level.

Furthermore, a lot of research within the fields of business and technology relies on individual level measurements and seeks to utilize mediating or moderating effect analysis to understand how culture impacts the concept being studied. Unfortunately, the scales most frequently used are not representative of the intended dimensions. Compounding this issue further, the alternative of using existing national level data for individual level measurements commits an ecological fallacy. This reveals a pressing need for scales to be developed that can measure what they are intended to measure at the individual level. Accordingly, a second part of this research will follow the scale development processes to develop cross cultural scales to measure values and preferences at the individual level.

Finally, m-learning's roots lie in distant learning where reliance on Learner Initiative (LI) has been shown to be a major disadvantage (Tuckman, 2007). In this case, LI would be the ability to independently assess a need to for learning, find value in using a mobile device to satisfy that need, and thus begin the mobile learning process.

Given that m-learning is ubiquitous in nature and is being designed to be used as needed, it will be up to the learner to assess a need and initiate the learning process. A learner will need to feel it is within his or her power and interest to initiate m-learning. Accordingly, LI is an important aspect of m-learning that must be accounted for.

1.3 Objectives of the Study

The purpose of this study is to understand how culture and learner initiative impact m-learning technology at the corporate level with regards to implementation and utilization. First this study will attempt to fill the gap in the body of knowledge surrounding cross cultural scales that can work with moderating and mediating effect analysis. Accordingly, scales will be developed to measure values and preferences at the individual level. Second, the qualitative study will seek to understand what is considered m-learning with regards to general expectations as well as best practices at the corporate level. Finally, a quantitative study will be conducted to understand what effects culture has on LI and the utilization of m-learning technology at the corporate level.

1.4 Contribution of the Study

This research aims to address the gap of research surrounding how corporate practitioners use mobile learning, cultural scales that measure individual level values and preferences and LI with regards to its implication on mobile learning at the corporate level across cultures.

1.4.1 Academic Contribution

First, given the gap in academic studies for individual level scales that can measure the dimension they intent to measure, the scale development aspect of this represents a first attempt to clarify the above-mentioned validity issues within the field of Information and Communication Technology (ICT) and business management. It does so by considering what represents cultural dimensions relevant for business and ICT research.

Second, most studies focusing on mobile learning tend to focus on usage at the university level or below. Furthermore, many of the ICT studies that consider the cross-cultural implications of technology acceptance and utilization have used culture models not necessarily suited to measure the intended dimensions at the (often desired) individual level. In most cases the studies either commit ecological fallacy by using national scores to interpret individual results or they are using scales that are not aligned with the actual dimensions discussed in the research. Finally, there is a lack of research which takes into consideration the implication of learner initiative with regards to mobile technology acceptance. Accordingly, this study will extend the body of knowledge in each of the above-mentioned areas, especially with regards to the implications of the Thai, UK, and USA national cultures.

1.4.2 Practical Contribution

HR T&D initiatives are often tasked with training as many employees as possible for as little money as possible while proving training efficacy. E-learning and now m-learning have been seen as viable options to meet these needs. Unfortunately merely deploying the learning opportunities does not mean that the intended individuals will actually use it (Sawang, Newton, & Jamieson, 2013). This is exacerbated when rolling out initiatives globally. Not only does culture impact the way people learn, it also impacts if and how learners perceive engaging in the learning to be beneficial and useful. Understanding factors that could impact the global roll out of a learning initiative could help T&D implement the appropriate mechanisms to support a successful rollout. Accordingly, this study intends to address this gap and help T&D professionals better design roll out efforts to get maximum buy-in and utilization.

1.5 Limitations

As the qualitative part of this research will rely on personal interviews, it can be a challenge to separate preconceived notions on the part of the researcher. Moreover, the phenomenological tradition will not offer generalizable results from a global industry perspective, but rather a snap-shot of the phenomenon from the individual's perspective.

Furthermore, the utilization of the technology acceptance model and the LI measurements from the Learner Autonomy Profile (LAP) will yield a focus on behavioral intent rather than actual regular usage of the technology. Rather than using an already existing culture model, this study will attempt to develop a new one. Although the Hofstede model is the most frequently used scale and thus extensive research exists which uses the scale, it will not be used and thus the extent of literature available will be a bit more limited. Finally, other potentially limiting factors include fit of sample and fit of prototype.

1.6 Delimitations

This study will by no means attempt to understand every possible influence on the acceptance of technology but is more concerned about the impact of LI across cultures. Accordingly, this study will use the acceptance model with the most parsimonious fit, rather than the model consisting of the greatest number of possible variables.

Furthermore, it is not the intent of this study to achieve results that can be generalized to the greater global population. It is focused specifically on workplace behavioral intention. Accordingly, those not engaged in the corporate work environment will not be considered for inclusion in this study.

1.7 Definition of Key Terms

Below is a list of key terms considered essential to this dissertation.

1.7.1 Mobile Learning (m-learning)

The use of a mobile electronic device such as a smart phone, phablet, or tablet to engage in learning activities.

1.7.2 Electronic Learning (e-learning)

The use of an electronic device, often times a work computer, to engage in learning activities.

1.7.3 Learner Initiative

The control an individual has to initiate and continue their learning experience.

1.7.4 Technology Acceptance

How inclined an individual is to use or not use a specific technology.

1.7.5 Culture

Values and norms that are learned from our family, friends, school, etc. that teach us how to best survive and thrive.

1.8 Organization of the Dissertation

The proceeding four sections of this dissertation will be presented as follows:

Literature review: Through a thorough review of the literature, this section will identify and define ideas and concepts related to the different facets of this study. Furthermore, it will seek to provide a well-rounded discussion of the relevant concepts and ideas, including m-learning and its usage at the corporate level as well as the concepts of learner initiative and culture. The discussion will seek to present a well-balanced argument for the conceptual framework presented at the end of this section in conjunction with the corresponding hypotheses.

Research methodology: This section will focus on the research design including its method, focus, target population and the corresponding sampling technique and sample size. This section will also include the method utilized for measurement as well as the tools and process used for data analysis.

Results and Discussion: In this section, the results from the scale development study, the qualitative study focusing on defining m-learning at the corporate level and the quantitative pilot and corporate level studies will be presented, analyzed and interpreted. Each hypothesis will be reviewed with regards to the findings and a judgment of fit will be made. The implications of each study will be discussed in this section as well.

Conclusion: This concluding chapter will consider the implications of the research findings of all the studies as a whole and will also consider the implications with regards to their academic and practical application.

CHAPTER 2

LITERATURE REVIEW

2.1 Corporate Training and Development

According to Potnuru and Sahoo (2016), only through a competent workforce can companies achieve and maintain a competitive edge. For many years now, companies have achieved this through the utilization of T&D. T&D helps companies meet their business and productivity needs (Eurich & Wade, 1986) and thus are essential for supporting corporate success (Khattak, Rehman, & Rehman, 2014). In fact, according to Gorshkov and Kliucharev (2013), studies “have shown a 10% increase in spending on personnel training yields an 8.5% increase in labor productivity, whereas the same increase in capital investment raises labor productivity only by 3.8%” (p. 59).

But what exactly constitutes corporate T&D? Unlike the teacher led classes of elementary school where individual smart kids did real well and the individual not so smart kids did not, corporate education needs to focus on helping every individual in a company “learn and grow as an integrated whole” (Bernhard & Ingols, 1988). According to Sung and Choi (2014), generally speaking, corporate training programs are “developed and delivered in-house to provide organization specific and task-relevant instructions” (p. 396). These in-house corporate T&D programs are expected to be tailored to match the company’s needs at many various levels and scopes. On a large scale, T&D is responsible for companywide compliance and ethics training (Warren, Gaspar, & Laufer, 2014). To illustrate this point further, the Association for Talent Development (ATD) suggest that 34% of all training content developed focuses on three different training needs groups: managerial and supervisory, profession-or-industry-specific, and mandatory and compliance (ATD Research, 2015). At the same time, T&D also needs to meet the talent development needs of smaller segments of the corporation with very specific training needs (Cação, 2014).

To be able to function at so many distinct levels, T&D programs utilize various formats to deliver the needed learning content. These methods range from synchronous in person formats like lectures and workshops as well as virtual formats like webinars (Sung & Choi, 2014) to asynchronous articles, audio or video files, and even interactive e-learning modules. Regardless of the format, corporate T&D is responsible for achieving the desired learning outcome related to the dissemination of Knowledge, Skills and Abilities (KSAs). Accordingly, it is important to understand what framework can best support these efforts.

One of the most utilized frameworks to assess and design a training program is ADDIE. ADDIE is an acronym to indicate the steps involved in the instructional design process and stands for Analysis, Design, Development, Implementation, and Evaluation. According to Mayfield (2011) these steps are as follows:

- Analysis phase: instructional designers would try to understand the general goal of the training and what awareness, knowledge and skills participants should have at the end of the training. The instructional designer would also try to understand what knowledge and experience the intended training participants already have. This will help make sure the content is relevant to the learner.

- Design phase: the instructional designer would try to define the desired learning outcome and select the training "methods, materials, and delivery system types" (p. 20).

- Develop phase: the specific instructional framework is chosen, such as instructor led lecture based, e-learning, m-learning, etc. Also, the training materials and process will be set.

- Implementation phase: is the actual program delivery

- Evaluation phase: the program is assessed to confirm the desired learning outcome has been achieved. Any issues or problems are noted and corrected for future program implementation.

But beyond understanding the framework, how the instructional framework is chosen, including its underlying theory must be understood.

2.1.1 Corporate Training Andragogy

Andragogy, as opposed to pedagogy, is focused on teaching adult learners (Knowles, 1973). This concept has played a key role in corporate T&D because the focus of their efforts are adults, many of whom left academia many years prior. Citing Knowles' work, Hagen and Park (2016) suggest that there are four main aspects relevant to adult learners. They are: "(1) adults have a self-directed self-concept; (2) adults bring a wealth of experience to the learning process; (3) adults enter the learning process ready to learn relevant information; and (4) adults are oriented toward immediate application of learning" (p. 173).

Along these lines the adult learners' orientation toward immediate application of what they are learning is well served with the incorporation of Situated Learning Theory (SLT). SLT suggests that learning tends to be "specific to the situation in which it is learned" (Anderson, Reder, & Simon, 1996, p. 5). This not only support how adult learners best learn, but also how electronic tools can be used to support the learning process.

2.1.2 Corporate Training and the Incorporation of Electronic Learning Tools

Not only does the utilization of electronic tools support a learners self-directed learning but also the ability to use tools such as simulations to allow learners to learn and apply the learning in a situation that is similar to the situation in which the new knowledge will ultimately be used. Furthermore, the use of technology is becoming an integral part of corporate T&D initiatives as a means to meet the ever-increasing scale and diverse needs inherent in Multi-National Corporations (MNCs). The use of technology is becoming an integral part of corporate T&D initiatives. According to the Association for Talent Development (ATD, formerly ASTD) *State of the Industry* report (2016), technology utilization for training content delivery accounted for 41% of delivered learning, up from 12% since 2010. Much of this technology-enabled delivery of instructional content has become known as e-learning. The concept of e-learning encompasses the digital delivery of most training and development initiatives ranging from training to knowledge and performance management (L. Brown et al., 2006).

One potential reason supporting this increase in usage of technology for training purposes could be its ability to bridge geographic gaps. For example, Wigley (2013) suggests that MNCs face many such challenges in training their employees. They need to make training opportunities available on a global scale across geographic, language, and cultural barriers. Furthermore Gascó, Llopis, and González (2004) suggest that this increase is also a natural extension of a global self-service trend, allowing learners to access knowledge when they need it.

While the utilization of technology makes sense to bridge such gaps and meet self-service needs, the application of those methods has been questionable (Hernández & Martínez, 2013). The problem is that a large number of human resource departments still do not accept it as a viable option for training delivery (L. Brown et al., 2006). One example is Tech Mahindra Limited where senior leaders indicated that they were not comfortable implementing e-learning for their subordinates due to various reasons ranging from its newness to a "general resistance to change" (Wong & Sixl-Daniell, 2015). Accordingly, factors affecting the acceptance and utilization of e-learning has been the subject of numerous studies. For instance, Sawang et al. (2013) suggest that often the utilization of content that lacks in relevance, a user's lack of comfort with technology, or even a lack of technical support are all factors that can detract from the successful utilization of technology in training. Thus, it is important to consider such factors when implementing e-learning initiatives.

As technology has evolved, so too has e-learning with more mobile technology giving rise to the corresponding concept of mobile learning (m-learning). According to the 2016 ATD *State of the Industry* report (ATD, 2016), although mobile learning only accounted for 2.7% of total delivered hours of training content, it was up from 2% the previous year. Furthermore, the report noted that currently one third of organizations had mobile learning programs. M-learning is growing into its own as did e-learning (Little, 2013).

2.2 Mobile Learning

With m-learning on the rise, the question must be asked: what is m-learning at the corporate level? According to Liu, Han, and Li (2010), m-learning has been perceived as “technology-mediated distant learning” (p. 211). Knowing this however, there is no one-size-fits-all concept of what constitutes m-learning from a content perspective. It can range from static text to asynchronous interactive modules to synchronous two-way sessions. Furthermore, m-learning is increasingly “being used as a just-in-time, just-enough, anywhere, anytime, at point of need, performance support aid” (Little, 2013, p. 27). Users have different needs at different times and good m-learning meets these needs (Writer, 2014).

2.2.1 Mobile Devices

While there is no one-size-fits-all concept of m-learning, is there a consensus on what devices are being considered as mobile? What exactly is being used to deliver this variety of content to meet the learners' needs when, where, and how they arise? Most technology in today's world can be considered portable, ranging from laptops to tablets to mobile phones. Accordingly, to gain a better understanding of which mobile devices are considered relevant to the domain of mobile learning, an extensive literature review was conducted. The general search term “m-learning” was used and the search was refined to focus on the years 2010-2016. In order to compare apples to apples through the years, 2010 was considered an appropriate start date as it is right around the tipping point of m-learning adoption (Franklin, 2011). By 2010 smartphones had already penetrated 20 % of the global mobile phone market (GSMA, 2011). To control for publication quality and relevance, only IEEE Explore and ACM digital library databases were utilized. The initial search resulted in 387 publications in IEEE Explore and 30,141 publications [1]in ACM digital library. The results were sorted according to relevance and titles. Then abstracts were reviewed, eliminating those that only focused on the development of pedagogy or had no direct focus on m-learning. Furthermore, non-English language articles and posters were also excluded from consideration.

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[1] Although the same search criteria was utilized, differences in search methods cannot rule out.

Table 1

Devices considered in mobile learning studies from 2010 – 2016

Device	Percent of Papers
Smart Phone	51%
Non-specific mobile phones	44%
PDA	36%
Tablet	33%
Laptops / Notebooks	14%
Other wireless devices	14%
Mobile media players like iPods	12%
UMPC	8%
E-book reader	4%
Mobile Internet Device	4%
Netbook	3%
GPS (global positioning system) receivers	1%
PlayStation	1%
Radio	1%
TV	1%
Phablet	1%
Not specified	12%

0 contains a list of the resulting 77 papers which were reviewed in depth. As seen in Table 1, the concept of what devices can and should be utilized for m-learning varies widely. The review showed that 51 % of the studies specifically included smart phones in their description of devices, while 44 % of the studies considered "mobile phones" to be relevant devices for mobile learning. However, the concept title of "mobile phones" does not differentiate between basic mobile phones (telephony and SMS capabilities), feature phones (with limited basic features such as Internet access or MP3 storage and playback), and smartphones (touch screen device with computer like functionality). Personal Digital Assistants (PDA) were mentioned in 36% of publications and tablets were mentioned in 33%. Laptops were considered mobile devices in 14 % of the publications. Furthermore, 14% of the publications included the concept of other wireless devices as a means to not unintentionally exclude a device they had failed to mention. Mobile media players like iPods were mentioned in 12% of

the publications. Finally, Pocket PC / UMPC were mentioned in 8%, E-book reader and Mobile Internet Device each in 4%, Netbook in 3%, and finally GPS (global positioning system) receivers, PlayStations, Radio, TV, and Phablets were each considered in 1% of the publications. Generally speaking, a large number of the studies considered the capability of accessing the Internet regardless of whether it was accessed via wi-fi networks or mobile networks, as necessary for m-learning. Finally, 12% of the reviewed mobile learning studies published between 2010 and 2016 did not actually define the type of device they were referring to and just used the generic concept “Mobile Devices.”

Looking further at the trends through the years 2010 – 2016, as seen in Figure 1 it is clear that the top cited devices of PDA and non-descriptive “mobile phone” were cited much heavier in the studies leading up to 2013 and saw a strong decline thereafter. On the other hand, devices such as smartphones and tablets have seen a steady increase through the years. Post 2013 these devices were by far the most heavily cited devices for utilization in m-learning. Interestingly the term Phablet (short for phone and tablet) began to appear in 2016.

For the purpose of this study, the concept of “mobile devices” will be narrowed to consider only smartphones, phablets, and tablets that have context-aware capabilities. Context-aware capabilities include learner and device attributes like location, identity, activity, and time (Hashemi, Orooji, & Taghiyareh, 2012). One example of how context can be incorporated into mobile learning is GPS geolocation which support location-based service which would allow the learner’s location to influence the learning material provided.

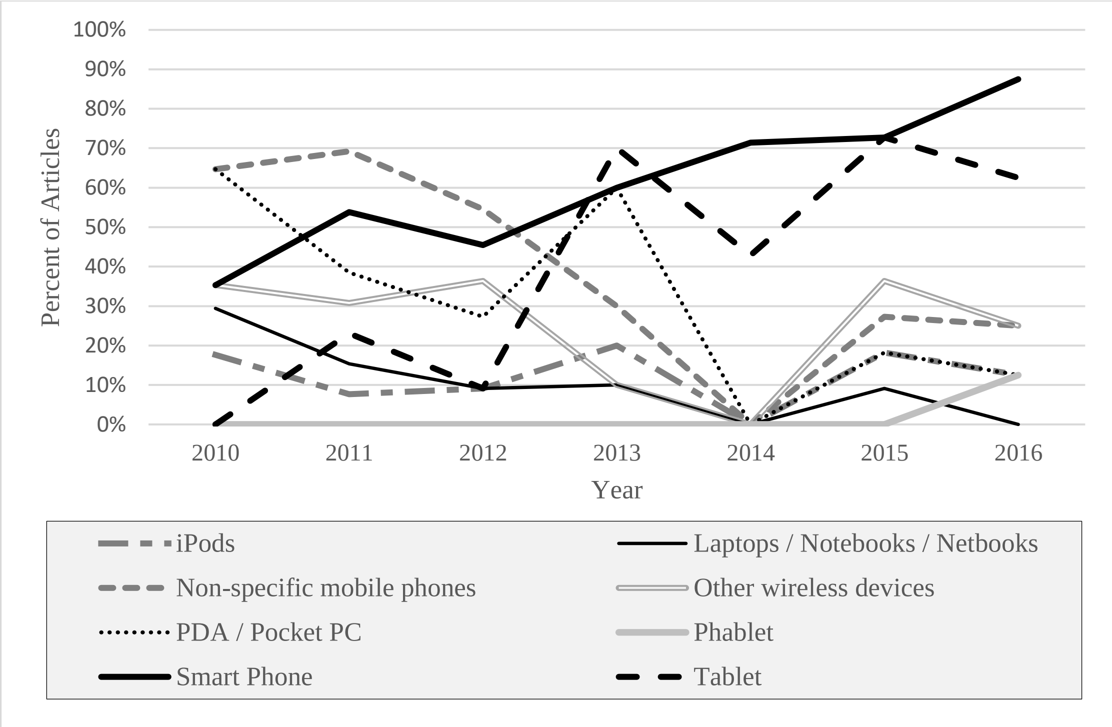

Figure 1: Annual trend of mobile devices investigated as part of m-learning studies from 2010 – 2016

2.2.2 Application Type

This distinction is important because it enables one to focus on what type of mobile application tends to be most utilized and/or perceived as most appropriate for the delivery of m-learning content. For example, the greater the desire to utilize context aware mobile device features, the greater the need for native applications. On the other hand, if the only desired feature is cross-platform accessibility, then responsive design with web-based / cloud-based content could be a better match. A review of m-learning studies between the years 2010 and 2016 indicates that most m-learning studies, that identified a type of application, focus on native applications. A native application is one that is written in the “native” code of the mobile device specific operating system. Because the application (app) is developed for a specific operating system, it can often take advantage of system specific features, for example contextual features such as GPS (which would allow more accuracy than geolocation based on IP address) or the accelerometer. As seen in Figure 2, 38% of the research reviewed specifically focused on native applications. On the other hand 26% of the studies considered accessing the web or cloud environments where the specific learning content would be hosted. Either the destination was a Learning Management System (LMS) or it was learning materials stored in the cloud. Also, in almost half of those cases, the focus was on m-learning with regards to e-learning which utilizes responsive design. Responsive design is when developers attempt to design the learning interactions so that they will be optimized for each different screen size and device capability ranging from desktop to laptop to tablet to smart phone. In 25% of the research, no specific mention was made with regards to the type of application / access mechanism used. Similar to web/cloud access and largely overlapping, 6% of research considered web apps. With web apps, the actual user interface resides on a server. Examples of this could be e-mail services such as google webmail and text messaging services.

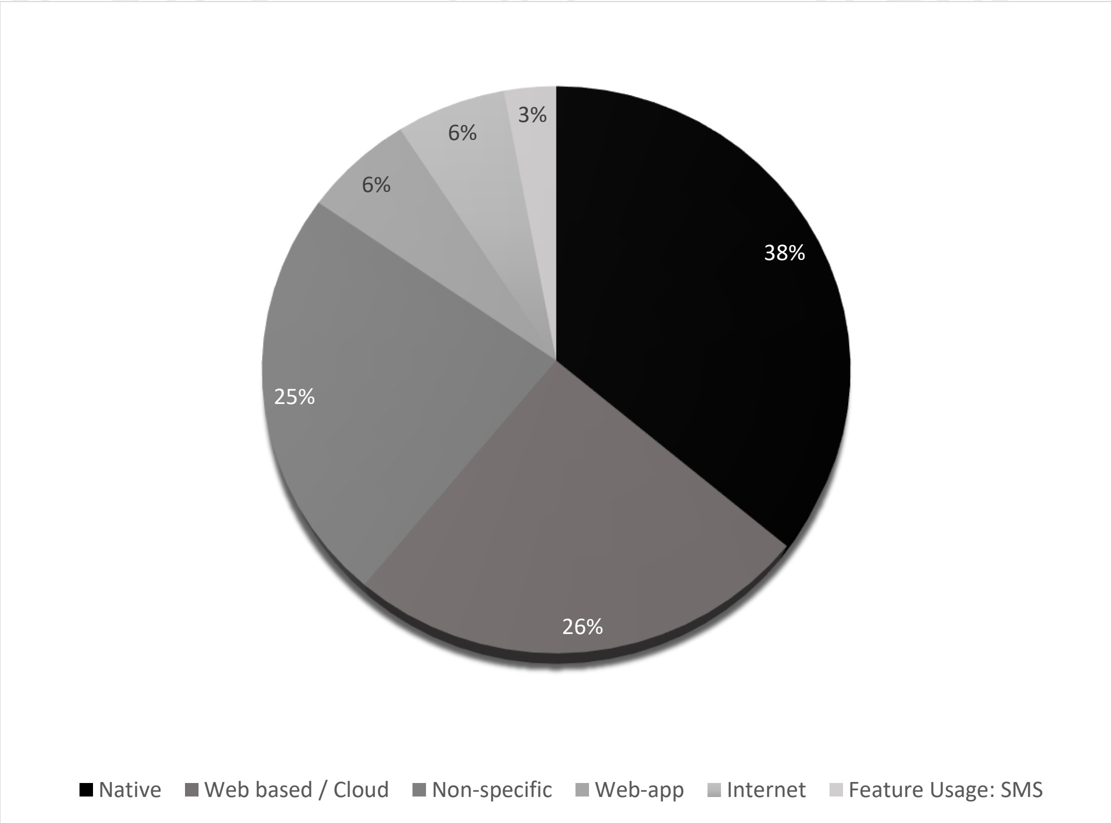

Figure 2: M-learning application types from 2010 – 2016

Furthermore, 6% of the publications considered the ability to access the internet and browse the web, thus encountering information that could be used for learning, as falling into the realm of m-learning. In this case is no specific front end but rather the ability to "google" a concept and land on a webpage that would offer appropriate information. Finally, a remnant of earlier years when standard mobile phones lacked the features present in today's smartphones, 4% of the research considered SMS for m-learning.

Figure 3 shows how the research has changed over the years and embraced some concepts and merely touched on others. The concept of native apps saw the greatest increase, but it also appears to be on the decline giving way to web / cloud-based m-learning content.

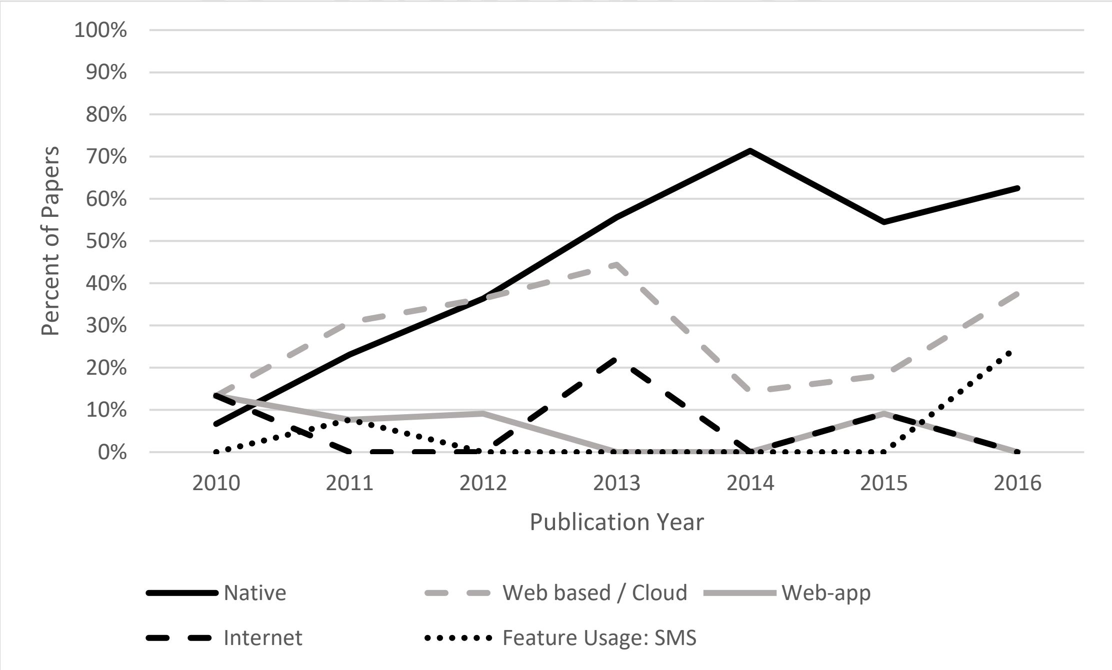

Figure 3: Annual trend of m-learning app type from 2010 - 2016

Generally speaking, the research falls into two main camps, either the native apps approach or the web-based approach which would allow for the utilization of responsive design. While it is expected that the majority of corporations are not necessarily looking to reinvent the wheel but rather find expanded audiences for the materials they already have, this is one area that will be considered further as part of the qualitative research aimed at defining what m-learning is at the corporate level.

2.2.3 Content Management

While the desired contextual features can influence the type of design chosen, so too can the content type. Mobile devices are noted to have limitations ranging from processing power and battery duration (Karadimce & Davcev, 2014) to limitations such as transmission rates due to potentially limiting network configuration (Filho & Barbosa, 2013). These limitations mean the greater the amount of content available from a data volume perspective, the more the m-learning system will need to utilize web-based / cloud-based services. Thus, the next determination becomes how to store and manage the available learning content. For example, nearly 20% of the 77 m-learning papers reviewed considered the need to utilize a Learning Management System. This too will be a focus of the qualitative portion of the research.

2.2.4 The Andragogy of Mobile Learning

Andragogy, as opposed to pedagogy, considers the art and science of teaching adults rather than children. Accordingly, the question remains, how does m-learning support the corporate andragogy? Many studies cited the ubiquitous nature of mobile devices as an important aspect of m-learning (Bachmann, Menestrina, & Domingues, 2015; Dekhane & Johnson, 2014; Fetaji & Fetaji, 2011; Giousmpasoglou & Marinakou, 2013; Herrera & Sanz, 2014; Hockly, 2013; Pereira & Rodrigues, 2013). When considering the andragogy of m-learning, the ubiquitous nature of m-learning lends itself to situated learning. Furthermore, m-learning also supports the self-directedness of the adult learner in that the adult learner can choose where, when, and how he or she would like to learn. It will be important to understand the andragogy behind how companies seek to achieve the desired learning outcome.

2.2.5 Measuring Desired Learning Outcome

Another question regarding the usage of m-learning at the corporate level is whether there is an expectation that the learning session should be evaluated to confirm the desired learning outcome has been achieved. Following the ADDIE process for instructional design, this would be the last phase. Generally, to do this, a module would have to be SCORM (Sharable Content Object Reference Model) compliant. This has traditionally been the most widely used e-learning standard and consists of three main components to ensure that the learning modules can be consistently read, run, and reported on by LMSs. Those components are 1) packaging or content aggregation, 2) run time environment, and 3) Sequencing and navigation (Bhojak, Jain, & Muralidharan, 2012; Chandra & Raman, 2014). The benefit of using SCORM is that it has already been widely integrated into the majority of LMSs (Gasim, 2018).

2.2.6 Utilization of m-Learning

But there are also many barriers to m-learning. As previously mentioned, Wigley (2013) identifies global scale, i.e. geographic, cultural, and language barriers, as well as security and distribution as an organization's biggest obstacles. General m-learning technology acceptance studies indicate that learners intend to use m-learning mainly because they perceive it to be easy to use, useful, and enjoyable (Cheng, 2014). However, these are not always consistent with the representative demographic found in the work place. For example, there is perceived value in m-learning in the hospitality industry, however given past difficulties using e-learning for corporate training, the suggested applications were limited (J. Kim & Kizildag, 2011). Accordingly, prior to implementing an m-learning initiative, it is best to understand what factors influence the acceptance and intention to utilize m-learning. The model that will be used to consider user behavioral intention to utilize m-learning technology will be discussed in the next section.

2.3 User Acceptance of m-Learning Technology

The utilization of technology in the corporate world is always accompanied by ambitious ideas and promises of greater efficiency and money savings. Ultimately, however, just because a system is built and implemented does not mean "they will come." In other words, merely implementing the system does not mean that it will be utilized to support the intended business practices. Over 40 years ago, in their "Theory of Reasoned Action" (Fishbein, 1979) researchers Fishbein and Ajzen considered what makes individuals make the behavioral intention to use or consume something. Their measurement for "behavioral intention" was designed to predict whether any voluntary action, ceteris paribus, will be executed (Sheppard, Hartwick, & Warshaw, 1988). Although their theory had some limitations, it was widely used and became the basis for the Technology Acceptance Model (TAM) developed by Fred Davis (1985). Since that time, the concept of what factors influence an individual’s behavioral intention to use technology has been the topic of numerous studies (Cheng, 2014; DeSanctis & Poole, 1994; Kok, 2013; Koo, 2009; Koufaris, 2002; Lee, Choi, Kim, & Hong, 2007; S.-H. Liu, Liao, & Pratt, 2009; Y. Liu et al., 2010; Mardiana, Tjakraatmadja, & Aprianingsih, 2015; Morris & Venkatesh, 2000; Porter & Donthu, 2006; Sang, Valcke, van Braak, & Tondeur, 2010; Srite & Karahanna, 2006; Tarhini, Hone, Liu, & Tarhini, 2017; Teo, 2009; Terzis, Moridis, Economides, & Rebolledo Mendez, 2013; Thong, Venkatesh, Xu, Hong, & Tam, 2011; Venkatesh & Bala, 2008; Venkatesh & Davis, 2000; Venkatesh, Morris, Davis, & Davis, 2003; Venkatesh & Morris, 2000). Some of these studies (DeSanctis & Poole, 1994; Orlikowski, 2000) look at the acceptance of technology through a more qualitative lens to also consider actual technology usage. Similarly DeLone and McLean (2003), consider “use” as part of a causal model with “use” being a measurement of success. Other studies suggest a structured technology focused process model approach. For example, the TAM, mentioned previously, takes such an approach. It is one of the most widely used and accepted theories in information sciences for understanding and predicting technology acceptance. The TAM was the result of Davis’ doctoral research where he showed, as seen in Figure 4, that the Perceived Usefulness (PU) and the Perceived Ease of Use (PEOU) of a system directly impact the Attitude Toward Usage (A) which then impacts the Behavioral Intention to Use (BI).

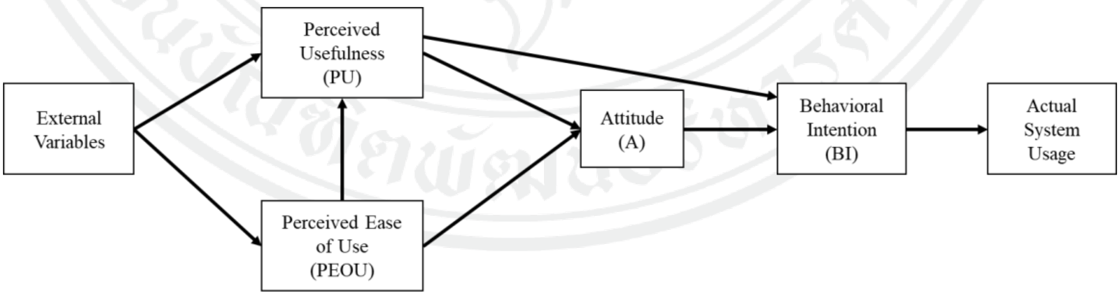

Figure 4: Technology Acceptance Model (F. Davis, Bagozzi, & Warshaw, 1989)

Since the introduction of the model, it has been validated and extended. One particular variable that was included in the extended model was the idea of Subjective Norm (SN). SN is the concept that people use technology because others, such as a supervisor, think it is important for them to do so (Venkatesh & Davis, 2000).

The Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh, et al. (2003) combined elements of seven other acceptance models with the TAM. The UTAUT had six main variables which are Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Behavioral Intention (BI), and Usage Behavior (UB). Furthermore it includes the four moderating variables of gender, age, experience and voluntariness of use (Williams, Rana, & Dwivedi, 2015). While the UTAUT rivals the TAM with regards to the extent to which it has been used to research the acceptance of technology across cultures, the TAM can be considered more parsimonious (J. Kim & Kizildag, 2011). Especially when considering that the addition of too many predictor variables can create greater variance (Allen, 1974). Accordingly, it is considered more prudent to utilize the more parsimonious model that will allow for other variables to be considered as directly relating and as having a moderating effect. Based on the utilization of the technology acceptance model as the foundation element of this research, as seen in Figure 5, the following hypotheses can be proposed:

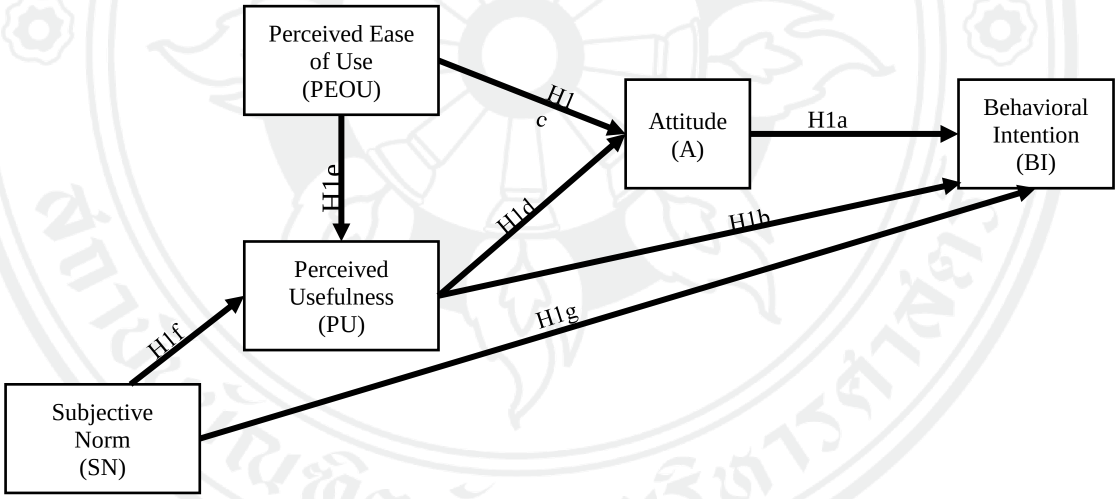

Figure 5: Elements of the TAM

H1 – The various elements of the technology acceptance model will contribute to BI as predicted by the TAM.

H1$_a$ – There will be a positive relationship between A and BI.

H1$_b$ – There will be a positive relationship between PU and BI.

H1$_c$ – There will be a positive relationship between PEOU and A.

H1$_d$ – There will be a positive relationship between PU and A.

H1$_e$ – There will be a positive relationship between PEOU and PU.

H1f – There will be a positive relationship between SN and PU.

H1g – There will be a positive relationship between SN and BI.

2.4 Learner Initiative

The mobility of learning is not a new concept. M-learning's origins go back to distant learning, with the correspondence courses of the 1990s (Baldwin-Evans, 2006) evolving into web based courses accessible via the internet and increasingly in mobile friendly formats. Such learning content is impacted by the self-directed learning styles inherent in andragogy, the science of teaching adult learners (Knowles, 1973, p. 39). As mentioned previously, one of the four main aspects considered relevant to adult learners is their need to have a self-directed self-concept (Hagen & Park, 2016, p. 173).

Along these lines, Rana et al. (2016) suggest that a learners' self-directness (aka self-directed learning) is crucial to achieving and maintaining an organizational knowledge base necessary for competing in today's competitive environment. Furthermore Lin et al. (2016) considered it "the core of technology-mediated distance education" (p. 278) and thus incorporated it into their Mobile Learning Readiness (MLR) scale. But while it fits well in theory, will m-learning also be used by adult learners as expected?

To better understand the elements affecting a learners' self-directness, Confessore and Park (2004) introduced the Learner Autonomy Profile (LAP). This is "a battery of tests designed to measure behavioral intentions linked to self-direction in learning" (p. 39). It was created to assess self-directed learning in terms of behavioral intentions rather than the traditional assessment of behavioral outcomes. The LAP identified the four constructs of desire, resourcefulness, initiative, and persistence in assessing self-directed learning.

When considering how this applies, one example could be the current trend of Massive open online courses (MOOCs). Similar to the web-based correspondence courses, MOOCs offer access to university courses free of charge (or for a minimum amount of money a certificate can be obtained). Unfortunately, according to Hew and Cheung (2014), these courses only experience a 10% – 20% completion rate. One potential reason for this is the course design's reliance on Learner Initiative (LI) the "behavioral intentions related to learning" (Confessore & Park, 2004). According to Tuckman (2007) the reliance on LI was a major disadvantage of web-based distance learning.

When considering the behavioral intentions related to m-learning, initiative would be the ability to independently assess a need to learn; find value in using an m-learning application to satisfy that need; and thus, begin the m-learning process. Given that m-learning is ubiquitous in nature and is being designed to be used as needed, it will be up to the learner to assess a need and initiate the learning process. A learner will need to feel it is within his or her power and interest to initiate m-learning.

A contributor to the LAP, Ponton (1999) identified five components that best reflect a learner's initiative. These five components are goal-directedness, action orientation, persistence in overcoming obstacles, active approach to problem solving, and self-startedness (Ponton & Carr, 2000). Goal-directedness, as an indicator for LI, considers the need to not only establish long range learning goals but also shorter-term sub-goals which can support a learner in achieving the end goal. The second indicator, action orientation refers to the need to persist in working to achieve a learning goal. Learning does not continue on its own accord and need to be actively kept in motion. The third indicator, persistence in overcoming obstacles, is related to the concept of self-efficacy in that learners need to feel it within their power to continue to pursue a learning goal even in the face of obstacles. The forth indicator, active-approach to problem solving, revolves around a leaner's ability to take responsibility to recognize a deterrent to learning and develop a solution which will allow the learning to continue. Finally, the fifth and last indicator focuses on self-startedness which looks at the need for a learner to actually start the learning process to achieve a learning goal. Accordingly, these five constructs will be the basis for measuring LI.

Accordingly, as seen in Figure 6, it is expected that this variable will impact the latent variables from the TAM.

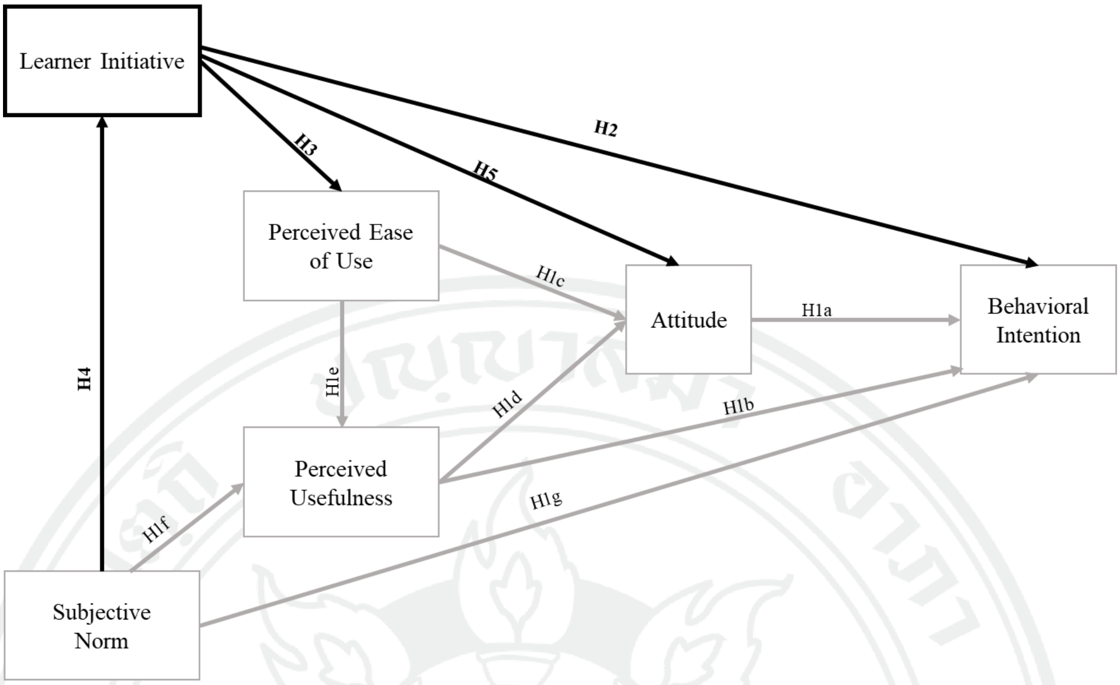

Figure 6 The Inclusion of LI with the TAM

Given the focus on LI as a behavioral intention, it can be expected that this variable will directly relate with BI. Therefore, the following hypotheses can be proposed:

H2 – there will be a positive relationship between LI and BI.

Because individuals would need to be able to independently assess a need for learning and feel they have the ability to persist in overcoming obstacles while using m-learning, it can be expected that:

H3 - there will be a positive relationship between LI and PEOU.

It could be that for individuals with limited LI, the higher the SN the more they will feel supported and able to continue with the m-learning. Thus:

H4 - there will be a positive relationship between SN and LI.

Finally, as learner self-directedness is dependent on a positive attitude toward the learning (Zhengdong, 2004), it can be expected that the factor contributing to self-directedness, LI would have a positive relationship with Attitudes (A) towards m-learning. Thus:

H5 - there will be a positive relationship between LI and A.

Furthermore, from a cross cultural perspective, differences in cultures could affect what is perceived as being within one's control. Thus, the ability to assess the need for and take action to initiate m-learning could be very different.

2.5 Culture

While many assume culture to be the arts, ranging from painting to the opera, in an interpersonal context, it encompasses much more. From an anthropological perspective, culture is a system of shared symbols and meanings. Anthropologist Edward Hall realized that the way people communicate differs according to the context inherent in their message. High context communicators would include more non-verbal messaging while low context (high content) communicators would focus mostly on the spoken/written word. He recognized that culture is not only learned but passed down through the generations as values and concepts of right and wrong (E. T. Hall, 1989). These concepts are learned from family, friends, school, society, etc. with the desired learning outcome being how to survive and thrive. Bellon (2011) suggests that these differences in communication styles can have a strong impact on how individuals relate to one another. "We all have culturally-learned expectations of how people should act in different situations, and when they violate those expectations we are likely to respond negatively. People tend to first think 'You are difficult,' rather than 'My approach may be unfamiliar to you'" (p. 3).

Hofstede (1984) defines culture as "the collective programming of the mind that distinguishes the members of one group or category of humans from another" (p. 53). In the late 1960's and 1970's Hofstede surveyed IBM employees in over 70 countries to find out how values in the workplace are influenced by culture. The findings of his study should not be interpreted as saying that every individual holds the same values dear, but rather a culture in general tends to identify with certain values over others. His study allows people working and communicating across cultures to understand how the unwritten and unspoken rules of engagement change when working with a new culture. He was able to statistically categorize these values orientations into dimensions of national culture. These dimensions are Power Distance (PDI), Individualism versus Collectivism (IDV), Masculinity versus Femininity (MAS), and Uncertainty Avoidance (UAI). PDI looks at the how the uneven distribution of power is accepted while IDV considers the preference toward the autonomous self vs. the expectation of group. MAS considers the preference toward competition and aggression vs. support and nurturing. Finally, UAI considers the extent to which ambiguous situations are accepted.

Gaspay, Dardan, and Legorreta (2008) conducted a comprehensive review of IT related literature focusing on how these cultural dimensions relate to technology acceptance. Table 2 summarizes their findings.

Table 2

Hofstede Dimensions and Corresponding Implication for Technology Acceptance

Dimension	Technology Acceptance
Power Distance (PDI)	High PDI was shown to inhibit adoption, diffusion, and innovation of new technology
Individualism vs. Collectivism (IDV)	Cultures tending toward Collectivism were more inclined to adopt technologies that facilitate group and interpersonal relationship building
Masculinity versus Femininity (MAS)	Had a negative correlation with technology acceptance
Uncertainty Avoidance (UAI)	Had a negative correlation with technology acceptance

Note: This table represents a summary of Gaspay et al., (2008)

This model has become one of the most cited cultural dimension models used in conjunction with ICT research. Used in many studies (Im, Hong, & Soo Kang, 2011; McCoy, Galletta, & King, 2005, 2007; Straub, Keil, & Brenner, 1997; Tarhini et al., 2017; Terzis et al., 2013; Zhao & Zhu, 2010), the results positively relate with expectations indicating that culture does have an impact on technology acceptance. Unfortunately, this model can only be used to calculate culture at the national level. Venaik and Brewer (2013) suggests that this results in the Hofstede dimensions often being misapplied because the construct characteristics cannot simply “be projected onto individuals or organizations in the countries concerned” (p. 469). While some studies have used Hofstede's existing scores of the respondent's national cultural values and combined them with the questionnaire results, doing so ultimately commits an ecological fallacy. It cannot be assumed that correlations of nation-level variables can apply to individuals (Bond, 2002). Accordingly, while the Hofstede model is a very good tool when considering national level data, it is not a viable model for moderating and mediating effect analysis which requires cultures influences to be measured at the individual level. McCoy, Galletta, and King (2005) discussed the need for individual level measures that would allow for this kind of analysis. They discussed the merits of using a version of the Dorfman & Howell (1988) cross cultural instrument as a potential option for individual level analysis. Many IT related studies (Baptista & Oliveira, 2015; Lewis & George, 2008; H.-C. Lin, 2014; McCoy et al., 2005; Srite & Karahanna, 2006) are using variations of this scale. Unfortunately, these scales are not actually measuring the same concepts as described by Hofstede. This leads to researchers accurately defining, discussing, and setting hypotheses according to the Hofstede dimensions but then measuring something else. For example, researchers will define the Hofstede dimension of Masculinity vs. Femininity (MAS) in their literature review as the cultural preference for aggression and competition (traditionally thought of as male traits) vs. compassion and nurturing (traditionally thought of as female traits) but then the scale is comprised of questions focusing on whether men are better suited to the business world then women. For example, “Meetings are usually run more effectively when they are chaired by a man” or “It is more important for men to have a professional career than it is for women to have a professional career” (McCoy et al., 2005, p. 223). Taras, Rowney, and Steel (2009) conducted a survey of 121 cultural instruments and noticed this debatable utilization of measurements, including the often-confused MAS with the concept of gender equality, occurred relatively frequently across many of the instruments.

There are several other frequently cited alternatives to the Hofstede model, however they have not gained the same traction as had Hofstede for a slew of reasons ranging from national level calculations (Venaik & Brewer, 2013) to a lack of access to model weightings (Taras, 2008). Furthermore, there tends to be a lack of consistency not only with regards to the scales measuring their intended values, but also with the internal reliability of many scales (Taras et al., 2009). Accordingly, it has been suggested that scholars must “go back to basics and design and test culture scales that are valid at the level at which they are theorizing, either individuals or organizations” (Venaik & Brewer, 2016, p. 478).

According to Worthington and Whittaker (2006) the first step in any scale development process is to identify and clearly define the intended constructs, based on “existing theory and research to provide a sound conceptual foundation” (p. 813). Given that technology has been the driving force “flattening” the world, much of the moderating and mediating effect analysis includes concepts related to Information and Communication Technology (ICT). In turn, much of the ICT related research that incorporates cross cultural theory draws on the research conducted by Hofstede. His study conducted internationally at IBM brought cross cultural research into the main stream of international business research. Since then other instruments for measuring cultural values have gained in acceptance and popularity. Some of the better known competing models include the Trompenaars and Hampden-Turner (1998) model, the Schwartz (1992) VSM, and Project GLOBE (House, Hanges, Javidan, Dorfman, & Gupta, 2004).

Although several models and scales have been created, the task of defining the various construct boundaries to be specific and independent of other constructs has proven challenging. Even so, this had yielded a large number of models and constructs, making it difficult to figure out which constructs should be considered the most appropriate. Taras et al. (2009) found in their survey of 121 models that “97.5% of all reviewed measures contain at least some dimensions that are conceptually similar to those introduced by Hofstede” (p. 360). However, they also noted that many of the scales designed to measure dimensions similar to Hofstede, were inconsistent because Hofstede presented rather complex explanations and extrapolations of his constructs. This made it hard to design scales to match the ultimate intention of each dimension.

Given the number of cross cultural concepts and dimensions being researched, it is important to focus on those most applicable to workplace and ICT research. The results of a study by Taras et al. (2009) indicate that only a limited number of dimensions “could be classified as both determined by culture and related to the workplace” (p. 363). Among those identified by the research were Ambiguity Avoidance (AA), Power Distance (PD), and Status Ascription (SA). Interestingly, the expert survey did not indicate Individualism and Collectivism to be culturally and workplace relevant.

As discussed in further detail below, AA, PD, and SA will be integrated or developed as part of the proposed model. Although not indicated in the Taras et al. survey, two other concepts were also considered relevant for this research due to their impact on technology acceptance and utilization as identified through past research. The first concept is Locus of Control (LC) as past studies have shown that perceived control (internal orientation) impacts the adoption of technology (Koo, 2009; Koufaris, 2002; Venkatesh, 2000). The second being High vs. Low context communication (HCC) which can impact if an how a technology is adopted and utilized (D. Kim, Pan, & Park, 1998; Lee et al., 2007; Te’Eni, 2001).

Accordingly, the following hypotheses can be made:

H6 The positive relationship between LI and TAM will be moderated by the cultural elements.

2.5.1 Ambiguity Avoidance (AA)

Hofstede (1984) used the terms uncertainty and ambiguity as synonyms when he considered the dimension of his Uncertainty Avoidance Index (UAI). Drawing from Cyert and March (1963), he defined the dimension as the extent to which a culture feels threatened by uncertainty or ambiguity. Cultures will tend to remedy this threat through rules and regulations. The higher the score, the greater the desire to avoid ambiguity through greater rules, regulations, protocols, bureaucracy, etc. According to Hofstede (2018), countries like Thailand and Germany would score high on this dimension while countries like the USA and the UK would be on the lower side.

The items used by Hofstede in the VSM 2013 Questionnaire include two questions about well-being as well as “One can be a good manager without having a precise answer to every question that a subordinate may raise about his or her work." and "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" (Hofstede & Minkov, 2013b).

While these questions give insight into what the Hofstede's scale should entail, the calculations use complex equations with varying item weightings to measure "the collective level of mental programming" and thus "cannot be scored at the individual level" (Hofstede & Minkov, 2013a, p. 6). Primarily because "of the complexity and a lack of theoretical justification for varying item weightings and constants, the approach never gained popularity" (Taras et al., 2009, p. 361).

To overcome this limitation, other researchers have attempted to develop and utilize alternative scales to measure this concept as described by Hofstede. However, Taras et al. (2009) warn that this has often been confused with risk avoidance. Since the concept of risk avoidance was perceived as having little to do with culture; care should be taken to utilize a scale that truly measures the concept described above. That being said, many scales (Ang, van Dyne, & Begley, 2003; McCoy et al., 2005) do fit with the definition and examples given by Hofstede (1984).

A cultures inclination toward uncertainty/ambiguity avoidance (AA) can impact technology acceptance. For example high AA cultures are uncomfortable with the ambiguity inherent in new technology and thus tend be more reluctant to adopt them (Gaspay et al., 2008). Along this vein, Hwang (2005) showed how AA can have an effect on PEOU. Accordingly, it is expected that the cultural value of AA will negatively affect the impact PEOU has on A. Thus, the following hypothesis:

H6a The positive relationship between PEOU and A is inversely moderated by the cultural value of AA such that the relationship is stronger for individuals with a lower inclination toward AA.

2.5.2 Power Distance (PD)

Inspired by Mulder's Power Reduction Theory (Hofstede, 1984), the term Power Distance (PD) has been brought to cross cultural and international business research through the works of Hofstede who defined the concept of Power Distance as “the extent to which the less powerful members of institutions and organizations within a society expect and accept that power is distributed unequally” (Hofstede & Minkov, 2013b, p. 8). Basically, in every society there are some members that are more powerful than others, but societies differ according to the extent to which some having greater power is merely accepted vs. the extent to which it is expected that greater power discrepancies need to be minimized or justified. The higher the PD score, the more the unequal distribution of power is accepted. The lower the score, the more the distance is expected to be minimized or justified. According to Hofstede (2018), countries like Thailand and China tend to score higher on this dimension while countries like the Germany, USA, and the UK would be on the lower side.

The items in the VSM 2013 Questionnaire include items such as “how important would it be to you to be consulted by your boss in decisions involving your work” and “How often, in your experience, are subordinates afraid to contradict their boss (students their teacher)?” (Hofstede & Minkov, 2013b). As with Ambiguity Avoidance, while these questions give insight into what this dimension is ultimately focused on, the unit of analysis and equation complexity make it inappropriate for individual level measurement. Furthermore, other instruments designed to measure this dimension also tend to confuse the above discussed definition with other concepts such as “Power Seeking” (Taras et al., 2009). For example, other scales designed to address this dimension ultimately use questions that measure management's preference for interacting with subordinates but not necessarily the extent to which less powerful members accept the inequality. Such scales tend to use questions like “Managers should make most decisions without consulting subordinates” or “Managers should not delegate important tasks to employees” (McCoy et al., 2005, p. 223).

While this is a measurement that is related to hierarchy they are not capable of measuring the term as defined by Hofstede. Accordingly, researchers either need to revisit the definition of what they are measuring or use a different scale.

PD has been shown to impact the acceptance and utilization of technology. For example, while high PD can be prone to inhibit the adoption of technology, once adopted it can potentially support and promote the utilization of the technology (Gaspay et al., 2008). This would indicate that a superior has considerable influence over an individual's technology usage.

Thus, the following hypothesis:

H6$_b$ The positive relationship between SN and BI is moderated by the cultural value of PD such that the relationship is stronger for individuals who accept greater PD.

Furthermore Cotterall (1995) indicated that learner autonomy was supported through dialogue enforcing the desired learning engagement. As LI is a part of learner autonomy, it can be expected that the expectation a user has that others want them to use the m-learning will impact their individual initiative to begin and complete the m-learning. Accordingly, the following hypothesis:

H6c The relationship between SN and LI is moderated by the cultural value of PD such that the relationship is stronger for individuals who accept greater PD.

2.5.3 Status Ascription (SA)

Regardless of the distance in power inherent in a culture, there are still certain people who have more power than others. According to Goldhamer and Shils (1939), an individual has power according to the extent that individuals can influence "the behavior of others in accordance with his own intentions" (p. 171). Trompenaars and Hampden-Turner (1998) considered that the concept of how status is awarded can vary according to ascription or achievement. Drawing from McClelland's "The Achieving Society", Trompenaars points out that some societies award status according to achievement. In these societies, what an individual has accomplished will be the basis for promotion and status. On the other hand, other societies tend to ascribe status according to such virtues such as age, class, gender, education, etc. Thus, the awarding of status according to an individual's accomplishments and achievement has become known as achieved status while status awarded according to a certain set of virtues has become known as ascribed status. Trompenaars & Hampden-Turner (2012) suggest that "while achieved status refers to doing, ascribed status refers to being" (p. 102). Furthermore, it is suggested that there is a correlation between Protestantism and lower

SA (achievement) and Catholicism, Hinduism, and Buddhism and higher SA (ascription). Accordingly, many Asian and Latin American countries tend more toward Ascription while many North American and Northern European countries tend more toward Achievement. Since adopting technology, especially with regards to autonomous learning, is more related to doing rather than being, this dimension could potentially impact the adoption of technology. Furthermore Burke, Hess, and Salas (2015) suggest that with regards to learning, status ascription can have an impact on how well directions from others will be accepted. Accordingly, it can be expected that higher status ascription cultures will be less inclined to find an m-learning initiative useful. Accordingly:

$H6_d$ The relationship between LI and A is moderated by the cultural value of SA such that the relationship is weaker for individuals with greater SA expectations.

2.5.4 Locus of Control: Internal vs. External Orientation (LC)

The concept of perceived control has also been shown to have a significant impact on business. For example Cobb-Clark (2015) considers locus of control to be "emerging as one of the core determinants of labor market success" (p. 14). This dimension has been considered by some as a value that differs across cultures. Trompenaars (1996), for example, considered how this concept differs between societies. Cultures that believe they control nature and the world around them would be deemed internal oriented. Cultures that feel there are things in the world and nature that they cannot control and should thus strive for harmony would be external oriented. Trompenaars used items from the Rotter Internal External scale (Rotter, 1966) in conjunction with items developed by Kluckhohn and Strodtbeck (1961) to demonstrate how culture varies along this dimension. Smith et al. (1995) further demonstrated that this dimension varies across cultures. This dimension is rather distinct since it does not seem to be consistent across geographic regions such as Europe or Asia. For example, according to Trompenaars & Hampden-Turner (2012), although the United States tends to be more internal oriented than Thailand, Thailand and South Korea are still more internal oriented than many Asian and European countries.

The concept of perceived control is not foreign to ICT research with various theoretical frameworks being used to measure the concept (Koo, 2009; Koufaris, 2002; Venkatesh, 2000). Furthermore, research indicates that it truly impacts the acceptance and utilization of technology. Thus, it is expected that LC will impact LI. Accordingly:

H6$_e$ The relationship between LI and BI is moderated by the cultural value of LC such that the relationship is stronger for individuals more prone to internal over external control.

H6$_f$ The relationship between LI and PEOU is moderated by the cultural value of LC such that the relationship is stronger for individuals more prone to internal over external control.

2.5.5 High vs. Low Context Communication (HCC)

As introduced by Edward T. Hall, this dimension considers how cultures use context as part of their communication and interaction. Low context cultures, on the other hand, focus on content rather than context. The messaging will be more explicit with participants explicitly saying or writing what they mean. High context cultures tend to focus less on explicit communication, preferring to incorporate greater context (relationship, time, place, history...) and non-verbal cues into the message. They are more group oriented (collectivism) and focus more on long lasting interpersonal relationships. This depth of group and relationship yields greater shared experiences and shared history. Because of the reliance of the group, there is greater perceived need for harmony. Ambiguity may also be part of the context built into the message to prevent a potential loss of face. What gets communicated and understood will depend on when, where, and with whom the communication took place.

“People raised in high context systems expect more of others than do the participants in low context systems. When talking about something they have on their minds, a high-context individual will expect his interlocutor to know what's bothering him, so that he doesn't have to be specific. The result is that he will talk around and around the point, in effect putting all the pieces in place except the crucial one. Placing it properly, this keystone is the role of his interlocutor. To do this for him is an insult and a violation of his individuality" (E. T. Hall, 1989, p. 113)

This dimension greatly impacts business interaction and how technology is used (D. Kim et al., 1998; Lee et al., 2007; Te'Eni, 2001). Generally speaking, many Asian, for example Thailand (Monvorath Phongpaibul & Barry Boehm, 2005; Rotchanakitumnuai & Speece, 2003), and Latin American countries tend to be more high context cultures while many North American and Northern European countries tend to be lower context cultures.

With the vast amount of communication technology available, it is no surprise that ICT research has considered the implications of this dimension (D. Kim et al., 1998; Lee et al., 2007; Te'Eni, 2001). For example, Smitha et al. (2013) suggest that Low Context Cultures would also tend to yield a significant PU→BI relationship. Accordingly:

H6$_g$ The relationship between PU and BI is moderated by the cultural value of HCC such that the relationship is stronger for individuals more prone to low context communication.

2.5.6 Organizational Culture

Not only do values differ across espoused national cultures, but also across organizations. Schein (1990) suggests that organizational culture depends on a certain level of stability and common history among organizational members. Thus, where a company is lacking in either, the organization may fail to have an overarching culture. However, in companies where an organizational culture can be said to exist, it can be considered a basic series of learned assumptions about what is the correct way to react to problems and situations and is thus taught to new members.

Similar to espoused national culture, corporate culture also has a number of different models, each measuring similar yet distinct concepts of what are the defining dimensions and corresponding distinctions. For example, Handy (1996) suggested that corporate culture is similar to Greek gods, specifically the four Greek gods Zeus, Apollo, Athena, and Dionysus. He also suggests that these cultures are neither good nor bad, but different and that each of these cultures fit different types of employees.

Zeus was known as the father of gods and men and is noted for being powerful. Zeus is representative of "patriarchal tradition, irrational but often benevolent power, impulsiveness and charisma" (p. 8). This culture has one such central powerful individual, usually the founder or owner. Like a spider web, power radiates from this one person, so proximity to this person is essential. This is also called club culture as only those that are "in the club" with the central individual will prosper. This culture supports speed of decision making through empathy, however a wrong guess can also mean the end of a career in what can also be a cruel culture.

Apollo was the god of order and rules and he was known as a kind god, a protector. This is recognized as the "role" culture and is typical of bureaucracy. It assumes individuals are rational and logical and thus efficiency and order are prized. Stability and predictability are expected and roles as well as levels in the hierarchy are clearly defined. Change is largely undesirable and to be avoided. This is a culture of security, both psychologically and most often contractually.

Athena was the daughter of Zeus and known as the warrior goddess. This culture is known as the "Task" culture. Power is spread out among separate commando units and awarded based on competency and expertise needed to solve a problem. This is a largely achievement-based culture with little room for the ascriptive awarding of status. "It is a culture where youth flourishes and where creativity is at a premium" (p. 14). Those with competence and expertise in their field will flourish in such a company as there is generally a shared sense of energy and mutual support with the goal of solving the problem at hand. However, it is warned that this culture would not be a solution for companies with more repetitive duties such as the production of commodities as this culture would have the tendency to disrupt the process… resulting in an overly expensive commodity. Furthermore, task cultures do not easily overcome difficult times like recession and often emerge after as a different culture resembling one or both of the two previous cultures.

Finally, **Dionysius** is the god of wine and song and represents existential ideologies. Accordingly, this is considered the "existential" culture in that unlike the prior three cultures where the individual serves the company, here the company serves the individual. For example, a group of lawyers or doctors coming together to form a practice. For those professions, this is ideal as it offer security, support, and independence. On the other hand, this creates challenges for support staff and office managers as there are few tools at their disposal to influence those professionals if / when behavior moderation is necessary.

The Harrison (1972) model focusses on similar concepts with the four cultural types being **power** (organizational power to conquer competition and managerial power to control subordinates), **role** (focused on procedures and processes with roles and positions in the hierarchy defined), **task/achievement** (goal oriented focused on competence to achieve goal), and **person/support** (serves the needs of the professionals) (Maximini, 2015).

Similar to the above mentioned models, the Henri (2006) model was designed to measure the cultural groups: **developmental** culture (innovation and creativity), **hierarchical** culture (bureaucracy and stability), **rational** culture (efficiency and profit) and finally **group** culture (cohesion and teamwork). Group is the one cultural element different from the previous two models. Where the previous two models consider Dionysius and person/support which revolve around organizations that exist to support a professional or group of professionals, group culture considers organizational culture that has a strong HR that supports a positive workplace environment.

Another model with a slightly different take but also with four dimensions is known as the Deal and Kennedy (1982) model. The four dimensions are the **tough-guy macho culture** (powerful risk-taking individualists who get “quick” feedback, generally in less than one year, on the risk they took), **work hard play hard culture** (low risk and fast feedback), **bet your company culture** (high levels of risk but slow rates of feedback), and **process culture** (low level of risk and low feedback due to standardization and set processes) (Maximini, 2015).

It has been suggested that corporate culture can have a large impact on the success of a T&D initiative. If corporate cultural values do not align with the content to be trained, there may be limited support for the training. Furthermore corporate culture may impede access to training perceiving that some functions do not necessitate the training (Bunch, 2007). Furthermore the acceptance of technology can be impacted by the organizational values in that there needs to be a good fit between the culture and the values embedded in the incorporation of the new technology (Leidner & Kayworth, 2006). Accordingly, although not the direct focus of the research, it is still important to control for the impact corporate culture, as opposed to national culture, has on m-learning technology acceptance.

2.6 Comparison between Thailand, UK, and the USA

As this dissertation will consider the impact of LI on how mobile learning at the corporate level is accepted across the cultures of Thailand, the UK, and the USA, this section will review the cultural makeup of each of these countries. When considering the culture of various countries, it is also useful to consider the roots of each country's culture to gain a full perspective of why that culture tends to place emphasis on certain values and norms. Dobson and Gelade (2012) identified three geographically related factors that can be associated with variance between national culture. Those three factors are: “geographical proximity, distance from the equator, and the nature of the physical climate” (p. 161).

Geographic proximity can greatly influence a culture through war, migration, and even trade. This can lead to the formation of cultures that share similar values orientations. With regards to distance from the equator, the authors cite Hofstede's findings that “that power distance was inversely related to latitude whereas individualism was positively related” (p. 154). Assuming more tropical climates around the equator, it can be inferred that such warmer climates, which experience nearly year-round growing seasons, foster greater relationship-oriented cultures including the resulting hierarchical orientation. On the other hand, it can be inferred that colder climates with greater seasonal differences and shorter growing seasons tend to be more individualist. Furthermore, van de Vliert et al. (1999) showed a relationship between a culture's physical climate and the cultural dimension of masculinity (a cultures preference for competition and aggression vs. nurturing and compassion).

Beyond geography, a national culture can be impacted by history, religion, politics and political stability. For example, political instability has been linked to a greater orientation toward networks and relationships (Batonda & Perry, 2003). And in the case of religion, it's impact on culture can be seen in the Protestant support for hard work and thrift associated with the promotion of capitalism or the Buddhist promotion of mindfulness and the right way of living and doing things (Hill & Hult, 2016).

2.6.1 Thailand

Thailand, formerly known as the Kingdom of Siam, is a constitutional monarchy, although it is currently being run by the military since May 2014. Thailand is one of the few countries in the region that were never under European colonial rule and this is a source of great pride (Wiriyachitra, 2002). A Buddhist country, Thailand counts calendar years according to the Buddhist Era, which is 543 years ahead of the calendar used in the western world. The flag of Thailand has a red stripe at the top and bottom, a blue stripe in the middle and a white stripe between each of the red stripes and the blue stripe. The red represents the people, the white represents Buddhist purity and the color blue represents the monarchy (CIA, 2016).

Thai's value their monarch deeply. The current king of Thailand, King Maha Vajiralongkorn Bodindradebayavarangkun, Rama X became king within a few months of his father's death in October 2016. His coronation is, as of March 2018, still pending. The monarchy in Thailand possesses more political power than in most other countries with monarchs. Until his death, King Bhumibol Adulyadej was the longest reigning and richest monarch in the world. King Bhumibol was "publicly revered as a semi-divine king, a man of unlimited goodness and wisdom as well as an unusually gifted renaissance man whose accomplishments as composer, engineer, inventor, agricultural adviser, nature conservationist, protector of democracy, and philosopher are said to be astounding" (Ivarsson & Isager, 2010). Although nearly 89 when he dies, King Bhumibol death shook the nation. "The greatest king ever" (Streckfuss, 2010, p. 2) was mentioned by many as they discussed their love and devotion to the king.

The monarchy is a critical aspect of the Thai values systems so much so that the lese-majesty law makes it illegal to speak poorly of the monarch. Accordingly, it is also illegal to step on Thai currency because it bears the image of the king. The Thai's strong tie to their monarch would lead to an expectation of a more status ascriptive culture (P. Smith, Dugan, & Trompenaars, 1996).

Thailand is known as the land of smiles, which may be more indicative of their high context culture rather than a constant condition of happiness. It is a complex culture (Pimpa, 2012), with deep rooted values and beliefs.

2.6.1.1 Roots of Thai Culture – Geography

With regards to distance from the equator, as seen in Figure 7, the center of Thailand is around 15.87 degrees north, with the southern tip just south of 6 degrees north and the northern tip around 20 degrees north of the equator. Accordingly, it can be expected that respondents in Thailand will display a greater inclination toward hierarchy and it can also be expected that subjective norm will have a greater impact in respondents' acceptance of technology, consistent with what would be expected in more collectivist cultures.

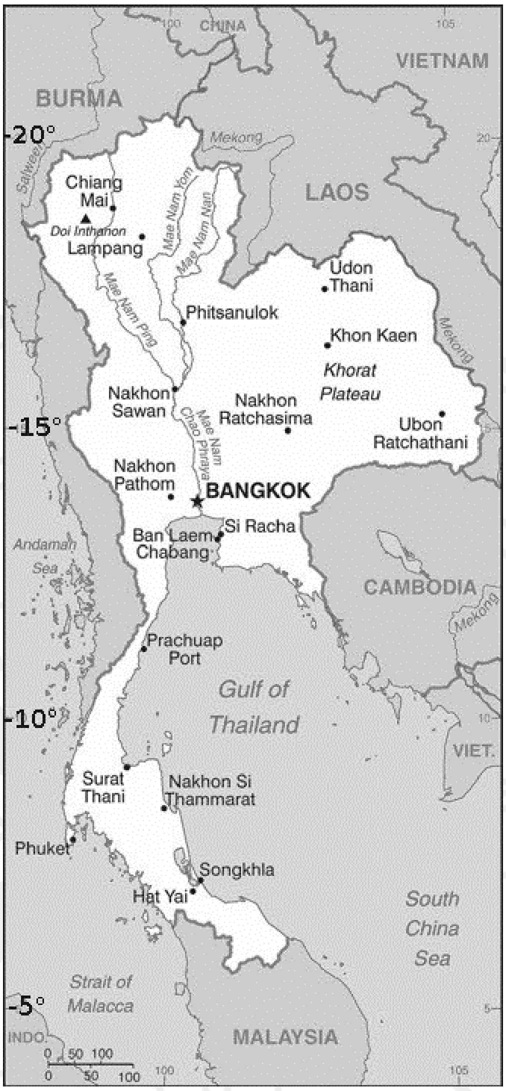

Figure 7: Thailand Latitude and Longitude (CIA, 2016)

Geographically speaking, Thailand is divided into five distinct regions. The regions are the mountainous region in the north, the Khorat Plateau in the northeast (Isan), the Chao Phraya River basin in the central region, the east, and the peninsula in the south (Hafner & Keyes, 2018). Each of these areas has their own distinct culture. For example, Isan boarders Laos and has a majority Thai-Lao population (Draper & Mitchell, 2017) and the southern region in the peninsula, toward the boarder of Malaysia, has a majority Muslim population (Albritton & Prabudhanitisarn, 1997). According to the World Bank (2018), 51% of the Thai population lives in urban areas while 13% of the Thai population lives in the city of Bangkok. Consequently, the culture of Bangkok often overshadows the culture of the other regions.

Although about 20% of the land is mountainous and unfarmable, approximately 41.2% of the land is used for agriculture with 30.8% of which is arable/farmable land with another 8.8% used for permeant crops. The remaining 1.6% is for pastures (CIA, 2016).

Thailand has a tropical climate with high humidity although in the north at high altitudes, frost can occur in the winter. Vegetation grows year-round. Such tropical climates has been linked to greater cultural collectivism (Kwon & Shan, 2012) which includes a "willingness of people to accept the opinions and views of others" (Bhawuk & Brislin, 1992, p. 417). Accordingly, it can be expected that this would lead to SN having a greater impact on the endogenous variables.

2.6.1.2 Roots of Thai Culture – Religion

Buddhism could be considered the main religion of Thailand accounting for approximately 93.6 % of the population. Of the remaining 6.4%, approximately 4.9 % follow Islam while 1.2 % follow Christianity (CIA, 2016). Buddhism incorporates the four noble truths that are built on the path from suffering to enlightenment which incorporates mindfulness and doing things the right way (Bullitt, 2005). As opposed to the western view of the one single truth tied to religious dogma, Buddhism focusses more on "ritual, meditation, or ways of living" (Hofstede, 1994, p. 11). The Buddhist belief of life and reincarnation is more cyclical in nature and thus there is a sense that things will come around again as opposed to the western view that life is a race to the finish. Also because of this cyclicality of life, it is believed that good karma can be accumulated in past lives resulting in power and status in this life (Lawrence, 2008). Accordingly, this belief would tend to lead to higher power distance and status ascription. At the same time, Buddhism has also been associated with a more egalitarian belief as seen in the negative association with vertical individualism (Singelis, Triandis, Bhawuk, & Gelfand, 1995).

2.6.1.3 Roots of Thai Culture – History

Thailand has largely been an agricultural based economy even through much of the 20th century (Phatharathananunth, 2016). This led to self-sufficient villages that were largely economically independent. Not only was their cash and contact to the outside world limited, their access to utilities such as electricity was also limited. In fact, by the 1960's most villages still did not have electricity and 96% of the rural households were living below the poverty line. According to Phatharathananunth, life in these villages was sparse, lacking in creature comforts such as radios, lanterns, or even more than two sets of clothing per person. There was limited access to education and even then, it tended to not go further than the fourth grade. There was limited contact with the outside world due to a lack of infrastructure. As seen in Figure 8, it was not until 2013 that the number of individuals in Thailand considered as living below the poverty line had dropped to just 10%. This endemic poverty (42% of the population in 2000 / 2001) led to most residents of rural villages who were of working age to leave the village to earn an income and send the money home to their families in the villages. Thus urban population increased to 50.4% of the total population by 2015 (CIA, 2016).

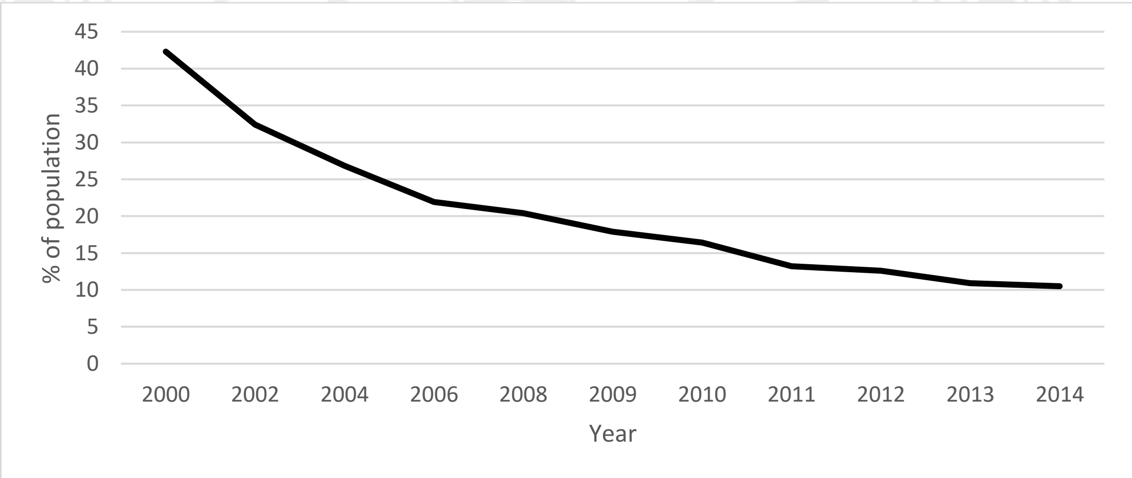

Figure 8: Poverty headcount ratio at national poverty lines (WorldBank, 2018). Government data not available prior to 2000

By the 1990's the landscape had started to shift with electricity having reached over three quarters of all households and as seen in Figure 9, by 2010 had reached 99% of households according to the Government data.

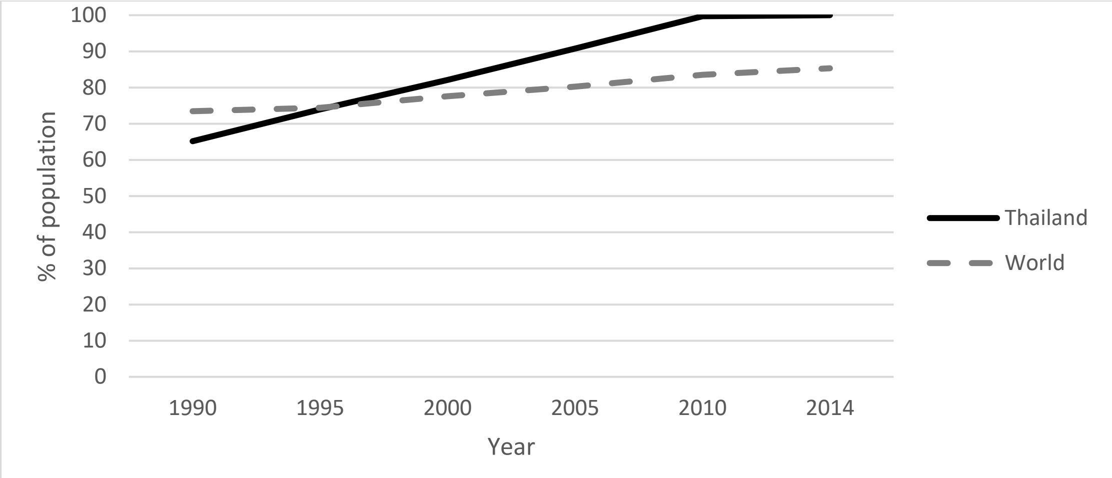

Figure 9: Access to electricity by percent of population per year (WorldBank, 2018)

Even technology such as mobile phones and access to the internet started becoming available in the late 1990s (Phatharathananunth, 2016). However, as seen in Figure 10, it was not until 2016 that the number of internet users surpassed the world average and reached 47.5% of the population.

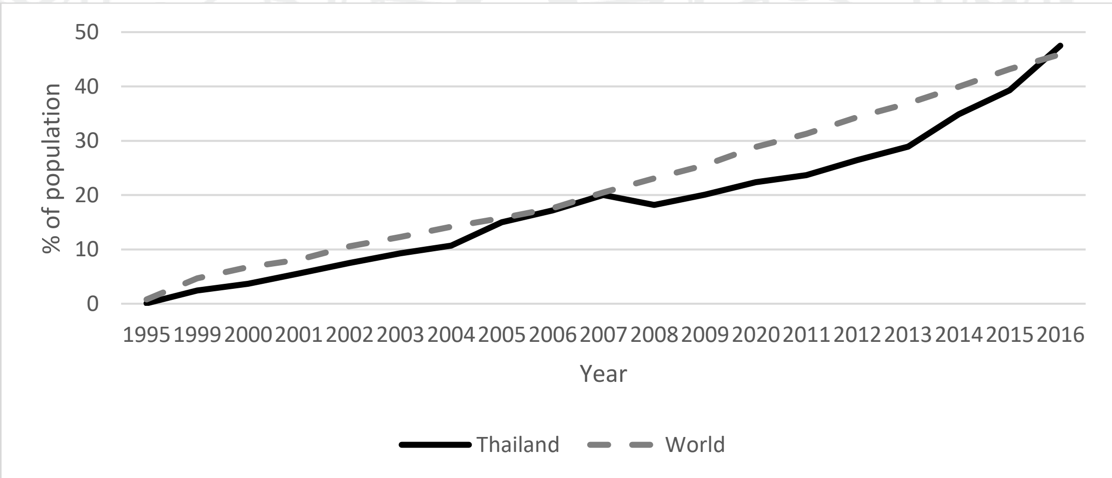

Figure 10: Individuals using the Internet (% of population) (WorldBank, 2018)

Compared to the Western World, this is still fairly low adoption of the internet and thus it could be possible that m-learning may not be as welcomed as in other countries given this somewhat delayed development with regards to technology.

2.6.1.4 Roots of Thai Culture – Politics

Thailand is a constitutional monarchy, however as of May 2014, it has been under an interim military-affiliated government. Since the first of December 2016, the chief of state is the king Vajiralongkorn Bodindradebayavarangkun who ascended to the throne after his father king Bhumibol Adulyadej died 13 October 2016. The head of government is the Prime Minister. As of March 2018, the interim Prime Minister is Gen. Prayut Chan-ocha. He was appointed to be the prime minister August 2014, which was three months after the coup he staged successfully ousted the previously elected government of Prime Minister Yingluck Shinawatra (CIA, 2016).

Since 1932, when Thailand became a constitutional monarchy with a parliamentary government, Thailand has experienced a score of military coups. By the end of the 1990's Thailand experienced a succession of democratically elected governments. Thaksin Shinawatra, head of the Thai Rak Thai (Thais love Thais, TRT) party was elected in 2001 to be Prime Minister and re-elected by a land slide in 2005 (Hewison, 2010). Thaksin was a popular prime minister and he had begun instituting policies with the goal of economic liberalization and privatization. While these policies spoke to many, there were those that felt the policies were threatening the Thai values and the Thai way of life. Thaksin's supporters became known as the red shirts while the traditionalists, monarchists and urban middle and upper class became known as yellow shirts.

It was shortly after his re-election that the People's Alliance for Democracy (PAD) led the opposition and charged Taksin with corruption. This led to at times violent, demonstrations which ended in the September 2006 military coup. Following the coup, there was a crackdown on the redshirts leaving many injured and some killed. In 2011 the tides turned and Taksin's sister Yinluck Shinawatra was elected to government (Hewison, 2010). However, this was short lived and in 2014 a military coup ousted Yinluck with the charge of reestablishing stability.

With regard to how this may translate to cultural values Batonda and Perry (2003) indicate that political instability can yield a greater affinity toward networks and relationships. Again, it can be expected that the greater relationship orientation will lead to individuals seeking and accepting opinions of others (Bhawuk & Brislin, 1992).

2.6.1.5 Thai Values

Cultural values are learned from a very early age. The World Values Survey asks respondents to choose up to five qualities that they find especially important for children to learn at home (WVS, 1981). The values which respondents had to choose from were pre-determined. So, it is possible that the more western values were not a perfect fit with the Thai values system.

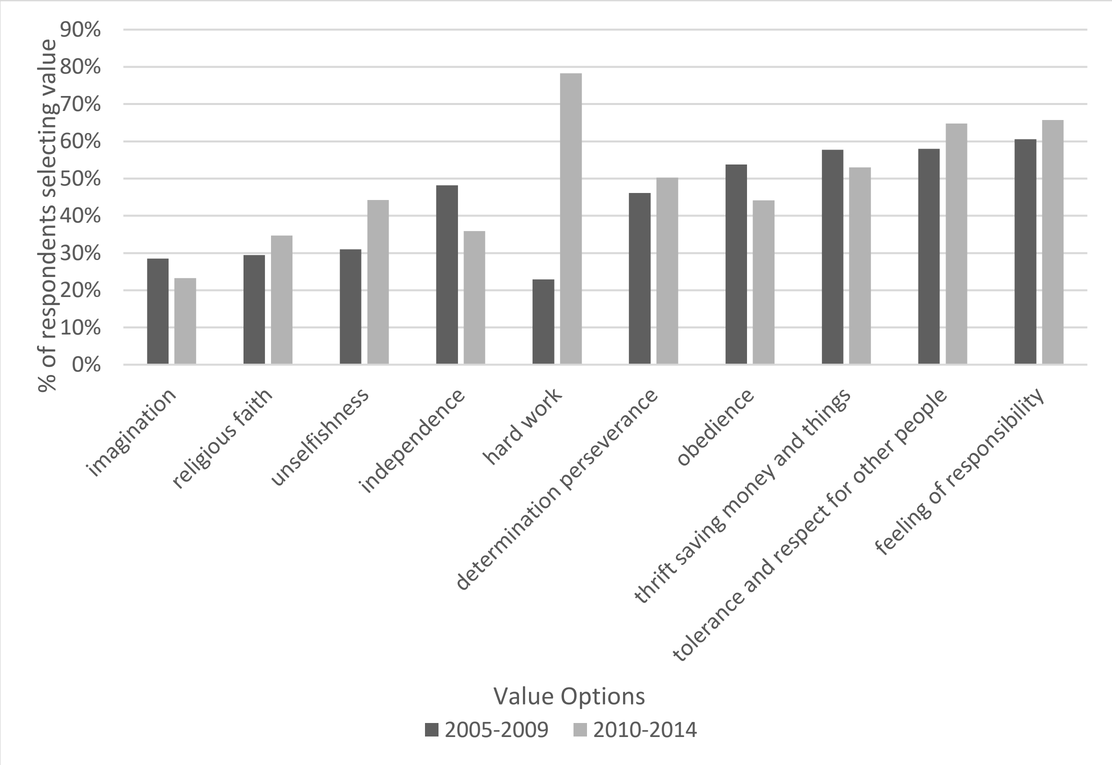

Figure 11: Thailand's Most Important Values to Teach Children (R. Inglehart et al., 2014)

As seen in Figure 11, these values are shifting. However as of 2014, the top five most important values children should be taught at home are: (5) determination perseverance, (4) thrift saving money and things, (3) tolerance and respect for other people, (2) feeling of responsibility, and the overwhelmingly most important value is (1) hard work. This change in the importance of hard work, going from the least important value to the most important value could have implications on future generations with regards to LI, especially as the value of determination and perseverance is also in the top 5. That being said, many respondents would have been raised during a time when hard work and determination and perseverance were not in the top five values which could lead to lower LI scores.

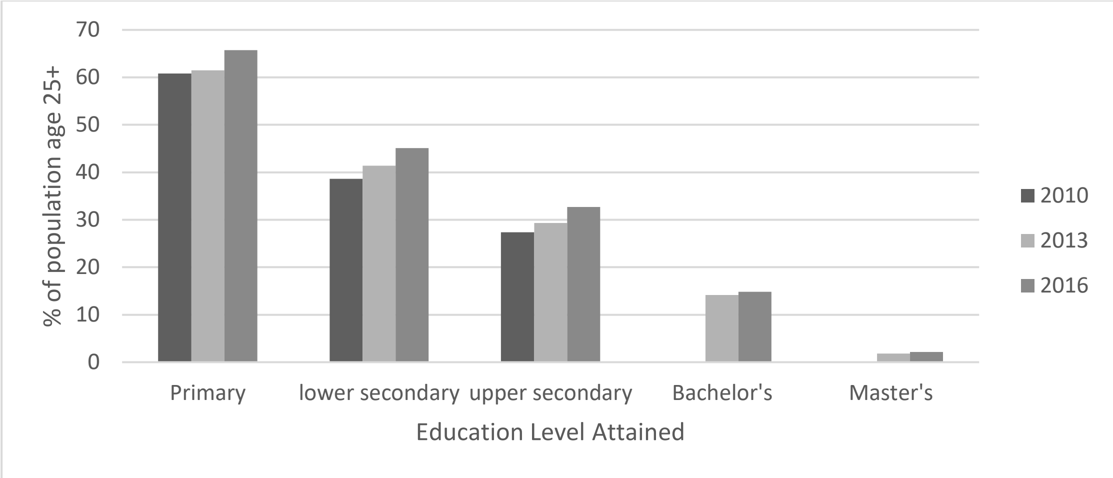

Figure 12: Educational attainment in Thailand, population 25+ (WorldBank, 2018)

Thailand has also seen a rise in education attainment. Figure 12 illustrates the educational attainment trends since 2010. As seen, in 2016 over 65% of Thais complete their primary education which is up from 60% in 2010. Furthermore, over 32% complete their upper secondary level education which is up from 27% in 2010. Finally, no data was given for bachelor’s or master’s degrees for 2010 but in both cases, there was a slight increase over 2013. Given that education level has been shown to impact technology acceptance (Abu-Shanab, 2011) and higher national education levels have been considered a necessary input for innovation (Jackson, Runde, Dobson, & Richter, 2016), it can be expected that these lower national levels of education attainment will impact the acceptance of m-learning.

As seen in Figure 13, according to Hofstede's research findings, Thailand is both more inclined toward power distance and collectivism. Furthermore, Thailand also scores higher for the value of uncertainty avoidance (AA). In fact, Appendix B shows that Thailand is the most PD and AA of all the countries. This higher level of AA, as mentioned previously, could mean that individuals are uncomfortable with the ambiguity inherent in a new technology, such as m-learning and thus may be more reluctant to adopt it (Gaspay et al., 2008). Based on the remaining indicators, Thailand would be considered a fairly collectivist culture (low IDV), showing a preference for compassion and nurturing (low MAS), be fairly tradition bound (low LTO), and falls in the middle between indulgence and restraint.

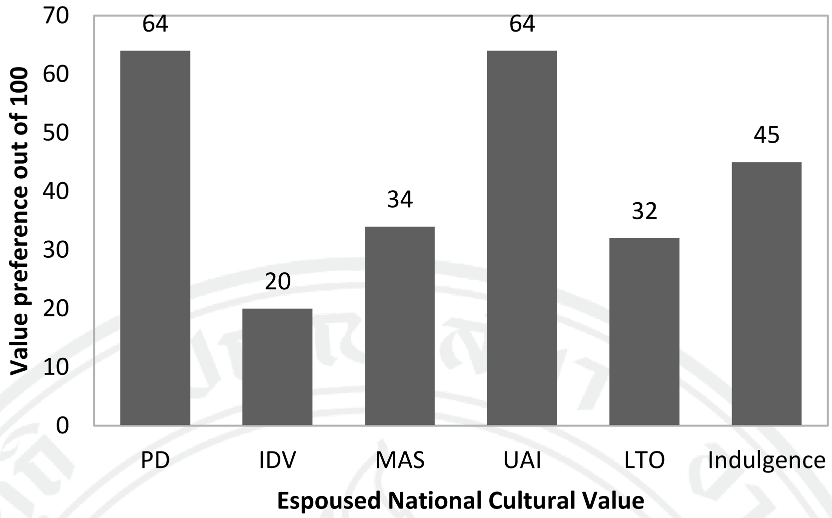

Figure 13: Thailand's Values Orientation according to Hofstede (Hofstede, 2018)

Figure 14 summarizes the 2005 World Values Survey (WVS) country specific values for Thailand found in Appendix C in Table C.1, Table C.2, and Table C.3. It can be noticed that Thais tend to be slightly more inclined toward self-transcendence over self-enhancement, although there was a larger increase in self-enhancement than self-transcendence between the earlier and most recent wave. Furthermore, they tend to prefer conservation over openness to change. The UK did not take part in the 2010-2014 wave, so compared to the 2005-2009 results, as seen in Appendix D, Thais identified less than respondents from the other two countries with Self-Transcendence and more than the other two countries with self-enhancement. Thais were in the middle with regards to openness to change and fairly similar to the USA with regards to conservation noting that Thailand was more tradition focused. Comparing only the USA and Thailand in the 2010-2014 wave, across the board, Thais identified more with all four elements (self-transcendence, self-enhancement, openness to change, and conservation) than did the USA. On average, the USA did not identify with self-enhancement whereas on average, the Thai's felt it was "a little like me."

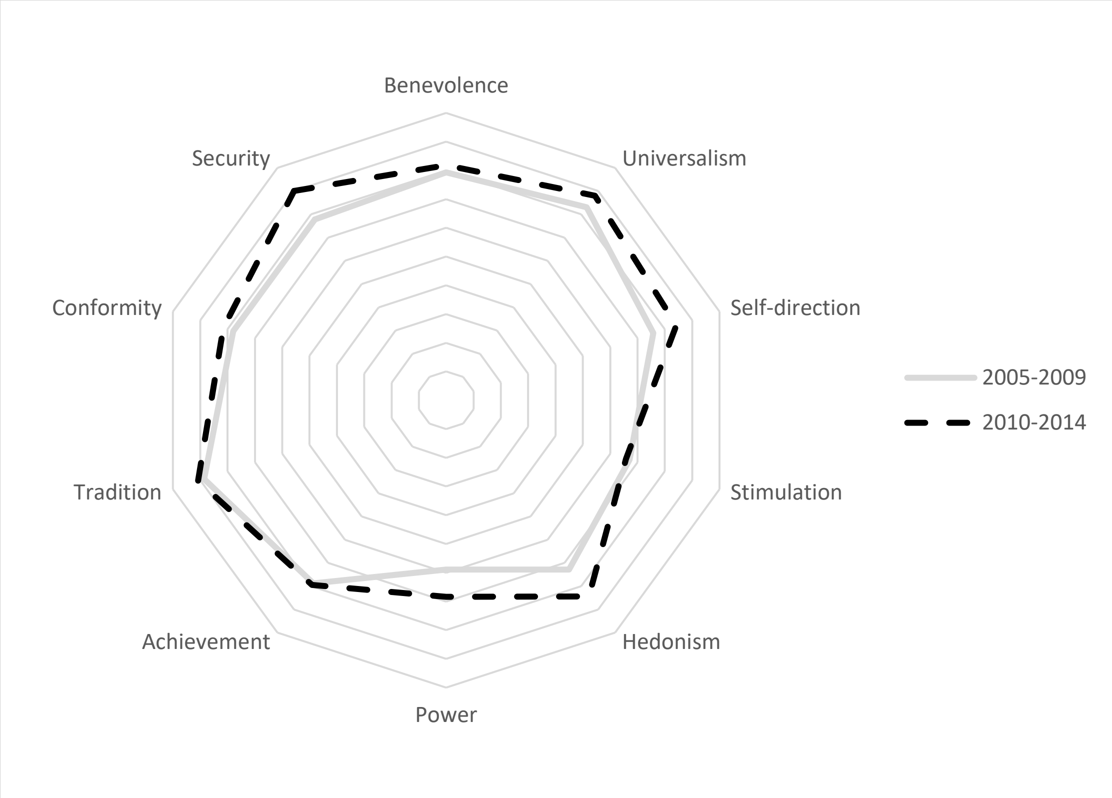

Figure 14: Thailand's Values Orientation according to Schwartz (WVS, 2009) The values align into four groupings of Self-trancencence (benevolence and universalism), Openness (Self-direction, Stimulation, and Hedonism), Self-Enhancement (Hedonism, Power and Achievement), and Conservation (Tradition, Conformity, and Security)

Thus, considering the implications on m-learning technology development, the greater orientation to self-transcendence (benevolence and universalism) and conservation (tradition, conformity, and security) may lead to hesitation “before adopting technologies whose consequences are not fully clear” (Sagiv & Schwartz, 2007, p. 184). Given the newness of m-learning in Thailand, with little known regarding its effectiveness and acceptance, this could negatively impact the perception of m-learning technology by individuals in Thailand. That being said, as seen in Table C.1 in in Appendix C, this demographic is largely from small rural villages and thus most likely excluded from the more urban research population in question.

Of further importance, when considering the implications of culture on training and development initiatives, is the educational system. Traditional elementary education in Thailand teaches “students how to be a good subject, ‘a child the nation desires’, which suppresses initiative, self-responsibility and individual maturation”

(Deveney, 2005, p. 156). This is expressed through the students' lack of participation, both answering and asking questions. They prefer to remain passive to avoid the risk of losing face and also to show kwam kreng chai, or deference toward their teacher.

There are indications that m-learning will be well received in Thailand (Jairak, Praneetpolgrang, & Mekhabunchakij, 2009). However, regardless of existing interest and the fact that m-learning does overcome the more passive student teacher relationship, it can still be reasoned that certain cultural elements such as ambiguity avoidance will influence the technology acceptance of m-learning.

Furthermore, with regards to LC and specifically from the view point of controlling one's fate, according to Trompenaars and Hampden-Turner (1998), only 73% of Thai respondents believed what happens to them is their own doing. This would make more Thai’s external oriented than the UK at 77% and the USA at 82%. Thus, it can be expected that the negative impact of external orientation on LI will be greater in Thailand than the UK or USA.

2.6.2 The United States of America

The name “America” comes from the Italian explorer Amerigo Vespucci who was one of the early explorers of the new country. It is a relatively young country with the declaration of independence being signed July 4, 1776. Less than a year later, the “stars and stripes” was adopted as a unifying flag for the whole country. Initially with 13 stars and 13 stripes to represent each of the original states. It evolved over time and while the 13 stripes remained consistent, it now has 50 stars representing each of the 50 states. The colors in the flag were chosen according to meaning. “The blue stands for loyalty, devotion, truth, justice, and friendship; red symbolizes courage, zeal, and fervency, while white denotes purity and rectitude of conduct” (CIA, 2018a).

Americans have a very strong bond with their flag. According to a New York State Assemblyman “the American flag has stood as a symbol of freedom and justice for over 225 years. Through wars and in times of peace, the sight of the American flag has given notice to foes and assurances to friends that democracy lives” (Cusick, 2017).

Americans are strongly nationalistic, believing that the American way is the only way and consider the United States to be 'the greatest country in the world' (Sharma & Gielen, 2014). They believe in the American way, an ideal strongly tied to the passage in United States Declaration of independence: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness" (National Archives, 2018). These values can be seen till today in how Americans "value hard work, self-reliance, and an open opportunity structure" (Bobo, 1991, p. 71). These are also values inherent in a more achievement values orientation.

2.6.2.1 Roots of USA Culture – Geography

As mentioned previously hierarchy is inversely related and individualism directly related to the distance from the equator (Dobson & Gelade, 2012).

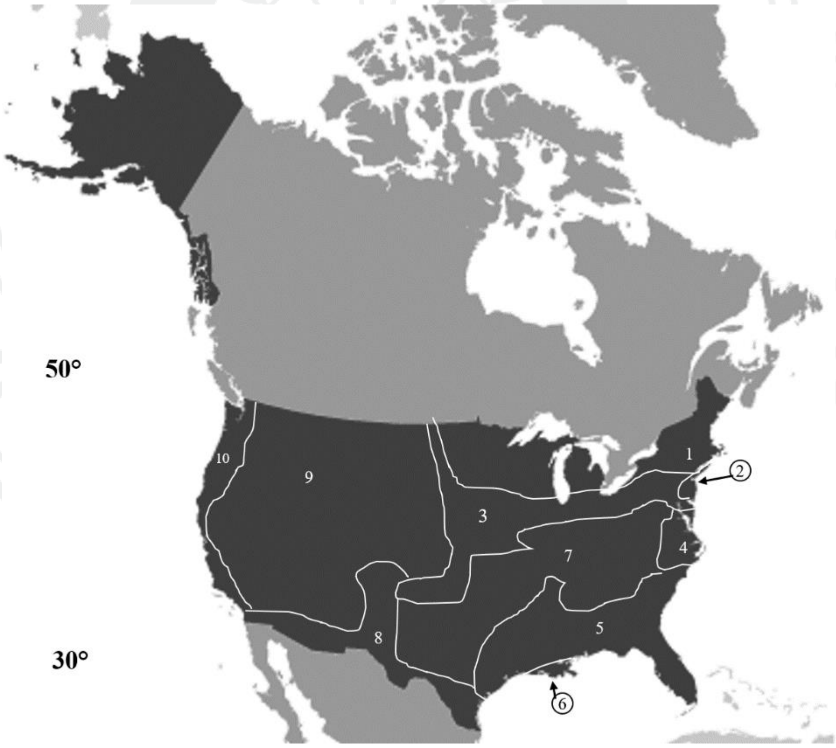

Figure 15: Map of the USA. Original unannotated version from CIA (2018a)

As seen in Figure 15, the majority of the continental USA lies between 28 and 48 degrees north. While this would indicate a range of higher (in the south) to lower (in the north) power distance and a range of lower (in the south) to higher (in the north) individualism, in general, this would be indicative of a more individualist and egalitarian society.

The topography of the continental USA includes an immense central plain, mountains in west, as well as hills and low mountains in east (CIA, 2018a). It shares land borders with Canada on the north and Mexico on the south. The Atlantic Ocean is located off the east coast and the west coast the Pacific Ocean.

The continental USA could be considered mostly temperate. Most of the USA experiences four season, however the more tropical areas of Hawaii and Florida only have two. The plains located west of the Mississippi river would be considered semiarid while the south west would be largely arid (CIA, 2018a).

These differences in climate and topography means that there are many distinctive influences on USA culture and much can differ from north to south or east to west. For example, Woodard (2012) suggests that there are actually eleven regional cultures. Woodard named these areas Yankeedom, New Netherlands, Tidewater, the Midlands Deep South, New France, Greater Appalachia, the Far West, El Norte, and the Left coast.

As seen in Figure 15, starting at region 1 in the north-east, Yankeedom encompasses New England and goes as far west as Minnesota. With their direct tie to the radical Calvinist puritans, this area values education, intellectual achievement, and self-sacrifice but unlike much of the USA, it actually believes in the positive potential of government. Just south of Yankeedom is region 2, New Netherlands which includes New York City and New Jersey. This area is a center for global commerce with main values of materialism, tolerance of diversity, and freedom of inquiry. Region 3 is the Midlands, which begins on the shores of southern New Jersey and moves inward through much of America's heart land. Just south of New Jersey is region 4, Tidewater. This was the area of the English Gentleman and was a powerful hub during the colonial days. There is less concern for equality and more concern for authority and hierarchy with corresponding conservative values. Region 5 is the Deep South which is just south of Tidewater. "For most of American history, the region has been the bastion of white supremacy, aristocratic privilege, and a version of classical Republicanism modeled on the slave states of the ancient world, where democracy was a privilege of the few and enslavement the natural lot of the many. It remains the least democratic of the regions, a one-party entity where race remains the primary determinant of one's political affiliations" (Woodard, 2012, p. 3). In the southern part of the deep south is region 6, New France. This Cajun area is fairly liberal with values of tolerance, egalitarian, and a belief the government could be good. West of Tidewater and north of the deep south is region 7, Greater Appalachia. This area is generally looked upon as lower class "rednecks" and thus in turn the people of this region are suspicious of people from other regions, especially the north east, and of government. Their descendants came from the warring regions of Northern Ireland, England and Scotland thus fostering a warrior ethic, fierce tie to independence and self-determined individual freedoms. South-west of Greater Appalachia is region 8, El Norte. This is the area in hottest debate right now as it is where Trump would like to build his wall. Although largely Hispanic, this area is more independent, self-reliant and work centered than their Mexican counterparts. North of El Norte is region 9, the Far West. This region is the area greatly affected by climate. Harsh conditions left much of this area sparsely inhabited. Although largely reliant on the government, this area sides with the deep south in their distrust of the government and desire to keep government out of their lives. Finally, on the west coast is region 10, the Left Coast. This area was colonized by New Englanders and those from the greater Appalachia regions making the culture in this region one that prizes the New England values of education and intellectual achievement with a belief that government can be good but at the same time it incorporates values from the Greater Appalachia area that prize self-fulfillment.

When considering what values would be deemed "American Values," it can be expected that the values that tend to be most pronounced are the values from those areas with the largest population. Figure 16 illustrates the distribution of the population in the USA. Most of the population lives in the eastern half of the USA, ranging from the Greatlakes along the east coast down to the south east, as well as the west coast states. Accordingly, Yankedoom, New Netherlands, the Midlands, and the Left Coast tend to have the highest concentrations of population with the Deep South not far behind.

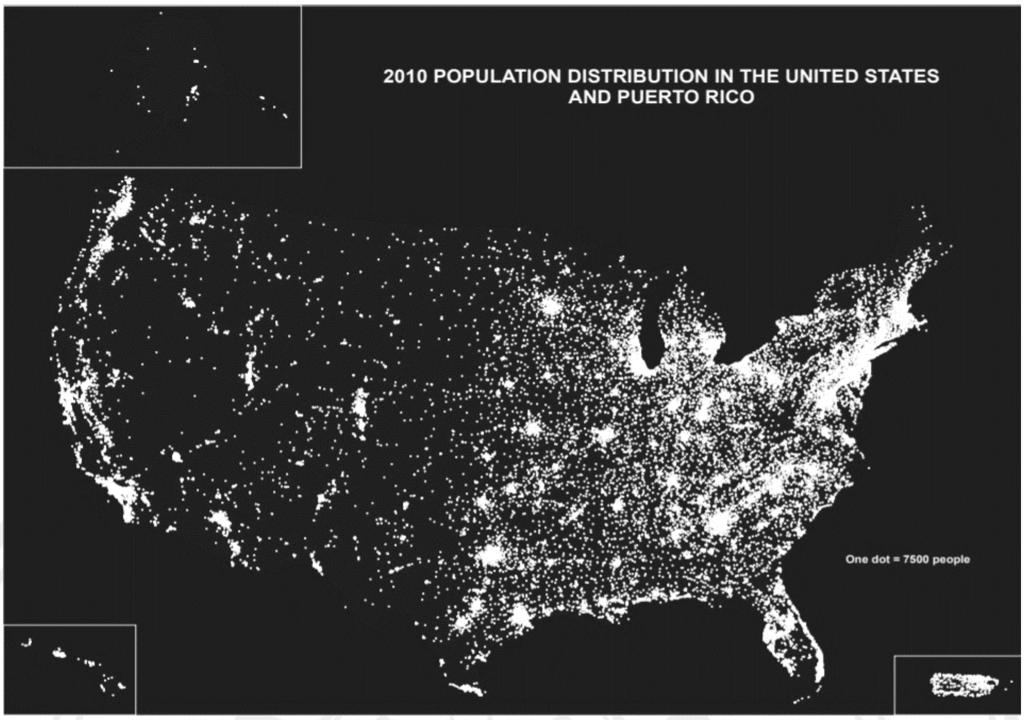

Figure 16: Population distribution according to the last census (US Census Bureau, 2010). One dot equals 7500 people

According to the CIA world factbook (2018a) although 79% of the population speaks English and it has been recognized as the official language of 32 states, the USA actually has no official national language. The second most spoken language is Spanish with 13% of the population claiming it as the language spoken at home.

2.6.2.2 Roots of USA Culture – Religion

Approximately 70% of Americans would be considered Christian with 46.5% Protestant, 20.8% Roman Catholic, 1.6% Mormon and 0.9% other Christian. A large portion, 22.8%, of the population considers themselves unaffiliated. The remaining religious affiliations include 1.9% Jewish, 0.9%, Muslim and 0.7% Buddhist.

"Protestant religious institutions gave rise to the Protestant Ethic, relatively high interpersonal trust, and a relatively high degree of social pluralism-all of which may have contributed to earlier economic development" (Ronald Inglehart & Baker, 2000, p. 37). In fact, Max Weber, the German sociologist, philosopher, and political economist, put forth the idea that there is a relationship between the Protestant work ethic and modern capitalism. He suggested that Protestant ethics itself emphasized hard work, wealth creation, and frugality (Hill & Hult, 2016, p. 102). In fact, a corresponding proverb says, “Idle hands are the devil's workshop.” This ethic is often tied to a more internal LC (Jones, 1997).

2.6.2.3 Roots of USA Culture – History

The USA was settled over 15,000 years ago when people migrated from Asia to the Americas via the Beringia land bridge which existed during the ice age (Reich et al., 2012). Those migrants then formed the various native American tribes ranging from Apache to Sioux and even migrated to central and south America to form civilizations such as the Mayans and Aztecs. For the most part, however, modern USA American history begins with the Pilgrims and other settlers from the “Old World.”

Beyond those seeking freedom from religious persecution, were those looking for opportunity. According to Cochran (1985), the majority of those settlers were farmers and unskilled labors. However, there was also a somewhat larger minority of highly skilled technicians and artisans. There was a technological imbalance in Europe where skilled technicians outweighed the demand for technology. Many skilled technicians and artisans who were unable to find placement or advancement in Europe migrated to the USA and ultimately contributed to the rapid technological progress which occurred 1783 to 1820.

Most of these new settlers moved more than once creating a “cultural environment in which geography and artifacts might be relatively familiar, but their neighbors were strangers. Friends had to be made easily and easily given up when one or the other party left. In a broad sense most, social sanctions lost some of their force in a migratory population. Yet religious values and beliefs were undoubtedly strengthened in the Colonial period by the belief of many people that this was the biblical promised land, God’s New World” (Cochran, 1985, pp. 6–7).

As these colonists expanded, they encountered the various Native American tribes. Eventually the colonists’ expansionist desires and divergent regards for nature, including the “Walking Purchase” of 1737 (Stevens-Arroyo, 2014), caused rifts in the relationship with the Native Americans. This led to the French and Indian / 7 Years’ War which broke out in 1756. During the war, the colonists sided with the British and the Indians with the French. The British won the war and, in an effort to pay off the war debt the British parliament levied stamp duties and alcohol taxes in American colonies. The colonists responded with riots and a 3 to 4-year strike on taxes. Eventually the British revoked most taxes keeping only the symbolic tax on tea. The colonists responded with the Boston tea party by boarding a ship and dumping the tea it was transporting into the harbor. (Passant, 2017). The British response was strong which eventually led to the American Revolution. The colonists won the war in 1783 and in March 1789 the USA constitution became effective (CIA, 2018a). The Revolution ultimately helped instill the USA espoused national cultural values of individualism (Berry, 1989; Grabb, Curtis, & Baer, 2000) and a level of comfort with change.

Further instilling this self-reliant "pull yourself up by your bootstrap" individualism was the concept of manifest destiny, which was the belief that it was gods will that Americans could and should possess the entire continent (Johannsen, Haynes, & Morris, 1997). To take advantage of economic opportunities made possible by this westward expansion, groups of people began traveling in wagon trails. While it was perceived that there was safety traveling in numbers, all other aspects of the trip, including wagon, rations, and even destination, were left to the individual person or nuclear family. These families needed to be able to provide for themselves (Weaver, 1999). Accordingly, self-reliance and hard work became the cultural values which would be passed down from generation to generation.

With regards to infrastructure, unlike Thailand, according to the World Bank, the USA has had 100 % of the population with access to electricity since the World Bank started tracking it in 1990. The percent of the population with access to the Internet rapidly increased during the late 1990s early 2000s but since 2005 access has spread slowly in the USA. In fact, as seen in Figure 17, both the European Union and Canada surpassed the USA with regards to the percent of the population with access to the Internet. That being said, the nearly 25% of the USA population that does not have access to the internet would not be included in the target population of this study.

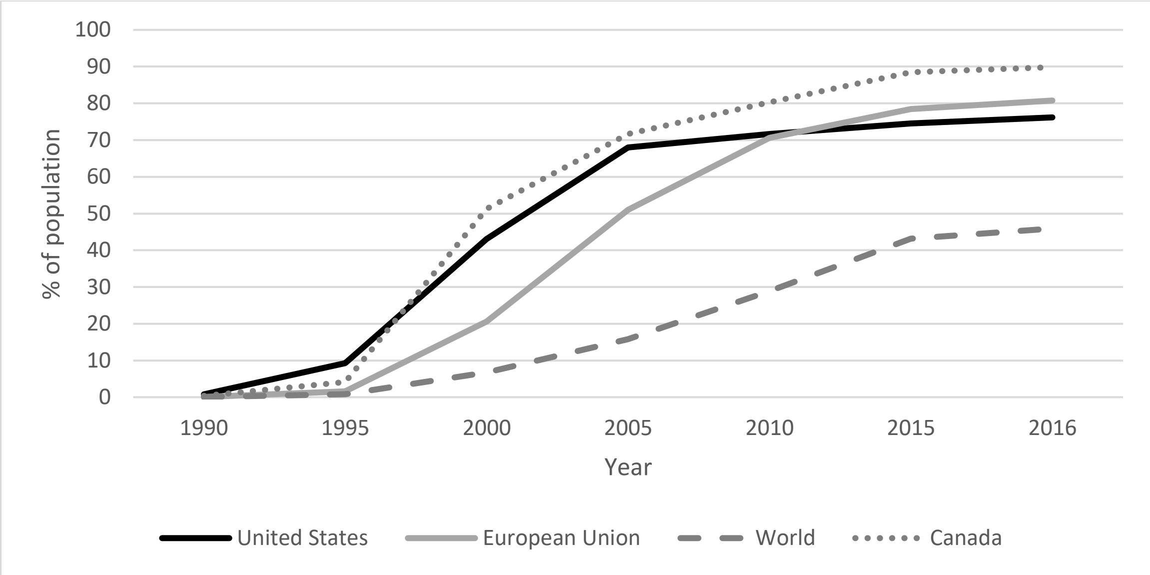

Figure 17: Individuals using the Internet (WorldBank, 2018)

2.6.2.4 Roots of USA Culture – Politics

The United States is a constitutional federal republic (CIA, 2018a) with the ultimate power resting with the citizens and their elected representatives. It is a representative democracy with the president elected for a four-year term with a limit of two terms. The congress is comprised of two houses being the Senate and the House of Representatives. The Senate consists of 100 senators, two from each of the 50 states who are elected to serve a six-year term with no limit on the number of terms that may be served. The House of Representatives is comprised of 435 representatives who are elected to serve a two-year term with no on the number of terms that may be served.

Technically the USA has four political parties with the two main parties being the Democratic (represented by a donkey) and Republican (represented by an elephant) parties with the Libertarian party (aka independents) tending to be those who do not want to “pick sides.” Finally, although technically a party, the Green party is insignificant in USA politics.

2.6.2.5 USA Values

Figure 18 illustrates those values American respondents considered especially important for children to learn at home (WVS, 1981). As seen, these values are shifting. However, the top five values have remained in the top five since 1994. Those top five most important values in the USA that children should be taught at home are: (5) religious faith, (4) independence, (3) feeling of responsibility (2) hard work, (1) tolerance and respect for other people.

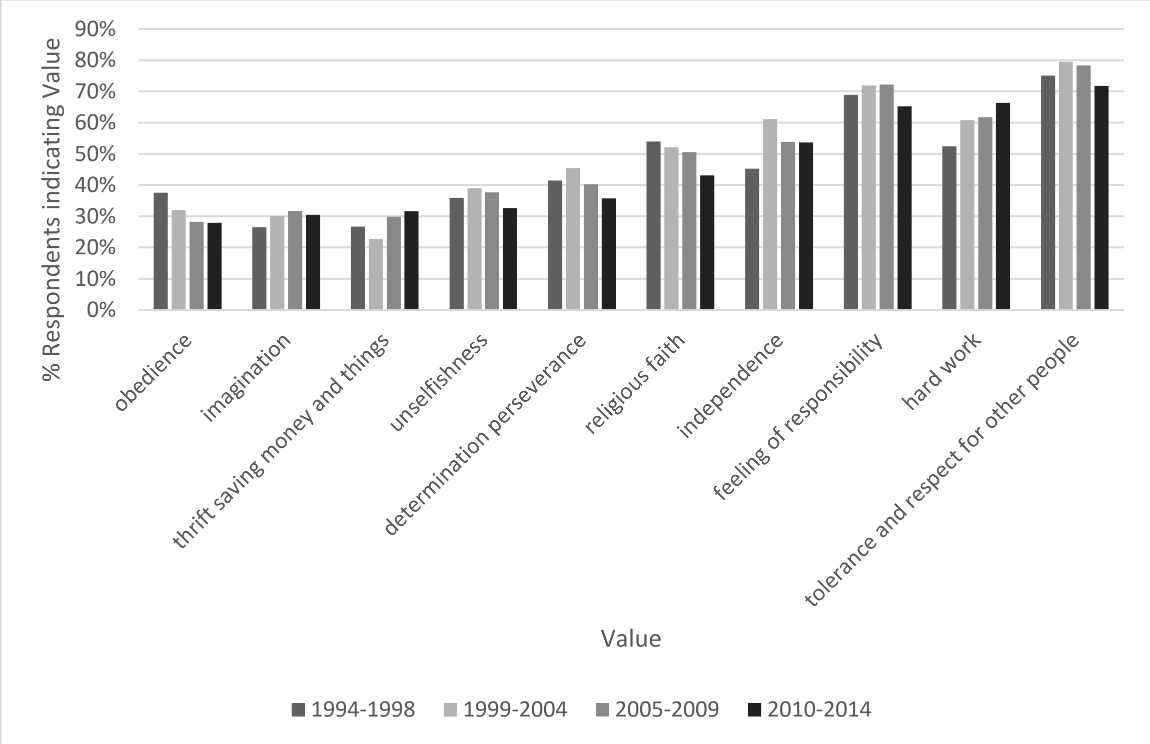

Figure 18: USA most important values to teach children (R. Inglehart et al., 2014)

As seen in Figure19, in 2015 nearly 100 % of the USA sample completed primary, 95% lower secondary and 88% completed upper secondary (high school). With regards to higher education, 42% completed at least an associate degree or similar while 32% completed a bachelor’s degree, 11% a master’s degree, almost 2% completed a doctoral degree. These somewhat higher national levels of education should support the adoption of m-learning, from an innovation perspective (Jackson et al., 2016).

To some extent the USA school system has promoted individualist values through concepts like “show and tell” or through expectations of in-class participation. Furthermore, American's attempt to embrace technology in the classroom through the integration of interactive whiteboards or BYOD (bring your own device) days. Even at the university level, educators try to incorporate technology by using systems like Top

Hat Monocle or Socrates. These elements should lead to a strong BI among USA respondents.

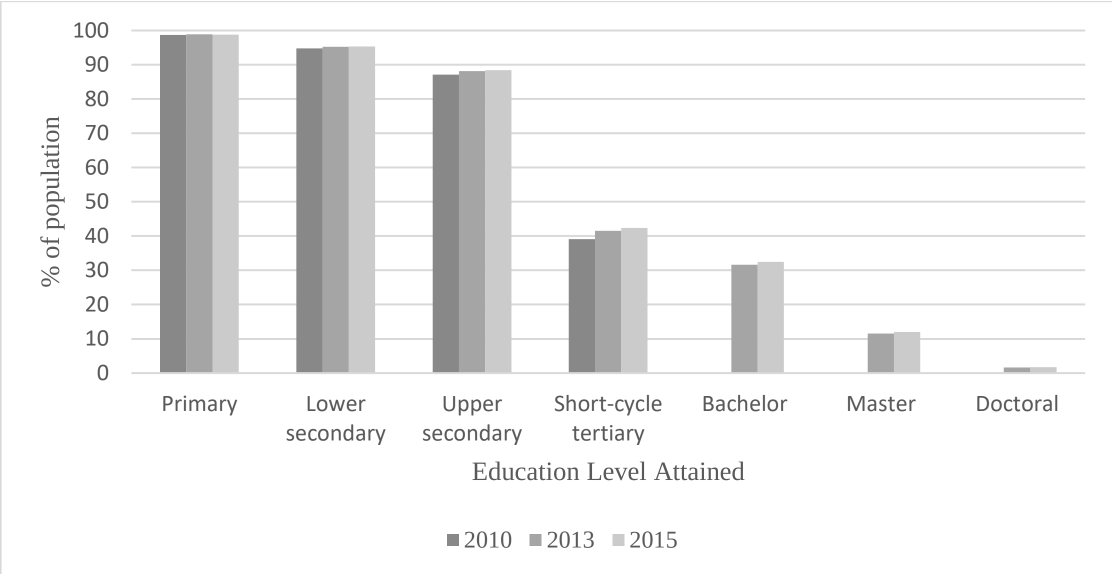

Figure 19: Educational attainment, population 25+, total (%) (WorldBank, 2018)

Figure 20 illustrates the USA country scores according to the research conducted by to Hofstede (2018). As suggested by distance from the equator, the USA tends toward lower PD and tends to be on the lower side of AA. Which as mentioned, lower PD and lower AA tends to facilitate the initiation acceptance of technology.

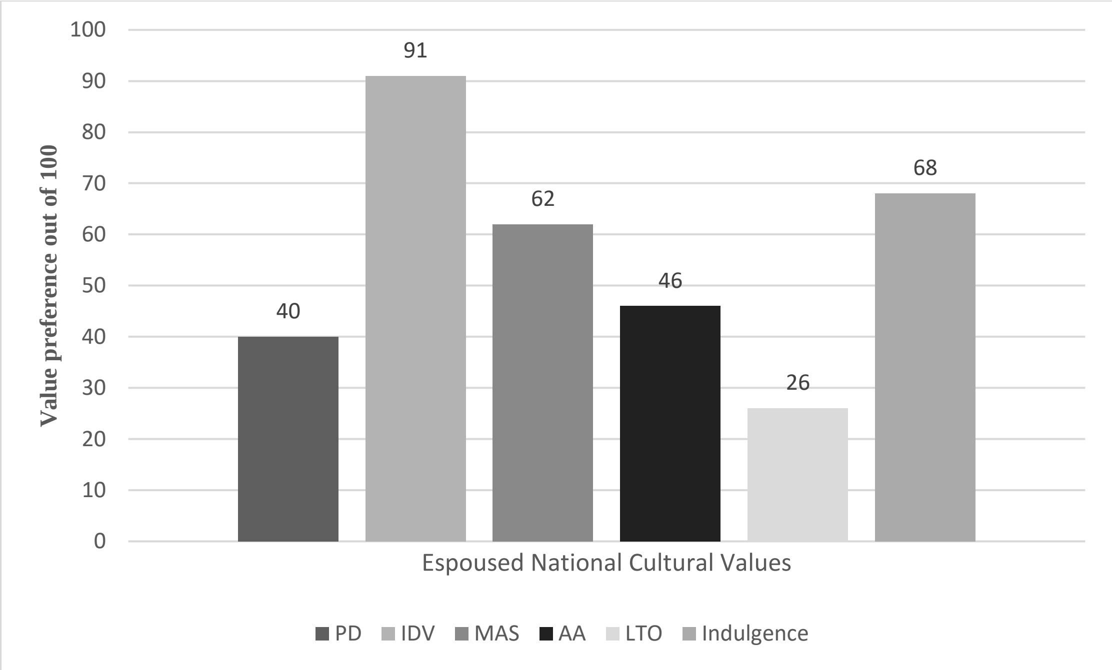

Figure 20: The USA's Values Orientation according to Hofstede (2018)

That being said, as seen in Appendix B, the USA tends toward greater PD and AA than the UK, but both are less PD and AA than Thailand. The remaining Hofstede values indicate that the USA is very individualistic, tends toward competition and aggression, tends to be focused on the short term (ex. Quarterly reports), and it tends to be on the indulgent side, giving into many desires and impulses.

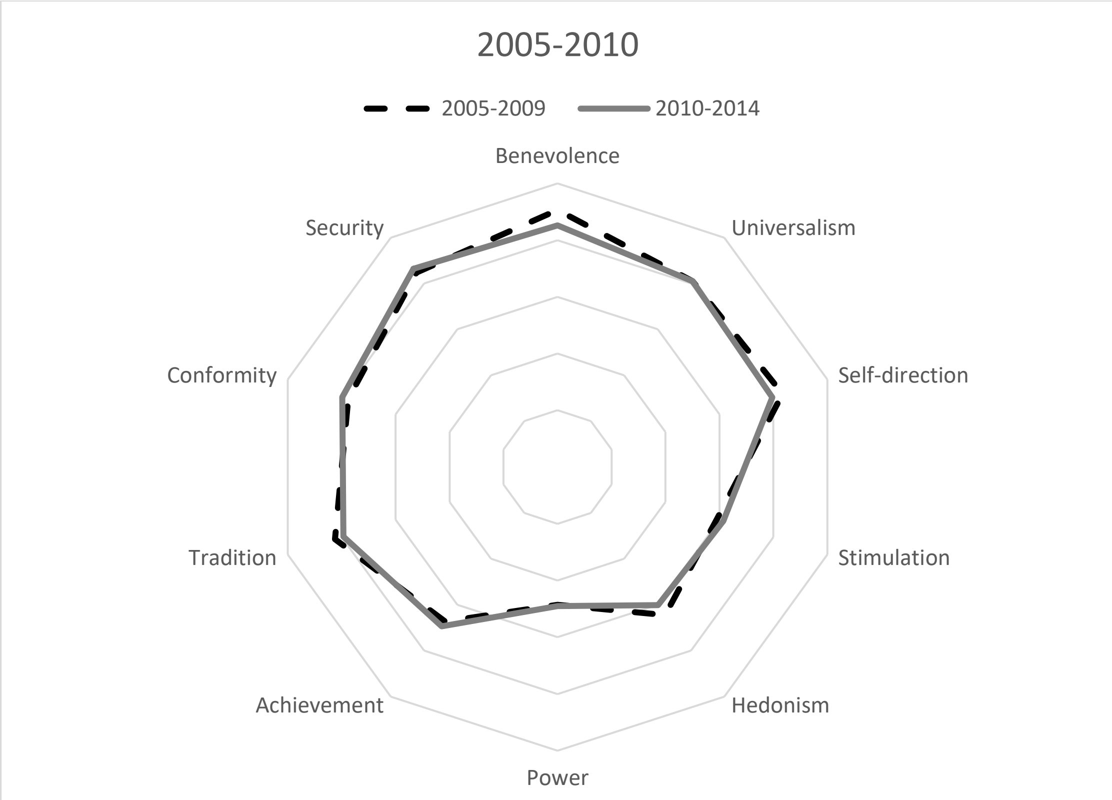

Figure 21: summarizes country specific values from Tables C.6, C.7 and C.8 found in Appendix C.

It can be noticed that Americans have a preference for self-transcendence over self-enhancement. In fact, for the most part they do not see themselves in the self-enhancement elements.

Furthermore, they are fairly in the middle between openness and conservatism with a very slight preference for conservativism. As seen in Appendix D, in the 2005-2009 wave, the USA was less than the UK but more than Thailand with regards to self-transcendence and less than the other two countries with self-enhancement. The USA showed the least openness to change and was fairly similar to the Thai with regards to conservation noting that the USA was more security focused while Thailand more tradition focused. Comparing only the USA and Thailand in the 2010-2014 wave, across the board, the USA identified less with all four elements (self-transcendence, self-enhancement, openness to change, and Conservation) than did the Thai. With regards to technology adoption and utilizations, as mentioned previously, one potential implications of self-transcendence is a desire to understand a technology prior to adopting it (Sagiv & Schwartz, 2007, p. 184). As m-learning has been around in the USA for well over 5 years, this should not be an issue.

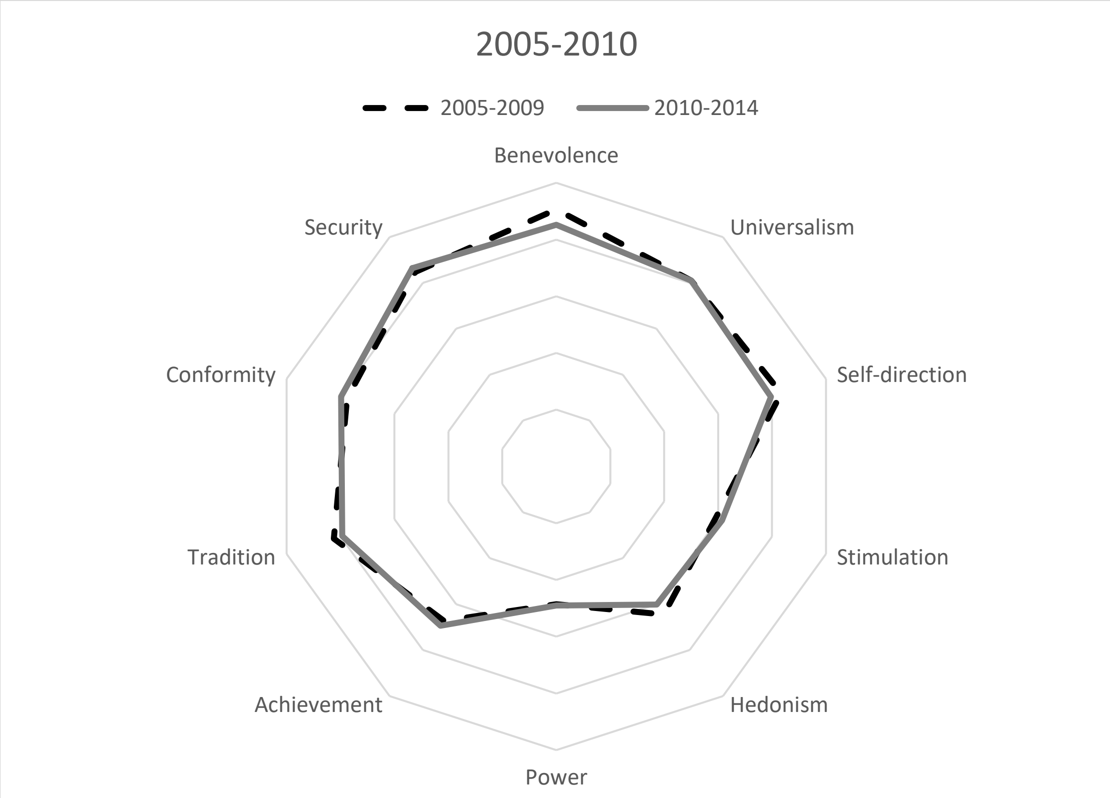

Figure 22: USA Values Orientation according to Schwartz (WVS, 2009)

Furthermore, with regards to LC and specifically from the view point of controlling one's fate, the USA was considered the most internal oriented of the three countries (Trompenaars & Hampden-Turner, 1998). Accordingly, it can be expected that this internal orientation will directly support higher LI.

2.6.3 The UK

The United Kingdom is located in western Europe and is a nation of islands made up of England, Scotland, Wales and Northern Ireland. The Union Flag, aka Union Jack, represents the coming together of each of these countries with the “blue field with the red cross of Saint George (patron saint of England) edged in white superimposed on the diagonal red cross of Saint Patrick (patron saint of Ireland), which is superimposed on the diagonal white cross of Saint Andrew (patron saint of Scotland)” (CIA, 2018b).

It is a parliamentary constitutional monarchy (CIA, 2018b) although the monarchy's executive powers are limited and their role largely symbolic. That being said, this symbolism is very important to the British people. The Queen is prominently displayed on the local currency, the Great British Pound (GBP). Beyond the national anthem "God save the Queen," there are many other symbols representing the importance of the monarch in the hearts of the British people ranging from stamps to seals. This tie to the monarchy is one example of a more ascriptive culture (P. Smith et al., 1996).

2.6.3.1 Roots of UK Culture – Geography

Considering that distance from the equator has an inverse relationship with individualism and direct relationship with power distance, the UK should be a more individualist and egalitarian society given its location between 50 degrees and 60 degrees north. This is illustrated in Figure 23.

Much of the terrain of northern UK was shaped during the last ice age and consist mostly of rugged hills and low mountain while in the east and south east there are level to rolling plains. Approximately 71% of the land is agricultural land with 45.7% of it being permanent pasture, 25.1% of it being arable land and 0.2% being permanent crops. Largely due to the Gulf Stream winds from the south west, the temperature is mild and rainy with it being overcast over half the year (CIA, 2018b). Being an island nation, it is surrounded by the Atlantic Ocean and the Irish Sea to the west, the English Channel to the South and the North Sea to the east. This allowed the UK to become a naval power and establish the British empire.

Figure 23: Latitude of the UK (CIA, 2018b)

2.6.3.2 Roots of UK Culture – Religion

According to the Office of National Statistics, the population of England and Wales is largely Christian with 59.3% of the population in 2011 identifying themselves as such. This was a decline from 71.7% in 2001 (ONS, 2012). The overwhelming majority are Protestant. The UK ties to Protestantism dates back to the mid-16th century when King Henry VIII founded the Church of England and adopted some of the protestant tenants. During this time the English culture had the unifying sentiment of anti-Catholicism (A. Smith, 2006) and many battles occurred between the protestants of England and the Catholics in neighbouring regions, including Spain.

2.6.3.3 Roots of UK Culture – History

As mentioned previously, the UK actually consists of four different countries. For a large part of history, Wales, Scotland, and Ireland all fought against the imperialist forces of England.

England, although originally inhabited by Celtic tribes, was invaded by the romans in 55 BC (Conybeare, 2004). Around the fourth century, the Anglo-Saxons began raiding England and were largely held back by the Romans. However, when the Romans withdrew from the area in the fifth century, the Anglo-Saxons were able to advance and grow their language and culture in the region. Christianity finally took a stronger hold in England during the 6^{th} and 7^{th} century. This has largely been attributed to Augustine's mission in 597 (Meens, 1994). With the shared sense of religion also came a share sense of belonging to one nation.

In 1066, the now infamous Battle of Hastings confirmed the victor, William I (aka William the Bastard, aka William the Conqueror), the new king of England (Freeman, 1894) and so began the rule of the house of Normandy. Aside from instituting a system of feudalism, he left much else the same as from the Anglo-Saxon time. There were three kings from the house of Normandy which ended with King Edward I who died in 1135. This began the time called the Anarchy which ended nearly two decades later (Kok-Carlson, 2016) with the beginning of the house of Plantagenet in 1189. During this time, King John signed the Magma Carta which ultimately allowed early renditions of parliament to form and was considered "the source and fountainhead of political liberty" (Radin, 1947, p. 1060). The house of Plantagenet ruled until 1399. They were followed by the House of Lancaster. The end of 100 Years War in 1453 brought much internal battle between the house of Lancaster and the house of York, which later became known as the Wars of the Roses (Hicks, 2003). This time of strife lasted until the house of Tudor in 1485. The house of Tudor was of Welsh origin and brought with it much change to England. For example, the Act of Union in 1536 formally incorporated Wales into the kingdom (Bradbury, 1998). There were five monarchs in the house of Tudor with the second being Henry VIII who was responsible for breaking with the Catholic church and thus beginning the time of the English reformation. Following the house of Tudor came the house of Stuart which was of

Scottish origin and thus led to the 1707 Acts of Union which joined England and Scotland into the kingdom of Great Britain (Smout, 1964). The house of Stuart ended in 1714, and thus began the time of the house of Hanover. The house of Hanover lasted 6 monarchs until 1901. That marked the beginning of the current reigning house: The Houses of Saxe-Coburg and Gotha which changed the name to the house of Windsor (Broom, Beem, & Harris, 1955).

It was during the house of Windsor that the majority of Ireland gained independence. Although for much of its history England had to greater and lesser extents ruled Ireland, in 1918 Sinn Féin came to power and was supported by the Irish Republican Army (IRA) in the war for independence from 1919 – 1921 (White, 1989). In the end, the 6 counties in Northern Ireland that were inhabited more or less by the British, remained a part of Great Britain while the remaining part of Ireland became independent.

Although it can be said that England, Wales, Sortland, and Norther Ireland differ with regards to their history, ultimately each and every one of them fought for, supported, and nurtured the protestant faith. Accordingly, beyond geographical proximity and a degree of shared ancestry, and despite the political differences which often led to war, they all share the fundamental values of self-reliance, hard work and frugality; inherent in the protestant faith (Hill & Hult, 2016). Furthermore, the enduring tie to monarchy could support greater status ascription.

Looking at the development of the infrastructure of the entire UK, much like the USA, 100% of the population had access to electricity since the World Bank started tracking it in 1990.

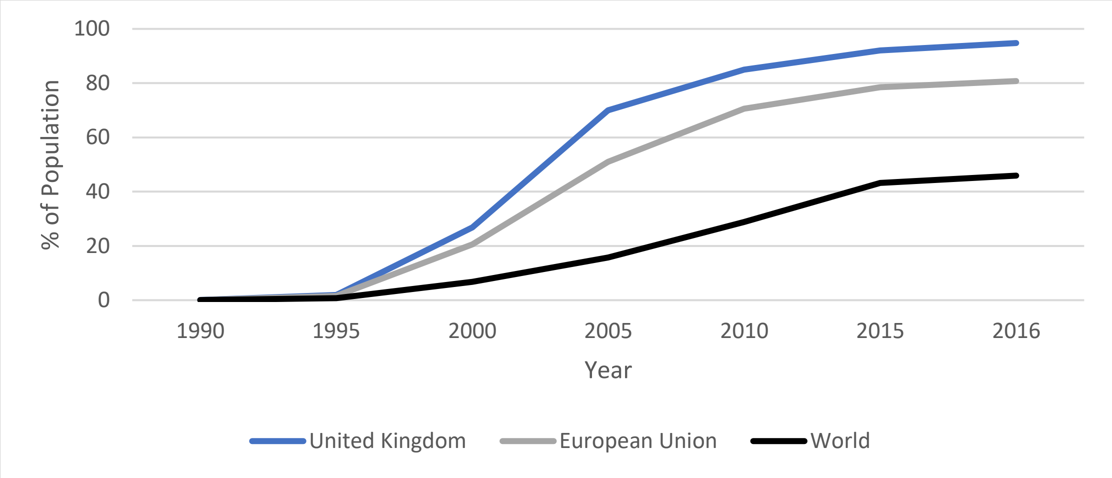

Figure 24: Individuals using the Internet (% of population) (WorldBank, 2018a)

And looking at access to internet, as seen in Figure 24, the UK is leading with regards to the percent of the population with access to the internet, surpassing the EU average. This level of diffusion of internet technology, could potentially support acceptance of internet based services such as m-learning (Chau & Lai, 2003). Furthermore, smartphones had reached a penetration level of 66.95% as of 2016 (Statista, 2018).

2.6.3.4 Roots of UK Culture – Politics

As mentioned previously, the UK is a constitutional monarchy and a parliamentary democracy. The parliament is made up of the monarch, the appointed house of lords and the elected house of commons (CIA, 2018b). Those appointed to the house of lords were traditionally via heredity, i.e. nobles, however since 1999 they are mainly appointed by the prime minister for life time terms. With the monarchy more symbolic, the head of government is the Prime Minister PM). The Prime Minister is not directly elected but rather is the leader of which ever political party wins the majority political party in the House of Commons. Members of Parliament (MPs) are elected representatives from their districts.

2.6.3.5 UK Values

Those values of greatest importance for children to learn at home, according to the WVS (1981), can be seen in Figure 25.

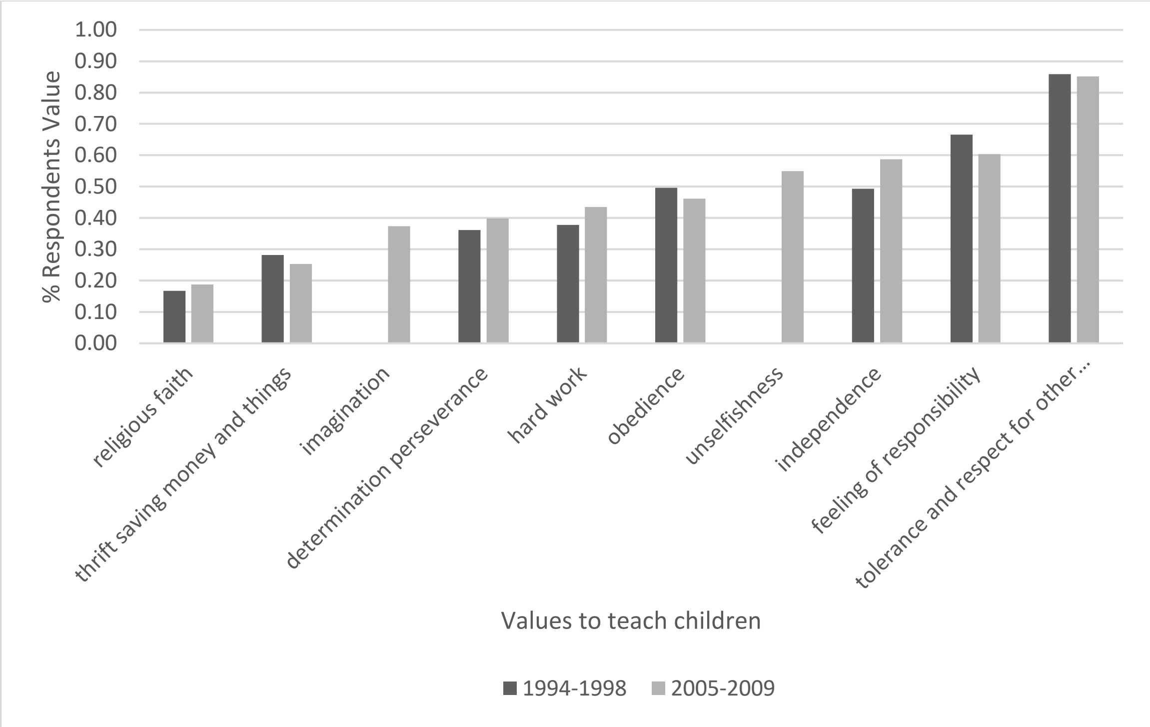

Figure 25: UK Most Important Values to Teach Children (R. Inglehart et al., 2014)

As seen these values are shifting slightly with time. However as of 2009, the top five most important values children should be taught at home are (5) obedience, (4) unselfishness, (3) independence, (2) feeling of responsibility, and the overwhelmingly most important value is (1) tolerance and respect for other people. Obedience was the third most important value in 1994-1995 which people taught their children. This could have ramifications as many respondents would have been raised in this era. As obedience of others is needed for prestige status (Benoit-Smullyan, 1944), this could support a greater orientation toward status ascription.

The English class system has a level of social stratification that until recently has allowed for little mobility. For example, institutions like English Public Schools have had an immense impact on the perpetuating this social stratification. This gave the select few a level of concentrated power both nationally and internationally that existed in few other countries. The public schools perpetuated this class-consciousness by instilling a code of behavior, speech, and appearance (Sunderland Frere & Ravenhill, 2018). This greater social stratification would indeed create a society with greater ascriptive tendencies (Parsons, 1940). Accordingly, it can be expected that the UK will exhibit higher SA (more ascriptive) tendencies.

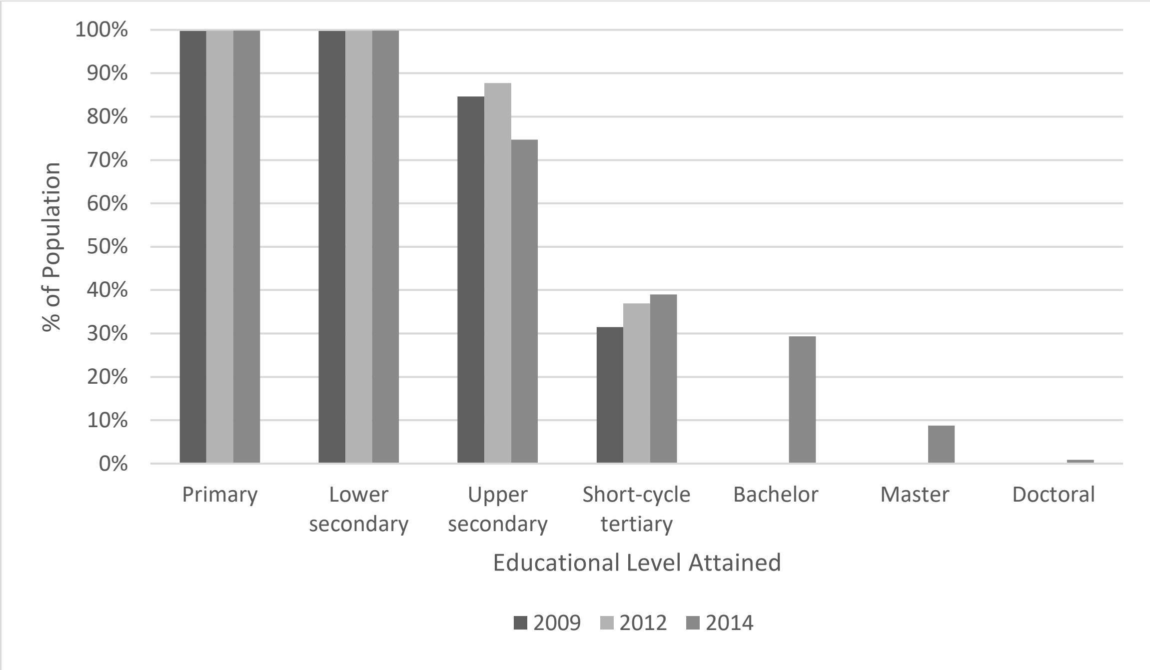

Figure 26: Educational attainment, population 25+, total (%) (WorldBank, 2018)

As seen in Figure 26, nearly 100% of the UK population obtain a primary and lower secondary education in the UK. And while in 2012 over 80% of the UK population completed their upper secondary degree, that number dropped to approximately 75% in 2014. As of 2014, 39% of the population completed at least a short cycle tertiary degree. Furthermore, most European higher educational institutions switched to the bachelor system in response to the Bologna Process which focused on establishing a European higher education that offered transparency and quality assurance across the various countries in Europe by 2010 (Enders, De Boer, File, Jongbloed, & Westerheijden, 2011). Accordingly, the figures listed in the 2014 results reflect this change to the new system. Along the lines of the new differentiation, 29.3% completed their bachelor's degree, 8.8% completed their master’s degree, and almost 1% completed their doctoral degree. Like in the USA, these higher national levels of education should support m-learning.

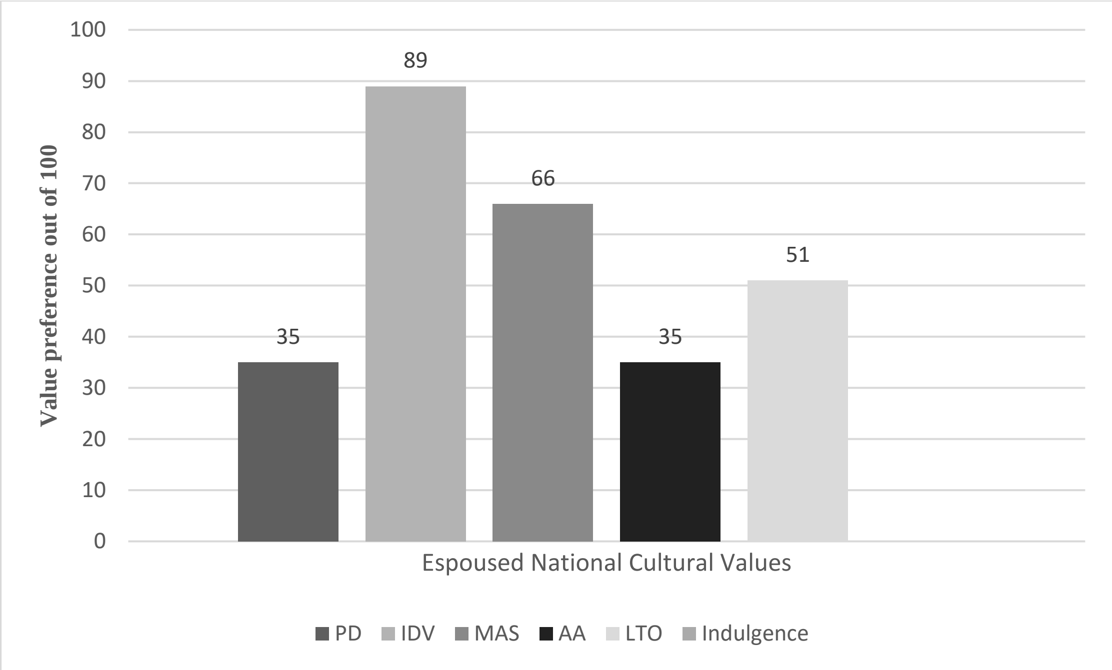

Figure 27: The UK's Values Orientation according to Hofstede (2018)

Figure 27 illustrates the UK national level scores according to the research conducted by to Hofstede (2016). The PD and IDV scores remain consistent with previously discussed relationship to a country's distance from the equator. As seen in Appendix B, the UK has the lowest PD and the lowest AA (UAI) of the three countries. The figures also indicate that the UK is highly individualistic, fairly competitive and achievement oriented, and are fairly in the middle regarding their ties to the past and their willingness to sacrifice for tomorrow.

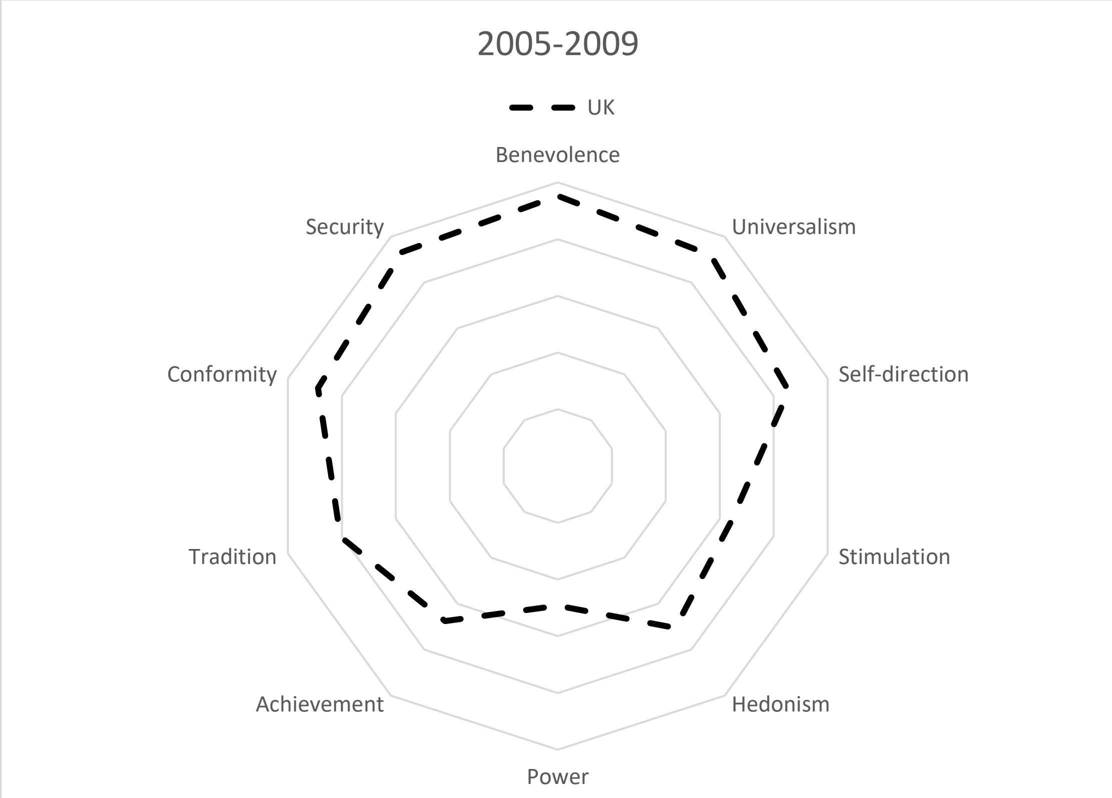

Figure 28, summarizes country specific Schwartz values as measured in the WVS in Tables C.4 and C.5 in Appendix C.

It can be noticed that in the UK there is a preference for self-transcendence over self-enhancement. Furthermore, they are fairly in the middle between openness and conservatism with a preference for conservativism. As seen in Appendix D, the UK identified more than the other two countries with Self-Transcendence, Openness to change and Conservation, while falling in the middle with self-enhancement, below Thai and above USA. As mentioned previously, one potential implications of self-transcendence is a desire to understand a technology prior to adopting it but similar to the USA, m-learning has been around a number of years and thus would not be a “new” technology (Sagiv & Schwartz, 2007, p. 184).

From the perspective of LC, the UK would fall in the middle with 77% believing what happens to them is their own doing. This would make them more external oriented than the USA at 82% but more internal oriented than the Thai’s at 73%(Trompenaars & Hampden-Turner, 1998). Thus, it can be expected that the negative impact of external orientation on LI will be greater in the UK than the USA, but less than Thailand.

By looking at the roots of culture, it is possible to set expectations with regards to the espoused national cultural values of each country. As mentioned throughout the section, the roots of culture combined with the various values studies would lead to the following expectations:

Ambiguity Avoidance (AA): Thailand would be the most AA with the UK the least and although also on the lower side, the USA would fall between the two.

Power Distance (PD): Thailand would be the most PD. Although the Hofstede study would indicate that the UK would be the least PD, its ties to the monarchy and public schooling would lead to different expectations. Furthermore, according to the Hofstede study, the USA would fall toward the lower end but would be greater than the UK.

Status Ascription (SA): Thailand would be the most SA, with the USA the least and the UK would fall between the two.

Locus of Control (LC): Thailand would have the greatest LC (external orientation), with the USA the least (internal orientation) and the UK would fall between the two.

High Context Communication (HCC): Thailand would be inclined toward the greatest HCC, with the USA the lowest and the UK would fall between the two.

It is expected that these values will moderate the relationships between the latent variables in the TAM/LI model. These relationships will be further depicted in the next section.

2.7 Development of Conceptual Framework of the Study

Based on the literature review as well as results from various pre-studies, the following conceptual framework has been developed. As seen in Figure 29, this study will examine the moderating effect that the previously mentioned cultural values have on the relationship between Learner Initiative (LI) and the dependent variables of Behavioral Intent to Use (BI), Attitude (A), Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Subjective Norm (SN).

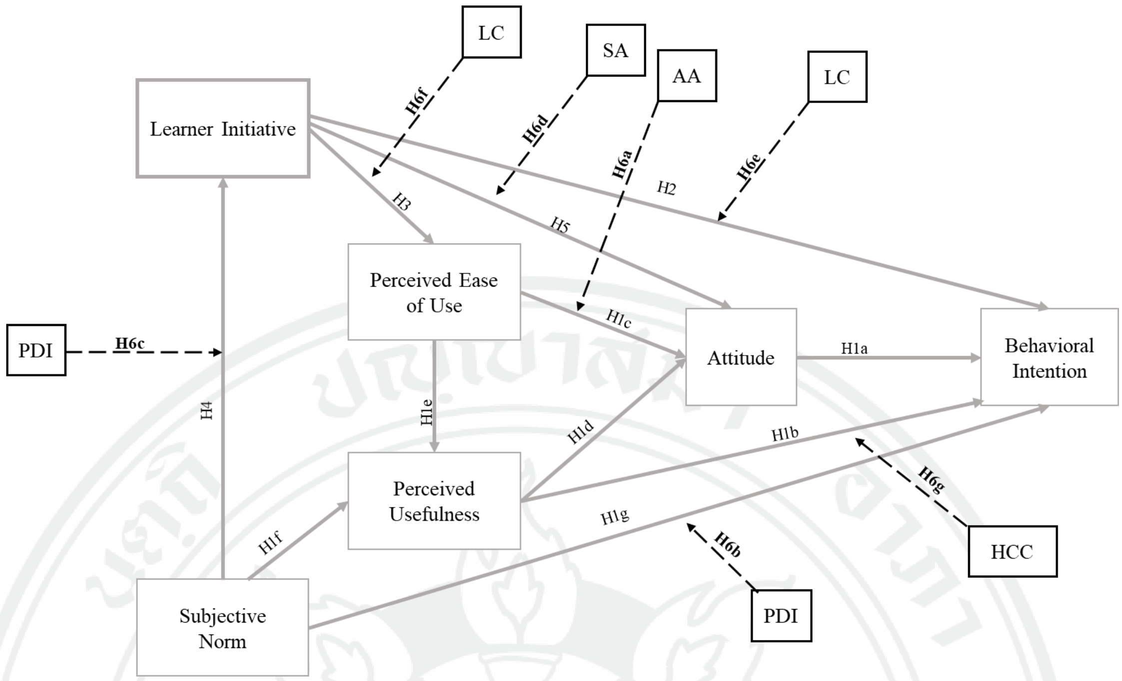

Figure 29: Research Model

As seen in Table 3, it is expected that the TAM will contribute to BI as predicted and that LI will have positive relationships with A, BI, PEOU, and SN. Furthermore, is expected that the cultural variables of AA, HCC, LC, PD, and SA will each have a moderating effect on specific relationships.

Table 3

Summary of Research Hypotheses

Hypotheses	Prediction
H1	The TAM variables will contribute to BI as predicted.
H1a	There will be a positive relationship between A and BI.
H1b	There will be a positive relationship between PU and BI.
H1c	There will be a positive relationship between PEOU and A.
H1d	There will be a positive relationship between PU and A.
H1e	There will be a positive relationship between PEOU and PU.
H1f	There will be a positive relationship between SN and PU.
H1g	There will be a positive relationship between SN and BI.
H2	There will be a positive relationship between LI and BI.
H3	There will be a positive relationship between LI and PEOU.
H4	There will be a positive relationship between SN and LI.
H5	There will be a positive relationship between LI and A.
H6	The positive relationship between LI and TAM will be moderated by the cultural elements
H6a	The positive relationship between PEOU and A is moderated by the AA such that the relationship is stronger for individuals with a lower AA.
H6b	The positive relationship between SN and BI is moderated by PD such that the relationship is stronger for individuals who accept greater PD.
H6c	The positive relationship between SN and LI is moderated by PD such that the relationship is stronger for individuals who accept greater PD.
H6d	The positive relationship between LI and A is moderated by SA such that the relationship is weaker for individuals with greater SA expectations.
H6e	The positive relationship between LI and BI is inversely moderated by LC such that the relationship is stronger for individuals with lower LC.
H6f	The positive relationship between LI and PEOU is inversely moderated by LC such that the relationship is stronger for individuals with lower LC
H6g	The positive relationship between PU and BI is inversely moderated by HCC such that the relationship is stronger for individuals with lower HCC

CHAPTER 3

RESEARCH METHODOLOGY

The following sections will discuss research methods intended for this study with the underlying philosophy and ultimate objective. Accordingly, this section will present an overview, research design, and study population. This will include sample size, unit of analysis, potential sample bias, and sampling techniques. Furthermore, this section will also include data collection methods and the variables used.

3.1 Research Design

To the largest extent, from an epistemological point of view, this research is conducted from a positivist perspective. In other words, it is looking at observable phenomena which can be measured and statistically verified. Accordingly, the research will largely be deductive.

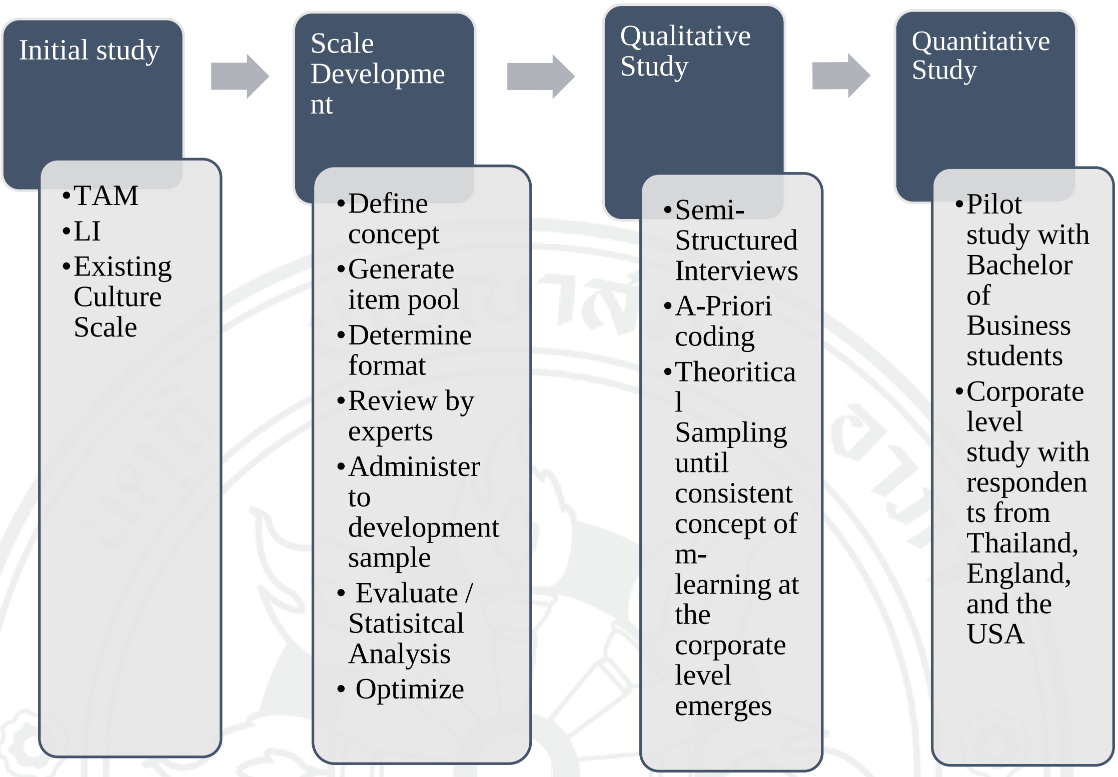

Figure 30: Research stages and their corresponding components

Prior to selecting the cross-cultural scales to develop, an existing set of cross-cultural scale was selected. To confirm the reliability and validity of the TAM, LI, and existing cross-cultural scales, an initial test was conducted. As seen in Figure 30, based on the results of the initial test, it was determined that the research would need to be broken into three further stages: Cross-Cultural Scale Development, Qualitative Study, and Quantitative Study.

As previously mentioned, the initial test was conducted to test the validity of the various constructs being used to measure the cross-cultural implications of LI on mobile learning technology acceptance. The initial test used convenience sampling for sample selection. It consisted of master's and Ph.D. level international students and researchers at ICO NIDA in Bangkok, Thailand. Furthermore, various working professionals in Germany, Thailand and the USA were also asked to participate. Prior to conducting the survey, a set of five responsive designed asynchronous modules were created. This was done in order to make sure respondents had a consistent understanding of what is m-learning. The modules were created to each be under five minutes in length. Two tools were needed to create and share the modules. First an authoring tool was needed to create interactive asynchronous modules and second a management system was needed to give respondents access to the system. Various authoring tools were reviewed including Adobe presenter, Lectora, eXe, and Captivate. Table 4 shows the results of review.

Table 4

Evaluation of Authoring Tools

Software	SCORM	HTML5	Multi-Device	Responsive	Ease of Use	Cost
Adobe Presenter	●	●	◐		●	$499
Lectora	●	●	●	●	◐	$1,390
eXe	●	○	●	◐	◐	Free
Captivate	●	●	●	●	●	$1,099

Note: Information obtained from tech specs and features provided on each of the company's website as well as personal utilization. The ratings are created so that ● represents that element being fully represented ○ represents that the element was not at all represented.

Adobe presenter is a very easy to use tool with a plugin for PowerPoint. It publishes content that is SCORM compliant which is essential for tracking. It is limited with regards to what can be created but it has a variety of pre-existing templates that make creating simple yet professional looking learning modules quick and easy.

Lectora contains all the most important features but during testing, it did not seem as intuitive as some of the other authoring tools available.

The third authoring tool, eXe, has the most favorable price tag but is the least intuitive and has the least bells and whistles of all the authoring tools. During testing, only very simple html pages were created. It was unclear if and to what extent the interactions that can be created in the other authoring tools could be recreated through eXe.

Ultimately Captivate was selected for the creation of the interactive responsively designed asynchronous modules. It has a fairly intuitive layout and at the same time, it allows for more freedom which Adobe Presenter does not. Furthermore, it was also possible to take advantage of the free 30-day trial to create the content for this portion of the study.

In addition to content authoring tools, it was also necessary to determine the appropriate distribution channel for the modules., various Learning Management Systems (LMS) and mobile delivery systems were investigated including CourseMill, TalentLMS, ClaroLive and Docebo. ClaroLive was more of an authoring tool and a learning content management system allowing for designer collaboration. The remaining three are evaluated in Table 5.

Table 5

Evaluation of Learning Management Systems

Software	SCORM	xAPI	Multi-Device	Ease of Use	Cost
Course Mill	●	◐	◕	◕	Paid
TalentLMS	●	●	◕	●	Free for 5 users / Paid for more
Docebo	●	●	◐	●	Free to try for two weeks, unlimited users

Note: Information obtained from tech specs and features provided on each of the company’s website as well as personal utilization. The ratings are created so that the completely blackened circle represents that element being fully represented while an empty circle represents that the element was not at all represented.

Most of the LMS had the same abilities but Docebo was both easy to use and free to try for the number of users initially involved in the pilot study. Although it did not have native applications available, it was determined that a web-based LMS was better as no user would need to install a new application to their phone. Accordingly, Docebo was selected to host the modules. Individual access information to Docebo was given to 67 individuals 4 days in advance of the survey. Although the LMS is accessible across multiple-devices, participants were instructed to only access the modules via smart phones or tablets.

This initial study resulted in both the Learner Initiative scale as well as the Technology Acceptance Model being proven appropriate for further testing. The initial chosen Trompenaars Hampden Turner culture items did not prove appropriate when assigned to a Likert scale. Accordingly, further testing of the culture scale was necessary to insure internal reliability prior to considering the moderating effect of each of the dimensions included in the culture scale.

3.2 Cross Cultural Scale Development

The initial test clearly demonstrated the need to begin the scale development process for cross-cultural scales that could be used to measure cultural values at the individual level. According to Worthington & Whittaker (2006) the first step in the scale development process is to identify and clearly define the intended constructs based on “existing theory and research to provide a sound conceptual foundation” (p. 813). The above literature review identified five constructs: Ambiguity Avoidance, Power Distance, Status Ascription, Locus of Control, and High vs. Low Context. The scale development process, as suggested by Worthington & Whittaker followed specific steps leading up to the ultimate Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Those steps were: “(a) Determine clearly what you want to measure, (b) generate an item pool, (c) determine the format of the measure, (d) have experts review the Appendix H initial item pool, (e) consider inclusion of validation items, (f) administer items to a development sample, (g) evaluate the items, and (h) optimize scale length” (p.813).

Following the steps mentioned above, (a) based on a literature review, the five cross-cultural values that were considered most important to this study were identified and clearly defined. Where possible, existing scales were identified for testing and added to the item pool (Appendix E) which was generated in step (b). During step (c), it was determined that all scale items should function using a Likert scale format. Although later in the process some scales were modified to bipolar scales. Step (d) was broken into two phases. Over those two phases, experts representing Brazil, Canada, Germany, Greece, Japan, Scotland, Singapore, South Africa, Switzerland, Thailand, the UK and the USA were consulted. Those experts were active in not only in the cross-cultural training industry but also in academia. Initially, to ensure that the list was comprehensive, the questions were listed in google forms and sent out to cross-cultural training industry experts globally for review, revision, and ranking. As seen in Appendix H a total of 12 industry experts reviewed, revised, and ranked the questions. The second phase of step (d) was to have interviews with industry experts to discuss the resulting list of questions, 7 cross cultural experts were identified, 3 in Asia, 3 in Europe, and 1 in the USA. As suggested in step (e), validation items in the form of reverse coded items were added.

The development process repeated steps (f) and (g) three times. First, as seen in Appendix J the items were administered first to a small group. Then they were evaluated, and modifications were made where necessary. This was repeated a second time (Appendix K). It was during these two rounds of iterations that all reverse coded items were ultimately eliminated as they were negatively impacting the scale reliability. In lieu of revers coding, one cross-cultural expert and experienced researcher suggested that respondents be made to choose between opposites. Accordingly, in those instances bipolar survey scale items were created by placing the opposing concepts on the extremes of the scale. Prior to the third iteration, the remaining scale items were translated into Thai and then administered to a larger sample of students seen in Appendix L. This led to step (g), also in Appendix L, where the items were evaluated using EFA. The analysis showed discrepancies between the Thai language version and the English language version. Accordingly, modifications were made in consultation with the back translation (Appendix M), and the scales were ready to be administered to a larger sample and proceed with EFA and CFA.

3.2.1 Samples and data collection

Having reached a point where the cross-cultural scale items were working at a level that would warrant a full-fledged study, the sample for this first full-fledged study will consist of primarily bachelor students in English language international programs at universities in Thailand. The respondents in the second full-fledged study will originate from the quantitative research at the corporate level and accordingly sample selection will be discussed in that section.

With regard to the student sample, this sample was selected using convenience sampling. McCarty & Shrum (1994) suggest that “from a theory-testing perspective, a student sample is not particularly problematic…as the homogeneity of the sample provides intrinsic controls on possible extraneous variables, in particular demographics. Thus, less concern is needed for 'other variable' explanations" (p. 60). Furthermore, participants were asked to share the survey with friends and classmates and thus to some extent there was also snowball sampling which also included respondents in the United States. The demographics of the sample are summarized in Table 6.

Table 6

Demographics of Cross Cultural Scale Development Study

Characteristic	Frequency	Percent
Gender		
Male	122	39.7
Female	185	60.3
Age		
16-20	86	28.0
21-25	207	67.4
26-30	14	4.6
Thai		
Not Thai	60	19.5
Thai	247	80.5

The online questionnaires were created using Google forms and distributed via links in email and message apps as well as printed QR codes. In total, 328 surveys were completed, however, after cleaning the data (incomplete questionnaires and unengaged respondents), 21 were removed leaving a total of 307 respondents. Of those respondents, 92 completed the English language questionnaire and 215 completed the Thai language questionnaire.

The respondents in the second study originate from the quantitative research at the corporate level and accordingly sample selection will be discussed in that section.

3.2.2 Measures

The development of new scales was conducted to create a more parsimonious model for inclusion in moderating and mediating effect analysis of other Likert scale items.

3.2.2.1 Power Distance

Definition: The extent to which the less powerful members of institutions and organizations within a society expect and accept that power is distributed unequally.

Although this study is attempting to measure the dimension as described by Hofstede, the scale as developed by Hofstede is an inappropriate tool to measure this dimension at the individual level. Thus, other scales designed with the intention of measuring the construct were considered. Originally 22 items from a variety of sources (Earley & Erez, 1997; Hofstede & Minkov, 2013b; House et al., 2004; Lind, Tyler, & Huo, 1997; Maznevski & DiStefano, 1995) were included in the item pool which was then reviewed and modified through expert interviews and feedback. After initial analysis, as seen in Appendix H, the items were reduced to 16 items which, based on follow-up research and an EFA, was reduced to nine items. The scale constructs were measured using a five-point Likert scale with 1 being strongly disagree and 5 being strongly agree.

3.2.2.2 Ambiguity Avoidance

Definition: The extent to which a culture feels threatened by uncertainty or ambiguity and thus tends to remedy this threat through rules, regulations, bureaucracy, etc.

Again, although this was a dimension from Hofstede, the scale as developed by Hofstede would be inappropriate for individual level analysis. Thus, other scales claiming to measure the construct were considered. Ultimately, based on a review of the scales addressed in (Taras, 2008) the measure of Uncertainty Avoidance utilized by (Ang et al., 2003), reporting a Cronbach's alpha: 0.77, was chosen to be included in the item pool. The five-item scale, grew to 8 after the initial review by industry experts seen in Appendix H. Then it was further reviewed and modified through expert interviews and feedback resulting the 10 items seen in Appendix I. The scale constructs were measured using a five-point Likert scale with 1 being strongly disagree and 5 being strongly agree.

3.2.2.3 Status Ascription

Definition: The awarding of status according to an individual's accomplishments and achievement (achieved status) vs. status awarded according to a certain set of virtues such as age / tenure, family, education, etc. (ascribed status).

Originally attempts were made to utilize the original Trompenaars Hampden Turner scale items. Unfortunately, results indicated that the incorporation of this scale into a greater model would be relatively complicated. Accordingly, eight scale items were identified based on the definition and attributes discussed in Trompenaars and Hampden-Turner (Trompenaars & Hampden-Turner, 1998). Those items were reviewed and modified in the expert review. As seen in Appendix H, this resulted in an 11-item scale. Following the expert interviews, that number was reduced to eight items. Based on expert feedback, it was also determined that one item should be a bipolar survey scale with the opposing concepts on the extremes of the scale. On the one side, to be later coded with 1, was achievement orientation and on the other side, to be later coded with 5, was the ascription orientation. All other items were measured using a five-point Likert scale with 1 being strongly disagree and 5 being strongly agree.

3.2.2.4 Locus of Control: Internal vs. External Orientation

Definition: The degree to which people feel in control over the outcomes in their lives. An external orientation would indicate the belief that external forces often have a greater impact on outcome then one’s own efforts. Internal control on the other hand would be the belief that one’s efforts will lead to the corresponding rewards.

The James scale as used in O'Cass (2003) which is based on a Likert scale and with a reported construct reliability greater than 0.84, was deemed a fitting option. The original seven questions were added to the item pool and based on feedback and modifications during the expert review, eight further items were added. Two of the items were direct modifications of the Trompenaars and Hampden-Turner (1998) model. Through the testing and modification process, the scale was reduced to 11 items found in Appendix L, with three of the items placed on bipolar scales. On the one side, to be later coded with 1, was achievement orientation and on the other side, to be later coded with 5, was the ascription orientation. All other items are measured using a five-point Likert scale with 1 being strongly disagree and 5 being strongly agree.

3.2.2.5 High Context Communication

Definition: How cultures use context as part of their communication and interaction. High context cultures tend to focus less on explicit communication, preferring to incorporate greater context (relationship, time, place, history...) and non-verbal cues into the messaging. Low context cultures on the other hand prefer to mean what they say and say what they mean.

Because there was no single scale that addressed the exact concept discussed above, various items from various scales were included in this measure. An item pool was generated with 12 items from a variety of sources (Lee et al., 2007; Schnabel, 2013; Warner-Søderholm, 2013). After feedback and modifications from expert review and interviews, that pool grew to 15. Follow-up testing and EFA resulted in eight items, all of which are measured using a five-point Likert scale with 1 being strongly disagree and 5 being strongly agree.

The questionnaire will be distributed on-line via Google Forms. All effort will be made to make sure respondents find it easy to access and simple to complete the survey. Furthermore, it needs to maintain respondent anonymity and fit the various computer skill levels of the respondents (Lefever, Dal, & Matthiasdottir, 2007).

3.2.3 Demographic factors

Demographic factors that might impact a participant’s responses were included as control variables. These factors are age, gender, education, nationality, and place of residence. Age was measured in years. The rest were coded as dummy variables: Gender (male 0, female 1) and nominal variables for Nationality and Residence.

3.2.4 Data Analysis

An Exploratory Factor Analysis (EFA) will be conducted on the full-fledged cross-cultural scale development study. The analysis will utilze IBM SPSS 20. EFA is considered a good tool for scale development (Gerbing & Anderson, 1988). It is a multivariate statistical technique used to reduce the number of variables and evaluate construct validity. Furthermore, Confirmatory Factor Analysis (CFA) will be conducted using IBM SPSS Amos 20.

Finally, the nonparametric Mann-Whitney U test will be utilized to understand the statistical significance of the latent variable with regards to the expected national level cultural outcome.

3.3 Qualitative Research

This qualitative research to define what is m-learning at the corporate level will fall under the phenomenological tradition in that it will seek to focus on understanding the essence of the "phenomenon" of m-learning at the corporate level.

3.3.1 Design

Utilizing an inductive approach, a qualitative study was conducted to investigate what is considered m-learning at the corporate level. For example, what types of devices are they targeting and what type of apps are they using. The research was conducted from a positivism and subjectivism standpoint. Theoretical sampling was used to target potential respondents based on their T&D industry experience and experience with m-learning. Given the researcher's location in Thailand, respondent one was selected due to his geographic location and position as a Senior People Manager – Training at a multinational retailer. He oversaw training and development initiatives for the employees based in Thailand. Respondent two was Managing Director in a multinational corporate training provider in Thailand. Both respondents mentioned using m-learning in as edutainment, but both expressed the desire to move toward a more robust and integrated system that would allow them to evaluate if the learners obtained the desired learning outcome. As both respondents were based in Thailand, it was determined that a respondent from a western country should be sought out. Accordingly, respondent three was Consultant, Learning Services at a large pharmaceutical company in Canada. This respondent was already using a more integrated system which allowed learners to access the learning content across multiple devices at times / places convenient to them. Respondent four was Mobile Learning Manager at a multinational language and culture training provider based in Hong Kong. Similar to the Thai service provider, he too discussed how the m-learning offering was more of a standalone edutainment nature. He too discussed the desire to move toward a more integrated system similar to what respondent 3 was already using. Respondent 5 was a Digital Learning Champion at a very large multinational technology company in the USA. Her company too was using a system similar to respondent 3 that allowed for users to access the learning content across multiple devices and also allowed the T&D department to evaluate if the learners had achieved the desired learning outcome. As all five respondents indicated either using such a system or looking to move to such a system, it was determined that a level of theoretical saturation (Thomson, 2011) had been achieved.

The mono-method design used cross-sectional, non-standardized, semi-structured interviews. As seen in Appendix N, the questions were designed to examine if and how m-learning is being used in business. Semi-structured interviews were utilized in order to focus on the real- world experiences of interviewees and allow room for them to share deeper descriptions of those experiences (DiCicco-Bloom & Crabtree, 2006).

3.3.2 Data analysis

The interviews were transcribed into word and manual categorization was used incorporating a priori codes. A priori coding was based on the concepts identified in the literature review. The main a priori codes groups consisted of device, app type, content management, andragogy, and measuring the learning outcome.

3.4 Quantitative Research: Pilot Study

Based on the results of the cross-cultural scale development study as well as the qualitative study, the elements were brought together with the TAM and LI scale for the ultimate quantitative study.

3.4.1 Sample Description

For the pilot study, the focus population was bachelor level business students at an international university in Thailand. Convenience sampling was used for sample selection. It has been suggested that the incorporation of bachelor level students in business research (Bello, Leung, Radebaugh, Tung, & Witteloostuijn, 2009), would need to be based on well-defined theory and studies focusing on the working population. Accordingly, all efforts were made to replicate a corporate m-learning training scenario (Batalla-Busquets & Pacheco-Bernal, 2013). With regards to sample size, it has been suggested that for a pilot study, a minimum sample size could be as low as 30 (Johanson & Brooks, 2010). It has also been suggested that for PLS SEM the required minimal sample size is 100 (Esteves, Pastor, & Casanovas, 2002).

3.4.2 Data Collection Method

A questionnaire was designed to measure the latent variables and prior to conducting the survey, a set of five responsive designed asynchronous modules were created. The modules were created in line with the ADDIE instructional design model. Accordingly, a needs assessment was conducted, and the modules were designed to meet the intended sample's in-class learning needs. Based on the analysis of authoring tools conducted earlier on, it was decided to continue to utilize Captivate. This it was at this time that the purchase decision had to be made as the trial version had expired. Also, as the two -week trial of Docebo had expired, it was decided to host the modules on the university's Moodle Learning Management System (LMS). The modules and system were responsive in nature and thus could be access across multiple devices. Accordingly, the mobile nature of the study will be explained to the participants and it will be suggested that they access the learning modules via smart phones or tablets. The survey will be administered via on-line Google Forms. As with the culture scale survey, all efforts will be made to make sure respondents find it easy to access and simple to complete the survey, while also maintaining respondent anonymity (Lefever et al., 2007). The link will be shared with the participants via QR code. One QR code was for the English language questionnaire and one QR code for the Thai language questionnaire. Respondents will be informed about the reason for the questionnaire and that participation in the research is voluntary and anonymous.

3.4.3 Research Variables

The following latent variables will be used to conduct the quantitative research. The variables have been classified as dependent, independent, and control variables based on the role each concept will play for the purposes of this study.

3.4.3.1 Independent Variables

The main contribution of this research is the inclusion of the independent variable of Learner Initiative (LI) when considering the moderating effect of culture. The expectation is that LI will directly correlate with the acceptance of m-learning technology at the corporate level.

To measure for LI, five questions were taken from the current Learner Autonomy Profile-Short Form (LAP-SF) which were extracted from the Long Form (LAP-3.0) (Confessore & Park, 2004). The LAP is a series of four instruments designed to measure a learners BI (Ng & Confessore, 2010). One of the four instruments measures LI and has a factor validation of .9711.

Table 7

Learner Initiative Scale Items

Latent Variable	Scale Items
Learner Initiative (LI)	1. If I establish a long-range goal, then I will also establish intermediate sub-goals that, if accomplished, will support my ultimate learning goal. 2. I will persist with my primary learning goal although I have additional learning goals to achieve. 3. I will persist in participating in my learning activity even if I do not think that I have time to participate. 4. If I do not think that I have the resources to participate in my desired learning activity, then I will find a way to gather the resources for my learning activity. 5. If I take a break from participating in a learning activity, then I will motivate myself to resume the activity as soon as possible.

Note: The scale items originate from Confessore & Park (2004)

The scale items found in Table 7 are based on five measurements: Action Orientation, Active Approach, Goal-Directedness, Overcoming Obstacles, and Self-Starting (Ponton, 1999). Each question measurement is based on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

3.4.3.2 Dependent Variables

The goal of this study is to understand how the LI influences the acceptance of mobile learning technology at the corporate level. Accordingly, this study will consider the elements of the technology acceptance model as the dependent variables. As seen in Table 8, m-learning Technology acceptance will be measured using a modified Technology Acceptance Model (TAM) (Srite & Karahanna, 2006) with the inclusion of SN from (Venkatesh & Davis, 2000). The specific elements that will be used include measurements for Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Subjective Norm (SN), and Behavioral Intent (BI). Finally Attitude toward usage (A) will be measured by a 3-item scale (Porter & Donthu, 2006). The TAM constructs have been used many times over the years and are still in use today (Akman & Mishra, 2015; Cheolho & Rolland, 2015; Teo, 2009). Similar to the LI scale, the TAM measurement is based on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 8

Technology Acceptance Model Scale Items

Latent Variable	Scale Items
Subjective Norm (SN)	1. People who influence my behavior think that I should use mobile learning. 2. People who are important to me think that I should use mobile learning. 3. The senior management of this business has been helpful in the use of mobile learning. 4. In general, the organization has supported the use of mobile learning.
Perceived Usefulness (PU)	1. Using mobile learning improves my performance in my job. 2. Using mobile learning in my job increases my productivity. 3. Using mobile learning enhances my effectiveness in my job. 4. I find mobile learning to be useful in my job.
Perceived Ease of Use (PEOU)	1. My interaction with mobile learning is clear and understandable. 2. Interacting with mobile learning does not require a lot of my mental effort. 3. I find mobile learning to be easy to use. 4. I find it easy to get mobile learning to do what I want it to do.
Behavioral Intent (BI)	1. Assuming I had access to the system, I intend to use it. 2. Given that I had access to mobile learning, I predict that I would use it.
Attitude toward usage (A)	1. I am positive about using mobile learning. 2. It makes sense to use mobile learning. 3. People should adopt mobile learning.

Note: The scale items for SN, PU, PEOU and BI were taken from Venkatesh and Bala (2008) while the scale items for A was taken from Porter and Donthu, 2006

3.4.3.3 Moderating Variables

As this research intends to consider how culture can influence LI and the acceptance of m-learning technology, this study will consider various cultural dimensions as the moderating variables. Many of the scales to measure the cultural dimensions are being developed as part of this research. As seen in Appendix E, where appropriate, the genesis of the scale item is listed next to the scale item itself. Like the both scales above, most of the cultural scales are designed to use a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). In certain circumstances this was deemed inappropriate and a semantic differential scale using opposite cultural preferences, concepts rather than adjectives, at either end was used. In the cases where the semantic differential scale was used, the position where "strongly agree" would usually have been placed was occupied by the concept that most represented the high end of the dimension being measured.

3.4.4 Mechanism for Data Processing and Analysis

For the quantitative aspect of the study, Statistical Package for the Social Science (SPSS) will be used initially for exploratory analysis followed by Smart Partial least squares path modeling (PLS). SPSS is one of the most widely used statistics packages for statistical analysis of data. Smart PLS, based on the partial least squares algorithm, is used to estimate and test. A benefit of using Smart PLS is that it allows for smaller sample size and can handle the often resulting lack of normally distributed data (Hair, Hult, Ringle, & Sarstedt, 2013).

Also, the nonparametric Mann-Whitney U test and Kruskall Wallis test will be utilized to understand the statistical significance of the latent variables with regards to the expected national level cultural outcome.

3.5 Quantitative Research: Corporate Study

Based on the results of the Pilot study studies as well as the qualitative study, research will be launched at the corporate level. Efforts will be made to identify companies who have mobile learning or respondents who accessed mobile learning via their company. In the case that a company does not already offer m-learning, a prototype will be designed based on the results of the qualitative study and following the ADDIE guidelines for instructional design. Furthermore, the constructs will be modified based on the Pilot Study. Where necessary, modification will be re-tested prior to launching the research at a corporate level. Once the construct and prototype are solid, various corporations will be approached for participation in the study. The criteria when searching for one or more companies for the research will be physical presence in at least one of the countries (the USA, the UK, and Thailand).

3.5.1 Research Sites/Population/Sample Frame/Sample Size

According to Fowler (1984), evaluating how fitting a sample is, has little to do with the actual results of the research but rather it should consider how the sample was selected in the first place.

3.5.1.1 Research Sites

This research is designed to take place both virtually via an online survey or physically at one or more companies with corporate locations in one or more of the specific geographic regions of Thailand, the UK, and the USA.

3.5.1.2 Population

The intended population of this study is focused on the specific geographic regions of Thailand, the UK, and the USA and includes all individuals employed who would be included in the focus of their company's HR Training and Development initiative.

According to the CIA World Factbook Country Comparison: Labor Force (CIA, 2017) the labor force in Thailand consists of 38.37 million, the labor force in the UK consists of 33.5 million and the labor force in the USA consists of 160.4 million . Using data provided by the USA Bureau of Labor statistics (U.S. Bureau of Labor Statistics, 2018), see Appendix E, it is possible to tally the occupations that could potentially have access to and take advantage of a training and development offering to assume that a maximum of 33% of the labor force could potentially be our population. That being said, according to the Thai labor force survey (Thailand, 2017), only 25% of the population would be in occupations that could potentially be exposed to m-learning.

Accordingly, a maximum total theoretical population of 72,375,229 working individuals can be calculated with approximately 13% in Thailand, 15% in the UK, and 72% in the USA.

3.5.1.3 Unit of Analysis

The unit of analysis for this study will be individual office, aka white-collar, workers in Thailand, the UK, and the USA who would most likely be the primary focus group of HR T&D mobile learning initiatives.

3.5.1.4 Sampling Frame

While the above mentioned maximum total theoretical population encompasses every potential individual working in the corporate world, not everyone is equally likely to be selected as part of the sample of this study. In order to narrow the focus of the study, the sampling frame will be individuals located in Thailand, UK, or USA who have either already been exposed to m-learning through their workplace or will be exposed to m-learning as part of this study.

3.5.1.5 Sample Size

In order to determine a statistically representative portion of the potential population an appropriate sample size must be calculated. According to Yamane's formula, a sample size can be calculated with an assumed 95% confidence level. “Where n is the sample size, N is the population size, and e (.05) is the level of precision” (Israel, 2009).

$$n = \frac{N}{1 + N(e)^2}$$

With N being the entire population of white collar workers in Thailand, the UK, and the USA combined, using 108,180,000 as the entire population size, we would arrive at

n = 72,375,229 / 1+(72,375,229 $(.05)^2$)

n = 400

The sample will attempt to emulate the distribution of the population approximately with 13% in Thailand, 15% in the UK, and 72% in the USA.

3.5.1.6 Sample Bias

As the sample frame will not be able to perfectly replicate the entire working population of Thailand, the UK, and the USA there is the possibility of sampling bias. Issues that could arise include the influence of corporate culture or skewed populations due to job requirements. For example, the company Google would tend to have more individuals with an affinity toward technology than one would find among the average population.

3.5.1.7 Sampling Techniques

As the goal of this study is to make statistical inferences regarding the acceptance of mobile learning at the corporate level a more complex probability, sampling design will be used to attempt to achieve a representative sample and, where possible, minimize further sampling bias. More specifically, a combination of sampling techniques will be used ranging from simple random sampling to snowball sampling. The preferred sampling technique will be simple random sampling within specific companies. A secondary sampling technique will be convenience sampling combined with snowball sampling. This sampling technique will be used if working directly with the company on a larger scale is not possible. This technique will require prior research regarding individuals who work at companies that have m-learning and thus have had prior exposure to m-learning. They will be identified via personal relationships, alumni networks, and LinkedIn. Each will be asked to share the link with other individuals within their company. This is necessary especially in Thailand, where "linkages between university and industry are based on personal connections between individual researchers and companies rather than organizational commitments" (Intarakumnerd, Chairatana, & Tangchitpiboon, 2002, p. 1451).

The third sampling technique uses hybrid-random and quota sampling in conjunction with an online survey panel provider. Baker et al. (2010) caution that care must be taken with regards to panel provider selection as the panels are not always created using probability-based sampling. They do however suggest that the use of panel providers can be useful. Accordingly, the panel provider selected, SSI actively-manages their global proprietary panels and recruit potential participants via partnerships, banners, invitations, and messaging. Then the panel provider utilizes rigorous quality controls before including the potential participants into their panels. Once incorporated, the panel provider then can provide access to potential respondents who meet the demographic needs of the researchers via a three-stage randomization process. Participants are incentivized through minimal monetary rewards as well as loyalty points which can be applied toward vouchers or other rewards.

3.5.2 Data Collection Method

Once the whole model has been tested and validated, the above-mentioned sampling techniques will be utilized to find the appropriate respondents. As previously mentioned, respondents will first need to be exposed to the m-learning either via their corporate training or via a prototype. They will be asked to complete the questionnaire based on that experience. The questionnaire will be available in paper format as well as on-line. Prior to administering the questionnaire, participants will be informed as to the reason for conducting the study as well as assurance of confidentiality and anonymity. It will be determined in conjunction with the MNC whether the questionnaire will be paper based on web-based. While web-based can facilitate many aspects of data collection and data entry, ultimately web-based surveys incur a reduced response rate (Nulty, 2008) and thus are not the preferred method of delivery. That being said, when web-based delivery is used, all effort will be made to make sure respondents find it easy to access and simple to complete the survey. Furthermore, it will maintain respondent anonymity and fit the various computer skill levels of the respondents (Lefever et al., 2007). Generally speaking, two platforms will be used (1) Google Forms and (2) SoSci survey. Both online platforms offer the ability to create anonymous surveys, provide a direct link to the survey which can easily be shared and allow the results to be downloaded into Excel format. SoSci, however, was actually designed for scientific surveys and thus allows more complex survey design including filters and routing (SoSci, 2017), which become necessary when working with an online survey panel provider.

3.5.3 Research Variables

As in the pilot study, latent variables have been classified as dependent, independent, and control variables based on the role each concept will play for the purposes of this study.

3.5.3.1 Independent Variables

As previously discussed in the pilot study, the independent variable is LI, and the same five questions taken from the current Learner Autonomy Profile-Short Form (LAP-SF) (Confessore & Park, 2004), will be used. LI is based on five measurements: Action Orientation, Active Approach, Goal-Directedness, Overcoming Obstacles, and Self-Starting (M. K. Ponton, 1999). Each question measurement is based on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

3.5.3.2 Dependent Variables

The corporate study continues to consider the impact of LI on TAM and thus the dependent variables remain the same as in the pilot study with m-learning Technology acceptance being measured using a modified Technology Acceptance Model (TAM) (Srite & Karahanna, 2006) with the inclusion of SN (Venkatesh & Davis, 2000) and A (Porter & Donthu, 2006). Similar to the Learner Initiative scale, the technology acceptance model measurement is based on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

3.5.3.3 Moderating Variables

The corporate study will continue to consider how culture can influence LI and the acceptance of m-learning technology. Accordingly, the moderating variables will continue to be AA, PD, SA, LC and HCC. The variables will remain the same except for AA, which was modified from the previous scale items to incorporate items from Srite and Karahanna (Srite & Karahanna, 2006). This resulted in better internal reliability. Like both of the scales above, most of the cultural scales are designed to use a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). As previously mentioned, in certain circumstances, bipolar scales were used with the opposing concepts on the extremes of the five-point scale.

3.5.3.4 Control Variables

Following the lead of many cross-cultural studies, this research will include demographic factors that could impact not only LI but also the acceptance of technology (Holtbrügge & Mohr, 2010; Srite & Karahanna, 2006). However, caution has been taken with regards to the argument put forth by Spector and Brannick (2011) against the inclusion of control variables based on the wide spread acceptance of the ‘‘purification principle.” They suggest that the reason for use of control variables, variables not linked to the hypotheses or theories, must be well supported for those variables to be considered as relevant for inclusion in the research. They suggest that control variables should only be included if they are considered just as relevant to the research as the direct and indirect variables. Accordingly, the following control variables have been shown in the past to have influenced technology acceptance and thus should be included for consideration:

Gender

Many extensions to the TAM include gender as an integral variable in their model. Furthermore Venkatesh and Morris (2000) demonstrated that gender plays a significant role with regards to technology acceptance and usage. Their study indicates that men are more likely to consider perceived usefulness while women are more likely to consider perceived ease of use in their decision-making process to use a new technology. In fact, they showed that “perceived ease of use was not a salient factor to men at any point in time” (p. 128). While the focus of this study is to understand culture's impact on the variables surrounding the behavioral intention to use mobile learning, the possibility that gender may have an influence on the outcome must be taken into consideration. Accordingly, gender will be included as a dummy variable (0=Male, 1=Female).

Age

It is common place in corporate America to try to understand the implications of the different generations in the work place. Thus, it comes as no surprise that age has also been considered a factor contributing to the acceptance of technology. Morris and Venkatesh (2000) conducted a study to understand the impact of age on the acceptance of technology and found that subjective norm and the perceived control were more important to older employees while attitude toward using was most salient with younger workers. Again, these results indicate that although this is not the primary focus of this research, this study would be remiss not taking age into consideration. This will be treated as an ordinal variable with categories being groups of 5 years starting with 20 and younger, 21–25, 26–30, through 61 – 65, 66 and older.

Educational level

Generally speaking, it is easy to assume that technology usage increases with education. However, concepts like “Bring your own device” in high schools would indicate that even lesser educated individuals use technology to a great extent. Porter and Donthu (2006) showed that education does have a significant correlation with both attitude toward usage and actual usage of technology. Furthermore, Burton-Jones and Hubona (2005) showed that education level is positively correlated with PU of technology in the work place. The ordinal grouping will use the UNESCO International Standard Classification of Education (2012) levels of: primary education, lower secondary education, upper secondary education, post-secondary non-tertiary education, short-cycle tertiary education, bachelor’s or equivalent level, master’s or equivalent level, and doctoral or equivalent level. As this coding could, to some extent, prove confusing for respondents, specific country relevant examples will be included. For example, “lower secondary education” would be augmented for the USA questionnaires with “high school: vocational / not college prep” or “short-cycle tertiary education” would be augmented with “associates degree program.”

Organizational Seniority

Hall and Fenton (1997) indicate that seniority has a significant influence on A while Burton-Jones and Hubona (2005) also showed that seniority is positively correlated with PU of technology in the work place. The ordinal groupings will be based on the company's internal differentiation of level.

Learning style

Holtbrügge and Mohr (2010) discuss the influence of differences in learning style across cultures.

Table 9

Honey and Mumford Learning Preference Scale Items

Learning Preference	Scale Items
Activists	Activists like to be involved in new experiences, problems and opportunities, working with others in business games, team tasks, role-playing, and making presentations, chairing meetings, leading discussions.
Theorists	Theorists adapt and integrate observations into complex and logically sound theories. They learn best from structured situations with clear purpose, lectures by professors/gurus, and models and frameworks.
Pragmatists	Pragmatists are keen to try things out. They learn best when there is an obvious link between the topic and real life, there is a chance to try out techniques with feedback e.g. role-playing, and if shown techniques with obvious advantages.
Reflectors	Reflectors like to stand back and look at a situation from different perspectives. They learn best when observing individuals or groups, when they have the opportunity to review what has happened and think about what they have learned.

Note: The scale items originate from Honey and Mumford (1992)

Accordingly, as seen in Table 9, this study will use four questions extracted from the Honey and Mumford manual of learning styles (Penger & Tekavcic, 2009). Respondents will be asked to pick the one style that best reflects their preference. Each learning style will then be coded as a dummy variable (0=no, 1=yes).

Organizational Culture

Given the previously mentioned extent to which organizational culture can impact technology acceptance as well as T&D initiatives, as seen in Table 10, items will be incorporated into questions that measure organizational culture as discussed in Henri (2006). Respondents will be given examples of four different organizations and asked to distribute 10 points among the four descriptions depending on how similar the description is to their organizational culture.

Table 10

Organizational Culture Scales

Learning Preference	Scale Items
Institutional characteristics	1. Organization A is a very personal place. It is like an extended family. People see to share a lot of themselves. 2. Organization B is very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks. 3. Organization C is very formalized and structured place. Bureaucratic procedures generally govern what people do. 4. Organization D a is very production oriented. A major concern is with getting the job done. People are not very personally involved.
Institutional leader	1. The head of Organization A is generally considered to be a mentor, a sage, or a father or mother figure. 2. The head of Organization B is generally considered to be an entrepreneur, an innovator, or a risk taker. 3. The head of Organization C is generally considered to be a coordinator, an organizer, or an administrator. 4. The head of Organization D is generally considered to be a producer, a technician, or a hard-driver.
Institutional cohesion	1. The glue that holds Organization A together is loyalty and tradition. Commitment to this organization runs high 2. The glue that holds Organization B together is commitment to innovation and development. There is an emphasis on being first. 3. The glue that holds Organization C together is formal rules and policies. Maintaining a smooth-running organization is important here. 4. The glue that holds Organization D together is the emphasis on tasks and goal accomplishment. A production orientation is commonly shared.
Institutional cohesion	1. Organization A emphasizes human resources. High cohesion and morale in the organization are important. 2. Organization B emphasizes growth and acquiring new resources. Readiness to meet new challenges is important.

3. Organization C emphasizes permanence and stability. Efficient, smooth operations are important.
4. Organization D emphasizes competitive actions and achievement. Measurable goals are important.

Note: The scale items originate from Henri (20o6)

Exposure

Given the prerequisite that respondents had prior exposure to m-learning, a question was added to control for exposure. Accordingly, exposure will be included as a dummy variable (0=No, 1=Yes). That being said, this question will be modified when the sample comes from the online survey panel in accordance with recommendations from the survey panel provider. It was suggested that in order to better control for those who have exposure to m-learning as specified in this study, vaiouus options should be listed and only those respondents that select the option specific to the parameters of the study proceed. Accordingly, respondents will be asked to identify the types of training and development they have been involved in over the past 18 months at work.

A. Access to reading materials
B. Instructor-led training
C. E-learning (also known as web-based training) which I can only access on my desk top / laptop computer at work.
D. E-learning (also known as web-based training) which I can access using different devices (desktop, laptop, tablet, smartphone, etc.).
E. External online training like LinkedIn learning, Coursera, or EdX
F. None of the above

Only those that select option D will continue. All others will be redirected to the exit page and thanked for their assistance.

3.5.4 Mechanism for Data Processing and Analysis

Similar to the Pilot study discussed in 3.4, Statistical Package for the Social Science (SPSS) will be used in conjunction with SMART PLS.

3.6 Ethical Conduct

This research will adhere to APA (2010) guidelines of ethical conduct. All general principles (Beneficence and Non-maleficence, Fidelity and Responsibility, Integrity, Justice, and Respect for People's Rights and Dignity) will be adhered to. Any ethical issues that arise will be resolved in accordance of standards outlined in the APA guidelines of ethical conduct. Furthermore, this research will take all necessary steps to adhere to prescribed human relations guidelines and avoid discrimination and harassment.

As MNCs will be engaged to obtain respondents, accurate information about the research proposal, including its goal and results obtained from the pilot study, will be shared. Furthermore, the ethical conduct guidelines which this research will adhere to will be discussed and the research will proceed only after agreement is research.

At the onset of the interaction, the researcher will obtain the informed consent of each participant. Informed consent will consist of:

“1. the purpose of the research, expected duration and procedures
2. their right to decline to participate and to withdraw from the research once participation has begun
3. the foreseeable consequences of declining or withdrawing
4. reasonably foreseeable factors that may be expected to influence their willingness to participate such as potential risks, discomfort or adverse effects
5. any prospective research benefits
6. limits of confidentiality
7. incentives for participation
8. whom to contact for questions about the research and research participants' rights” (APA, 2010, p. 11).

After participants are informed of the above, they will be given the opportunity to discuss any questions they may have and terminate involvement prior to commencing.

All efforts will be made to maintain privacy and confidentiality. At the onset of interaction with any research subjects, informed consent will be obtained, or the interaction will be terminated. The ultimate reason for the research will be discussed and participants will be informed that every effort will be made to ensure confidentiality and anonymity. Prior to recording interviewees, informed consent will be obtained, and all interviewees are notified that they may request the recording be terminated at any time. All efforts will be made to separate any personally identifiable information from research results to minimize intrusion on privacy. This research will at no time disclose confidential, personally identifiable information to individuals not directly involved with the research, unless information has been stripped of all identifiers tied to the individual, written consent is obtained, or the researcher is subpoenaed to do so by law.

This research will make "reasonable efforts to avoid offering excessive or inappropriate financial or other inducements [including the offer of professional services] for research participation when such inducements are likely to coerce participation" (APA, 2010, p. 11).

Although the researcher does not intent to share expected outcomes of the research with participants, the researcher will also not engage in deception of the goal of the research. All information that could not be deemed as potentially biasing the participants' responses will be shared with the participants at the onset of the interaction. At no time in this research will participants be subjected to harm, including pain or privation and all efforts will be made to ensure a stress-free environment. Furthermore, reasonable effort will be made to ensure participants are not subject to any adverse consequences. Results of the research will be promptly shared with the participating organization and any resulting feedback the organization may have will be taken into consideration.

The data obtained through this research will at no time be fabricated and all reasonable steps will be taken should errors in published data be discovered. Through the utilization of tools to check for plagiarism, this research will take every precaution to avoid the inadvertent use of plagiarized material. Publication of this research will not be duplicated, and publication credit will be sought only in instances where the researcher substantially contributed. All data obtained from this research, after being stripped of participant identifiers, will be made available for verification.

This research will adhere to guidelines for advertising and other public statements and thus will take all necessary precautions to avoid false or misleading claims and statements. Furthermore, this research will adhere to research and publication guidelines.

CHAPTER 4

RESULTS

4.1 Scale Development

The cross-cultural scale development process consisted of two studies, the first was the culmination of a series of scale development efforts that were tested with business students at a University in Thailand. The second was the corporate level study conducted on an international level.

4.1.1 Initial Full-Fledged Cross-Cultural Scale Development Study

During the survey period, 307 usable surveys were collected. No further attempts to collect data were made as generally speaking 300 respondents is considered a sufficient sample size for EFA (Cabrera-Nguyen, 2010). All scales were found to be reliable with the respective Cronbach's alpha ranging between 0.7 and 0.9 (Tavakol & Dennick, 2011).

Since EFA is used "to search for the smaller set of k latent factors to represent the larger set of j variables and CFA is used to test theory" (Henson, Capraro, & Capraro, 2001, p. 6) both an EFA and CFA were conducted a s suggested by Cabrera-Nguyen (2010).

4.1.1.1 Distribution of Data

The results for both the Kolmogorov-Smirnov and Shapiro-Wilk tests can be found in Appendix O. As observed, the corresponding significance was .000, indicating that the null hypothesis could not be rejected which means in all cases there is non-normal distribution.

Accordingly, the skewness and kurtosis were considered. After dividing the skewness or kurtosis score by its standard error, scores "greater than 1.96 or lesser than

-1.96 is significant at $P < 0.05$, while greater than 2.58 or lesser than -2.58 is significant at $P < 0.01$, and greater than 3.29 or lesser than -3.29 is significant at $P < 0.001$. However, in large samples (200 or more) with small standard errors, this criterion should be changed to ± 2.58 and in very large samples no criterion should be applied (that is, significance tests of skewness and kurtosis should not be used)" (Ghasemi & Zahediasl, 2012, p. 489). Even considering the criterion for larger sample size, the range for kurtosis is -4.38 to 4.33 while the range for skewness is -7.87 to 10.11.

Moving forward, the non-normal distribution of the data will impact which tests can be conducted. Although this impacts the utilization of standard t-tests and ANOVAs, it is still possible to conduct Exploratory Factor Analysis (EFA) with non-normal data.

4.1.1.2 Exploratory Factor Analysis (EFA)

EFA was conducted and as suggested by Cabrera-Nguyen (2010), the use of Principal Components Analysis (PCA) was avoided. Both Principal-Axis Factoring (PAF) and Maximum-Likelihood Extractions (MLE) are considered good extractions for factor analysis (Worthington & Whittaker, 2006, p. 820). Furthermore it is suggested that PAF may be better than MLE at dealing with non-normal data (Osborne, 2014). Accordingly, EFA was conducted using both. Ultimately only the results of the MLE resulted in a good confirmatory model. With regards to the choice in rotation method, Henson et al. (2001) suggest the use of orthogonal rotation facilitates interpretability. Varimax was chosen as it tends to be the most popular orthogonal rotation method. The Kaiser-Meyer-Olkin (KMO) test was conducted to measures how suited the data is for Factor Analysis. The KMO result of 0.886 is well above the suggested minimum of 0.6, indicating that sample size is indeed sufficient for EFA (Worthington & Whittaker, 2006). The Bartlett's Test of Sphericity was significant at .000. Although a priori theory could have been used to set the factor number at five, factor retention was based on eigenvalue greater than one. Items were then reviewed and considered for deletion. Ultimately, items with communalities less than 0.4 were deleted (Worthington & Whittaker, 2006). The EFA was re-run after the deletion of each item. The average variance explained was 46.63%. Table 11 shows the results of the EFA with all factors having between four and five items.

Table 11

Cross-Cultural Scale Development Exploratory Factor Analysis

Scale Item	Factor				
	1	2	3	4	5
AA6	0.772				
AA7	0.748				
AA8	0.739				
AA4	0.669				
AA2	0.630				
HCC2		0.650			
HCC3		0.602			
HCC4		0.574			
HCC1		0.554			
HCC8		0.472			
LC9			0.790		
LC8			0.673		
LC10			0.599		
LC11			0.579		
SA5				0.767	
SA7				0.566	
SA8				0.500	
SA3				0.468	
SA6				0.439	
PD7					0.652
PD9					0.524
PD4					0.483
PD6					0.408
PD3					0.408

Note: Scale Items identifiers correspond to the scale items in Appendix E

4.1.1.3 Confirmatory Factor Analysis

Based on the results of the EFA, the CFA was conducted using IBM SPSS Amos structural equation modelling. Again, here the sample size of 307 can be considered adequate (Worthington & Whittaker, 2006). When looking at goodness of fit measurements, the Root Mean Square Error of Approximation (RMSEA) represents "the degree of misfit in the proposed model" (Chen, Curran, Bollen, Kirby, & Paxton, 2008, p. 463). The closer the results are to zero, the better the model fit. Accordingly an RMSEA of 0.040 could be considered a good model fit (T. A. Brown, 2006). The corresponding p close of .978, which is the value indicating the likelihood that the population RMSEA is no greater than 0.05, indicates that the model is a close fit. The GFI of 0.910 could be considered acceptable while the Confirmatory Fit Index (CFI) of 0.953 could be considered a good fit (Hu & Bentler, 1999). As seen in Figure 31, the factor loadings are all good and as the factor correlations ≤ 0.30, poor discriminant validity cannot be a concern. Accordingly, it can be said that this model supports the validity of a scale.

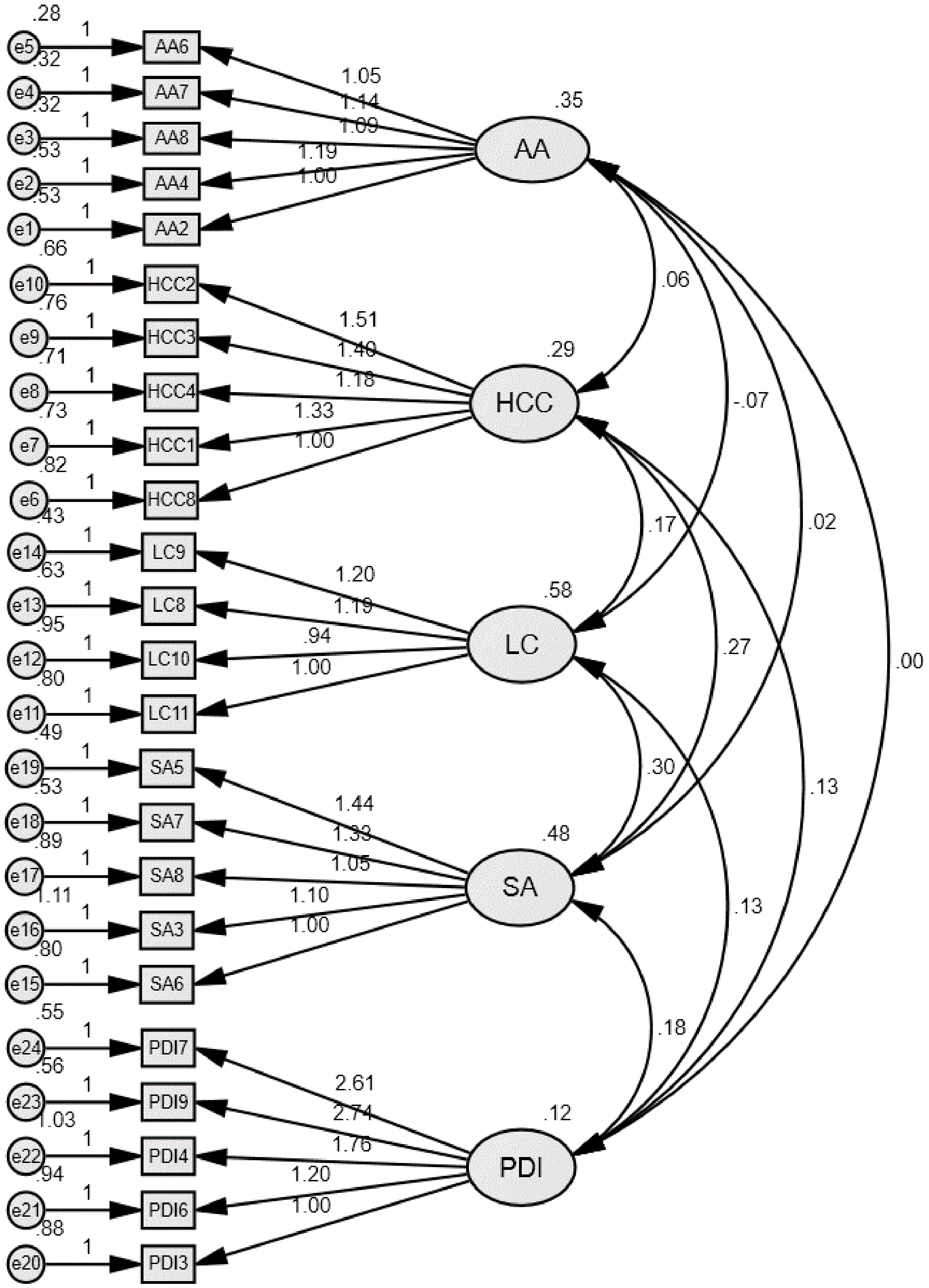

Figure 31: Cross-Cultural Scale Confirmatory Factor Analysis

4.1.1.4 Statistical Significance Tests

Prior to moving forward with the tests, the mean for each latent variable was considered. The mean across all respondents can be seen in Table 12. Over all, the respondents tended to be slightly higher AA, are fairly mid-way with the slightest inclination toward higher HCC, have a more internal LC, tend toward achievement status (Low SA), and are fairly mid-way with the slightest inclination for low PD.

Table 12

Means of Cross-Cultural Dimensions from Scale Development Study

	Mean	Std. Deviation
AA	3.9342	0.70514
HCC	3.1381	0.79505
LC	2.4780	0.92583
SA	2.4671	0.90593
PD	2.9186	0.77915

Due to the non-normal distribution of the data, the t-test is not a viable option to compare the results between cultures. De Winter and Dodou (2010) found the Mann-Whitney U to be a superior test in such cases. It is a is a rank-based nonparametric test. While the Mann-Whitney U test is suitable in cases of non-normal distribution, it does have four basic assumptions. The first being that the dependent variable is based on an ordinal scale. In this case the cross-cultural variables were measured using a likert scale and thus would satisfy this first assumption. The second assumption is that independent variable consists of two independent groups. By segmenting the groups in Thai / Non-Thai and Asian / Non-Asian, this assumption is satisfied. Assumption three is that there is independence of observations. As the observations come from individual respondents and thus no information provided by one of the respondents would inform us about the information provided by another respondent, this assumption is satisfied. Finally, assumption for dictates how the data can be interpreted. This fourth assumption is one of homogeneity of variance. If this fourth assumption is satisfied, the Mann-Whitney U can be used to analyze differences in medians. If this assumption is not satisfied, then it is not possible to make inferences regarding differences in the medians and thus only the mean ranks can be used to determine if one group tends to be higher or lower than the other group (Laerd Statistics, 2015).

A Levene test for homogeneity of variance was conducted on the groups, Thai vs. non-Thai. Only SA violated the assumption of homogeneity of variance and thus the Mann-Whitney U can only be used to consider potential differences in the mean rank. The mean rank is calculated by first ranking each respondent score for the respective cross-cultural variable according to its size. Then the lowest variable score is assigned the lowest value of one. The ranking then then increases by one up to n, with n being the total number of values among the respondents scores. The scores are then averaged according to the respective group (for example Thai / Other).

For the remaining variables (AA, HCC, LC, and PDI), the Mann-Whitney U should be used to not only determine if there is a difference in medians but should also consider the corresponding spread (Hart, 2001).

Table 13 summarizes the information in Appendix P, the grouping size was 60 for Other and 247 for Thai. According to the median as well as the quartile values, the Other group had a lower AA, were lower HCC, were more prone to internal LC (i.e., lower external LC) than the Thai Group. In all three cases, the interquartile spread was smaller for the Other group than it was for the Thai group. With regards to PD, although the median was lower for the Other group, the first and third quartiles were the same as the Thai group. Only in the case of AA could the null hypothesis be rejected and thus conclude that there is a statistically significant difference between the two groups. For the remaining variable of SA, distributions of the score were not similar according to the Levene test. Although the Other group appeared to be more achievement oriented (lower mean rank) this was not statistically significant.

Table 13

Mann-Whitney U test – Thai / Non-Thai

	Levene	Mann-Whitney U	Wilcoxon W	Z	Sig.	Group	Mean Rank	Median	Q1	Q3
AA*	0.716	5486.50	7316.50	-3.13	0.00	Other	121.94	3.70	3.20	4.20
						Thai	161.79	4.00	3.40	4.60
HCC	0.758	6388.00	8218.00	-1.66	0.10	Other	136.97	3.00	2.40	3.55
						Thai	158.14	3.20	2.60	3.80
LC	0.451	6758.00	8588.00	-1.06	0.29	Other	143.13	2.50	2.00	3.00
						Thai	156.64	2.75	2.00	3.25
PD	0.237	7090.50	37718.50	-0.52	0.60	Other	159.33	3.00	2.40	3.40
						Thai	152.71	2.80	2.40	3.40
SA	0.007	6610.50	8440.50	-1.30	0.19	Other	140.68	2.30	1.80	2.80
						Thai	157.24	2.40	1.80	3.20

Note: Levene = Heterogeneity of Variance with < 0.05 indicating heterogeneity of variance. The sample for each group is Thai (n=247) and Other (n=60) * indicates significance

A second Mann-Whitney U test was conducted on the groups Asian vs. non-Asian. As seen in Table 14, the grouping size was 25 for Non-Asian and 282 for Asian. Distribution of scores for the cross-cultural values were similar as assessed by the Levene test of homogeneity of variance.

Table 14

Mann-Whitney U Test – Asian / Non-Asian

	Levene	Mann-Whitney U	Wilcoxon W	Z	Sig.	Group	Mean Rank	Median	Q1	Q3
AA*	0.713	2494.5	2819.5	-2.432	0.02	Other	112.78	3.60	3.00	4.20
						Asian	157.65	4.00	3.40	4.40
HCC*	0.537	2052	2377	-3.474	0.00	Other	95.08	2.40	1.90	3.20
						Asian	159.22	3.20	2.60	3.80
LC	0.517	2820	3145	-1.665	0.10	Other	125.80	2.25	1.88	2.88
						Asian	156.50	2.75	2.00	3.00
PD	0.445	2890	3215	-1.498	0.13	Other	128.60	2.60	2.20	3.30
						Asian	156.25	3.00	2.40	3.40
SA*	0.079	2243.5	2568.5	-3.021	0.00	Other	102.74	1.80	1.40	2.60
						Asian	158.54	2.40	1.80	3.20

Note: Levene = Significance of Levene test of Heterogeneity of Variance. The sample for each group is Asian (n=282) and Other (n=25) * indicates significance

According to the median as well as the quartile values, the Other group were less AA, and lower HCC, and more status achievement (lower SA) than the Asian group and in all three cases, this was at a level that was statistically significant. The Other group had a larger interquartile spread for both AA and HCC and a smaller spread for SA than did the Asian group.

With regards to LC and PD, according to the median as well as the quartile values, the Other group were more internal oriented (low LC) and had lower PD than the Asian group. However, in both cases this was at a level that could not be considered statistically significant. The spread was similar between the groups for LC but larger for the Other group for PD.

4.1.1.5 Discussion

Ultimately this scale was designed based on a rigorous scale development process which included a literature review, compilation of items, expert feedback and interviews, and a series of pre-tests. The focus of this process was to develop the five dimensions, so the measurements match the definition. As identified in the EFA and confirmed in the CFA, the resulting scale has five distinctive factors with four to five items each.

Ambiguity avoidance was designed to measure an aversion to uncertainty. According to the literature review, Thailand would tend toward greater ambiguity avoidance. The results indicate the Thai respondents were more ambiguity avoidant then many of their non-Thai counterparts. This would fit with past research indicating that Thailand would tend toward ambiguity avoidance (Hofstede, 2018).

Power distance was designed to measure the extent to which it is expected that greater power discrepancies need to be minimized or justified. Although Asians in general were more power distant than non-Asians, there was no statistical difference between the groups. With a mean of 2.9, all respondents could be said to be less power distant. This is inconsistent with the findings of (Hofstede, 2018) that would indicate Thai's and Asians are in fact high power distant. For example, Thailand has been noted to be a relatively higher power distant society, yet the respondents indicated a preference for lower power distance compared to non-Thais. However the findings are consistent with McCann, Honeycutt, and Keaton (2010) who found that Thais scored low on the vertical spectrum. Furthermore, the globe study points out that this could be the difference between the "as is" and "should be" aspects of culture (Gupta, Surie, Javidan, & Chhokar, 2002).

Status Ascription was designed to measure how status is accorded, with achievement as justification on one end and virtues such as age, class, gender, education, etc. on the other. To some extent this fits with the findings of Trompenaars and Hampden-Turner (2012) in that Asians tend more toward status ascription than non-Asians. Although the mean for Asian respondents was 2.49, indicating a preference for achievement status, it could still be considered leaning more toward ascription when compared to the mean of 1.99 for non-Asians.

Internal vs. External Orientation was designed to measure the extent to which people believe they control nature and the world around them vs. the extent to which they cannot control nature and the world around them and thus strive for harmony. The mean for all respondents was 2.47, indicating respondents tended to have a more internal orientation. That being said, although not significant, the difference in means indicates that Thais may truly be more external oriented then non-Thais. Furthermore, although not significant, Asians tended toward more external orientation than non-Asians. That being said, further tests would be necessary to confirm if these differences are in fact significant across a more diverse Thai / Asian population and how they would compare to individuals from predominantly protestant populations.

Looking at the results for High vs. Low context communication, on one hand the findings are consistent with expectations, with the Asian respondents indicating a preference for greater context in communication, as suggested by Hall (1976). On the other hand, the lack of past statistical studies doesn't allow for a comparison between the results and the expectations.

Based on the results of the study, it can be said that the five scales are a good measure of the dimensions as defined and are largely consistent with the theoretical expectations of this study. However, the results should be interpreted with caution. As discussed in (McCarty & Shrum, 1994) convenience sampling of college students is a major limitation. One reason for this is that college students' values orientations may differ greatly from the general population.

4.1.2 Second Cross-Cultural Scale Development Study

In the second corporate level study, 411 usable surveys were collected. This would be considered a sufficient sample size for EFA (Cabrera-Nguyen, 2010). All scales were found to be reliable with the respective Cronbach's alpha ranging between 0.723 and 0.888 (Tavakol & Dennick, 2011).

4.1.2.1 Distribution of Data

Looking at the distribution in Appendix Q, as previously mentioned, it was found that the data did not fit a normal distribution. This makes the utilization of t-tests and ANOVAs difficult. Accordingly, the Mann-Whitney U (two groups) or the Kruskal-Wallis H Test would need to be used. Both tests have an assumption of normal distribution between groups.

Again, here the factor analysis was conducted in IBM SPSS and the CFA was modelled in IBM SPSS Amos.

4.1.2.2 Factor Analysis

Following the process discussed in the scale development process, both PAF and MLE were utilized when conducting the EFA. Although the MLE performed better in the scale development EFA, especially given the non-normal distribution of the data, it was considered a good idea to do both as PAF has been thought better able to handle non-normal distribution of data (Osborne, 2014). Here too, only the results of the MLE resulted in a good confirmatory model. Again, Varimax was the chosen orthogonal rotation method. The KMO of 0.933 indicates sufficient sample size and the Bartlett's Test of Sphericity also show significant results. The factor number was set to five and the average variance explained was 52.25%. Table 15 shows the results of the EFA with all factors having between four and five items.

Table 15

Exploratory Factor Analysis

Scale Item	Factor				
	1	2	3	4	5
AA4	0.733				
AA6	0.726				
AA8	0.711				
AA2	0.661				
AA5	0.630				
HCC4		0.695			
HCC5		0.619			
HCC2		0.613			
HCC3		0.579			
HCC1		0.492			
SA3			0.713		
SA5			0.695		
SA4			0.608		
SA2			0.570		
SA6			0.499		
LC7				0.703	
LC8				0.648	
LC5				0.592	
LC6				0.555	
PDI6					0.783
PDI7					0.548
PDI3					0.389
PDI5					0.345

Note: Corresponds to the Corporate Study Item Identifier in Appendix E

4.1.2.3 Confirmatory Factor Analysis

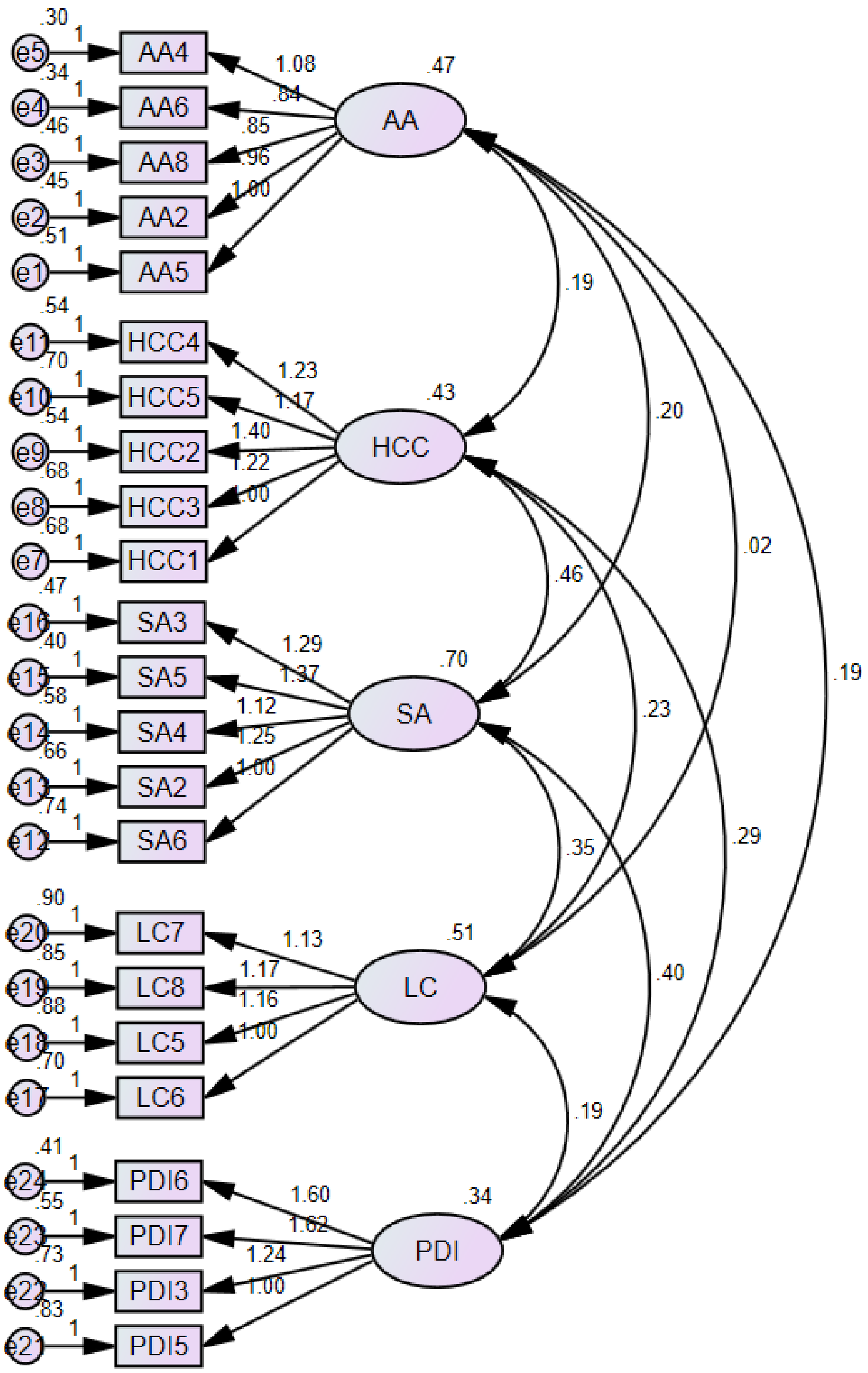

Figure 32: Second Cross-Cultural Confirmatory Factor Analysis

Based on the results of the EFA, the CFA was conducted using IBM SPSS Amos. The sample size is considered adequate (Worthington & Whittaker, 2006) and the RMSEA of 0.050 is right at the cut-off between a good fit and fair fit (T. A. Brown, 2006). The corresponding p close of 0.455 ($p > .05$) indicates that the model is a close fit. The GFI of 0.914 could be considered acceptable while the CFI of 0.949 could be considered a good fit (L. t. Hu & Bentler, 1999). As seen in Figure 32, the factor loadings are all good and as the factor correlations ≤ 0.46, poor discriminant validity cannot be a concern. Accordingly, it can be said that this model supports the validity of a scale.

4.1.2.4 Statistical Significance tests

Prior to moving forward with the tests, the mean for each latent variable was considered. The mean across all respondents can be seen below in Table 16.

Table 16

Means from Second Cross-Cultural Scale Analysis

Cross-Cultural Variable	Mean	Std. Deviation
AA	3.7109	0.70035
HCC	3.0103	0.84665
LC	2.2853	0.87876
PD	2.9227	0.88015
SA	2.4321	1.03299

Over all, the respondents were prone to higher AA, mid-range HCC, have a more internal LC, are mid-range PD, although slightly prone to low PD, and tend toward achievement status (low SA).

Due to the non-normal distribution of the data, the t-test is not a viable option. Accordingly, the rank-based nonparametric Mann-Whitney U test was conducted. Similar to the initial cross-cultural scale development study, the corresponding expectations for the first three assumptions were satisfied. The final assumption of homogeneity of variance is addressed in Table 17 which summarizes the results for the Levene test for homogeneity of variance found in Appendix R. It was conducted on the groups Thai / Other, USA / Other and UK / Other.

Table 17

Test for Homogeneity of Variance

	Thai / Other	USA / Other	UK / Other
AA	No	No	Yes
HCC	Yes	Yes	Yes
LC	Yes	No	Yes
PD	Yes	Yes	Yes
SA	No	No	Yes

For the Thai/Other group, both SA and AA would violate the assumption of homogeneity of variance in that no discernible groups emerge. In other words, it indicates that from the distribution perspective, it is more like comparing apples to oranges rather than apples to apples. Accordingly, in both cases, it is only possible to consider the mean rank as an indicator of a general difference. For the USA/Other group, with the exception of PD and HCC, all other cultural elements would violate the assumption of homogeneity of variance. Finally, all variables in the UK / Other group support the assumption of homogeneity of variance.

As seen in Appendix S, the test was conducted for each of the data groups Thai / Other, USA / Other, and UK / Other. Table 18 summarizes the results of the Mann-Whitney U test. In the Thai / Other group, the group sizes were 333 for Other and 78 for Thai.

According to the median as well as the quartile values, the Other group was similar with regards HCC in that both the first quartile (2.5) and the median (3.0) were the same. Only the third quartile was higher for the Other group (3.75) than the Thai group (3.5). Thus, making the interquartile spread larger for the Other group. These findings, however were not at a level that could be considered significant. Similarly, the median (2.5) and the third quartile (3.0) for LC were the same between groups with the only difference between the two groups being that the Other group had a lower first quartile (1.5) than the Thai group (1.75). Here too the interquartile spread for the Other group (1.5) was larger than that of the Thai group (1.25). Again, in this instance, the findings were not at a level that could be considered significant. Finally, with regards to PD, the Other group had higher values across the median (3.0), the first quartile 1 (2.25) and third quartile (3.75) compared to the Thai values of median (2.5), the first quartile 1 (2.00) and third quartile (3.25). The Other group also had a larger interquartile spread (1.5) than did the Thai group (1.25). In this case, the findings were at a level that could be considered significant.

For the remaining variables of AA and SA, distributions of the scores were not similar according to the Levene test. With regards to AA, the Other group (mean rank of 194.53) displayed lower AA than the Thai group (mean rank of 254.98) and that is at a level that could be considered significant. It has been warned however, that "unequal variances in combination with unequal sample sizes affect the probabilities of Type I errors" (Zimmerman, 2006, p. 369). Type I errors are false positives. In this case however, given the level of significance, there is little need for concern. With regards to SA, it is difficult to discern a difference between the two groups and any potential difference would not be at a level that would be considered statistically significant.

Table 18

Mann-Whitney U test Thai / Other

	Levene	Mann-Whitney U	Wilcoxon W	Z	Sig.	Group	Mean Rank	Median	Q1	Q3

AA*	0.000	9166.5	64777.50	-4.066	0.000	Other	194.53	3.80	3.20	4.00
						Thai	254.98	4.00	3.60	4.20
HCC	0.094	11885.5	14966.50	-1.171	0.242	Other	209.31	3.00	2.50	3.75
						Thai	191.88	3.00	2.50	3.50
LC	0.216	12124.0	67735.00	-0.918	0.359	Other	203.41	2.25	1.50	3.00
						Thai	217.06	2.25	1.75	3.00
PD*	0.092	9928.5	13009.50	-3.251	0.001	Other	215.18	3.00	2.25	3.75
						Thai	166.79	2.50	2.00	3.25
SA	0.000	12931.0	16012.00	-0.059	0.953	Other	206.17	2.20	1.60	3.40
						Thai	205.28	2.20	1.80	2.80

Note: Levene = Heterogeneity of Variance. The sample for each group is Thai (n=78) and Other (n=333)

* indicates significance

As seen in Table 19, for the USA / Other group, the group sizes were 178 for Other and 233 for USA. With regards to AA, LC, and SA the assumption of homogeneity of variance was not satisfied. Thus, looking at AA, values for the Other group (mean rank = of 219.76) were higher than for the USA group (mean rank = 195.49) indicating that the USA group tends to be less AA. Similarly, for LC values for the Other group (mean rank of 227.06) were higher than for the USA group (mean rank of 189.91) indicating that the USA group tends have a more internally oriented LC. In both cases the findings were at a level that could be considered significant. With regards to SA, values for the Other group (mean rank of 215.67) were higher than for the USA group (mean rank of 198.62) indicating that the USA group tends to be more achievement oriented. This finding however was not at a level that could be considered significant.

Table 19

Mann-Whitney U test USA / Other

	Levene	Mann-Whitney U	Wilcoxon W	Z	Sig.	Group	N	Mean Rank	Median	Q1	Q3
AA*	0.009	18288.5	45549.5	-2.062	0.039	Other	178	219.76	3.80	3.40	4.20
						USA	233	195.49	3.80	3.20	4.00
HCC	0.066	18290.0	45551.0	-2.059	0.040	Other	178	219.75	3.00	2.50	3.75
						USA	233	195.50	3.00	2.25	3.50
LC*	0.034	16989.0	44250.0	-3.156	0.002	Other	178	227.06	2.25	2.00	3.00
						USA	233	189.91	2.00	1.25	3.00
PD	0.451	19467.0	35398.0	-1.068	0.285	Other	178	198.87	2.75	2.25	3.50
						USA	233	211.45	3.00	2.25	3.75
SA	0.031	19016.5	46277.5	-1.445	0.148	Other	178	215.67	2.40	1.80	3.20
						USA	233	198.62	2.20	1.60	3.40

Note: Levene = Heterogeneity of Variance. * indicates significance

Looking at HCC, both groups had the same median (3.00) and the same interquartile spread (1.25). However, the Other group had higher quartiles (first quartile of 2.5 and third quartile of 3.75) than did the USA group (first quartile of 2.25 and second quartile of 3.50). This finding was at a level that could be considered significant. With regards to PD, both groups had the same first quartile value (2.25). However, the Other group had a lower median of 2.75 as well as a lower third quartile of 3.5 than did the USA group (median of 3.0 and third quartile of 3.75). Accordingly, the corresponding interquartile spread for the Other group (1.25) was lower than that of the USA group (1.5). This finding was not at a level that could be considered significant.

Finally, Table 20 summarizes the UK / Other group. The group sizes were 311 for Non-UK and 100 for UK. For all variables the assumption of homogeneity of variance between groups was satisfied.

Looking at AA, both groups had the same median (3.80) and the same interquartile spread (0.80). However, the Other group had higher quartiles (first quartile of 3.4 and third quartile of 4.2) than did the UK group (first quartile of 3.2 and second quartile of 4.0). This would indicate that the Other group has a tendency toward higher AA than the UK group. This finding was not at a level that could be considered significant. With regards to HCC, the Other group was lower (median 3, first quartile 2.25, and third quartile 3.5) than the UK group (median 3.25, first quartile 2.75, and third quartile 4). This indicates a preference on the part of the UK group for higher HCC. This finding was at a level that could be considered significant. From the perspective of LC, both groups have the same third quartile (3.0) while the Other group has a lower median (2.25) and a lower first quartile (1.5) than the UK group (median of 2.5 and first quartile of 2). Although still falling toward the side on internal LC, this would indicate that the UK group tends to exhibit a slight bit more external LC than the other group. This finding was also at a level that could be considered significant.

Looking at PD, the Other group was lower (median 2.75, first quartile 2.25, and third quartile 3.5) than the UK group (median 3, first quartile 2.5, and third quartile 3.75). This would indicate that the UK would have a tendency toward higher PD than the Other group. Similarly, from the perspective of SA, the Other group was lower (median 2.2, first quartile 1.6, and third quartile 3) than the UK group (median 2.4, first quartile 1.8, and third quartile 3.55). This would indicate that the UK group tends toward more ascription than the Other group. That being said, neither of the findings were not at a level that could be considered significant.

Table 20

Mann-Whitney U test UK / Other

	Levene	Mann-Whitney U	Wilcoxon W	Z	Sig.	Group	N	Mean Rank	Median	Q1	Q3
AA	0.603	14178.0	19228.0	-1.334	0.182	Other	311	210.41	3.80	3.40	4.20
						UK	100	192.28	3.80	3.20	4.00
HCC*	0.401	12001.5	60517.5	-3.448	0.001	Other	311	194.59	3.00	2.25	3.50
						UK	100	241.49	3.25	2.75	4.00
LC*	0.135	12665.0	61181.0	-2.805	0.005	Other	311	196.72	2.25	1.50	3.00
						UK	100	234.85	2.50	2.00	3.00
PD	0.873	13761.5	62277.5	-1.737	0.082	Other	311	200.25	2.75	2.25	3.50
						UK	100	223.89	3.00	2.50	3.75
SA	0.131	13773.5	62289.5	-1.723	0.085	Other	311	200.29	2.20	1.60	3.00
						UK	100	223.77	2.40	1.80	3.55

4.1.2.5 Discussion

This second full-fledged study confirmed that these scales withstand replication with both internal reliability and factorability. Figure 33 summarizes the mean ranks identified in Appendix T. As mentioned previously, the mean ranks is the result of "using ranking methods, that is, methods in which scores 1, 2, 3, ... n are substituted for the actual numerical data, in order to obtain a rapid approximate idea of the significance" (Wilcoxon, 1945, p. 80).

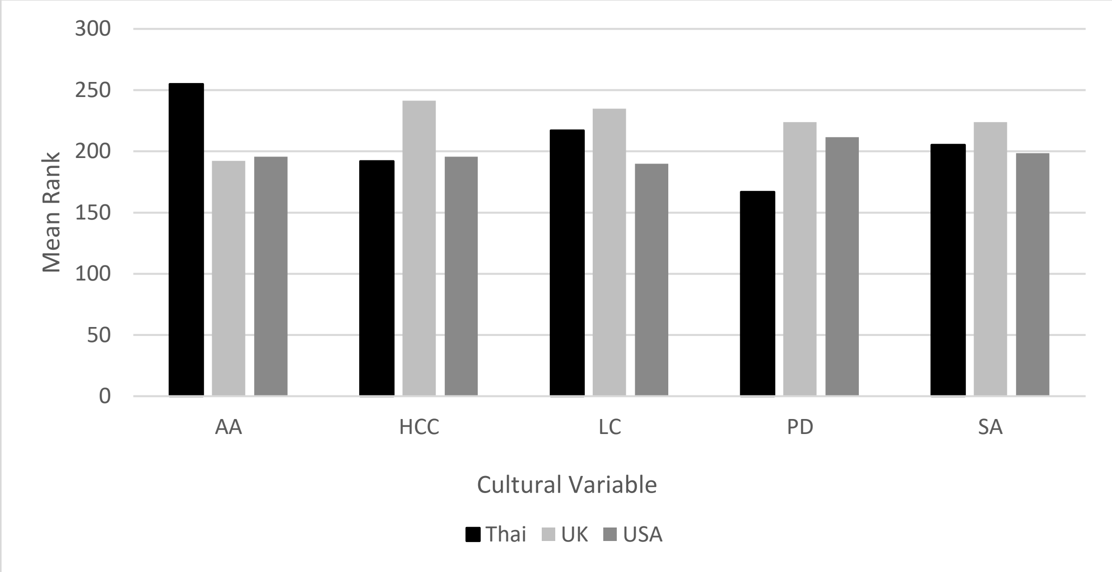

Figure 33: Mean Ranks by Country according to the results of the Kruskal-Wallis Test which indicates the differences in the values AA, HCC, LC, and PD are all at a level that can be considered significant.

AA is an aversion to uncertainty. According to the literature review, of the three countries, the UK would have the lowest AA while Thailand would have the highest (Geert Hofstede, 2018). The results indicate that the Thai respondents do indeed have higher AA than both the UK and the USA respondents while the UK respondents does tend slightly more toward low AA than the USA respondents. Although the findings came back significant and appear to be so, the lack of homogeneity of variance could mean that this finding could be exaggerated.

High vs. low context communication considers what is considered appropriate communication. Low context communication focuses on explicitly stating what is meant while high context communication focuses on the incorporation of greater context such as relationship, history, and non-verbal communication. According to the results, the UK respondents tended toward the incorporation of greater context into their communication than both the Thai respondents and the USA respondents. This could potentially be related to the results of the WVS Schwartz VSI which show that UK respondents tend to be very strong in conservativism which has been tied to the desire to avoid conflict (Shearman & Dumlao, 2008) and one of the main tenets of higher context communication is the avoidance of conflict. As suggested in the literature review Asian cultures are considered high HCC cultures and thus it was interesting to note that the Thai respondents actually showed a slight preference for low HCC. Again, this could be largely due to the Thai sample coming largely from Thai's who were exposed to western ways and thus either have adopted them or more likely were answering how they think culture "should be" rather than how they are (Gupta et al., 2002).

Locus of control: internal vs. external orientation considers the extent to which people believe they control nature and the world around them vs. the extent to which they cannot control nature and the world around them and thus strive for harmony. According to the mean ranks, of the three countries, the UK respondents tend the most toward greater external orientation while the USA respondents tend the most toward greater internal orientation. The Thai respondents fall between the UK and the USA respondents. While on the one hand, this supports the expectation that USA respondents would tend toward lower LC (F. Trompenaars & Hampden-Turner, 1998), the findings do not support the expectation that the UK falls in the middle. This could potentially be due to the sampling in the UK or the fact that the Thai sample came largely from Thai's who were exposed to western ways either via study abroad, international schools or through working for western companies and thus developed a stronger sense of internal orientation than would be found in a more representative cross section of Thai culture.

PD is the extent to which it is expected that greater power discrepancies need to be minimized or justified. According to the literature review, of the three countries, respondents from Thailand should have the highest PD while respondents the UK should have the lowest (Hofstede, 2018). The results were actually just the opposite. Of the three countries, the UK respondents indicated the highest inclination toward higher PD while Thais indicated an inclination toward the lowest PD. Referring back to Table 18, the Thai data group indicated a preference for lower power distance than the UK and USA respondents combined and this was at a level that could be considered significant. This corresponds to the findings of the initial study that indicate that the Thai had lower PD tendencies. On the one hand, this could be due to Thais tending toward lower PD on the vertical spectrum. While on the other hand, it could also be that with both the pilot study and corporate study, the Thai sample actually came from individuals from the more powerful social strata. For example, in pilot study all Thai respondents had bachelors while in the corporate study, all but one of the respondents had at least a bachelor's degree. Supporting the second supposition is the fact that as of 2016 only 14.8% of Thais had at least a bachelor's degree. This could cause a problem in that PD is designed to measure the distance allotted by those with less power. Finally, this could largely be due to the difference between the "as is" and "should be" aspects of culture (Gupta et al., 2002).

Status Ascription considers how status is accorded, with achievement as justification on one end and virtues such as age, class, gender, education, etc. on the other. The finding that the UK tends to be more status ascriptive which corresponds with expectations (Smith et al., 1996). On the other hand, there appears to be no tie to SA in the Buddhist country of Thailand compared to the protestant countries UK and USA (Trompenaars & Hampden-Turner, 1998).

4.2 Qualitative: What is m-learning at the corporate level

The qualitative study was conducted to understand what is considered m-learning at the corporate level. Theoretical sampling was used to target potential respondents based on their T&D industry experience and experience with m-learning and the sampling concluded after five interviews due to theoretical saturation.

4.2.1 Technology Enabled Learning

Respondent 1 shared that "most training is delivered in workshops and classes with e-learning for compliance, anti-bribery / anti-corruption type of training." He said that e-learning is still new to Thailand and m-Learning is even more so.

Respondent 2 supported this assertion about the utilization of technology enabled learning saying, "advanced e-learning is not something people are getting into yet." Respondents 3, 4, and 5 all were based in countries where e-learning had been embraced and where interest existed in developing their m-learning offering.

4.2.2 Device

Consistently all respondents indicated that the devices for which they were designing learning content tended to be concentrated on desktops and laptops for traditional e-learning and smartphones and tablets for the more mobile learning. The device focus was either omni-channel or mobile device OS specific with apps being available for android phones and iOS phones.

For example, Respondent 1 said their m-learning was "only being offered via a native android application." At the opposite end of the spectrum Respondent 5 said that their "belief is to be productive with any device in any location. The goal is to deliver learning to all." Respondent 4 mentioned that they currently focused on native mobile applications and access to mobile friendly content via web browser. Moving forward they are looking to move to a cross platform omni-device approach via a mobile LMS app.

4.2.3 Technical Implementation

Mirroring the different device focus from above, respondents fell into one or two camps. The first being those that focused on web-based content and those that focused on content that could be housed on the phone. The second being those that focused on web-based content either used direct access via the web or via a native / hybrid app tied to their LMS while those that focused on device-based content strictly used native apps. With this respect, respondents 3 and 5 both went the rout of the LMS and corresponding native / hybrid application. On the other hand, respondents 1, 2, and 4 all mentioned focusing on stand-alone native apps. As native apps can incorporate greater context aware features such as Location Based Services (LBS), this was also discussed. Respondent 4 was the only respondent that mentioned using LBS to some extent. Respondent 4 stated that "While we do use location-based services for marketing purposes, we are not using it for push delivery of content. A competitor had used LBS for training content delivery but given the lack of consistent accuracy with cellular network positioning they have since pivoted away from incorporating the technology. Only once beacon technology becomes more common place will this technology be accurate enough to push the appropriate learning content at the appropriate place and time."

4.2.4 Content management

With regards to content management, again respondents fell into one of two categories. As discussed above, those that focused on web-based content managed it in an LMS while those that used device-based content used the Google Play and Apple app store to host their apps.

4.2.5 Andragogy

The extent to which the individuals are responsible for the m-learning were also accountable for the ultimate learning outcome, determined which aspects of andragogy on which they were focused. Those that were not attempting to focus on learning outcome were more focused just on the self-directed nature of adult learners and thus tended to focus more on attributes available in native applications. Respondent 2 suggested that “Thai culture prefers gamification” elaborating on the focus on gamification in Thailand.

On the other hand, those with more accountability for the learning outcome also tried to tailor the content to make the learning relevant to the learner’s individual situation. Furthermore, they also offered guidance and motivation for learning that, although necessary, did not speak to the learners’ concept of relevant information, i.e. compliance training. They accomplished these goals via an LMS.

4.2.6 Measuring the learning outcome.

Respondent 3 and 5 indicated designing their m-learning offering with the expectation that they would be able to measure achievement of the desired learning outcome. Three others primarily offered “fun” apps that were meant to be enhancements to the learning material rather than part of the actual content. One of those three also mentioned that it was possible for learners to access the LMS via their phones for some content but due to security concerns, that was not consistent.

4.2.7 Respondent results summary

As seen in Figure 34 respondents tended to fall into one of two groups. One group consisted of those preferring OS specific devices and were more interested in the user experience from native apps which users could obtain from the app store. Because they were more focused on the “fun” and / or “off line” capabilities of the native app, they had to compromise and relinquish the ability to monitor for achievement of the desired learning outcome. The other group consisted of those that placed an emphasis on being able to monitor for the achievement of the desired learning outcome and on the portability of content across devices thus making learning available anytime, and anywhere. Because of the focus on being able to offer responsive content, rather than device specific content, they had to forego the device specific capabilities and drive users through the LMS.

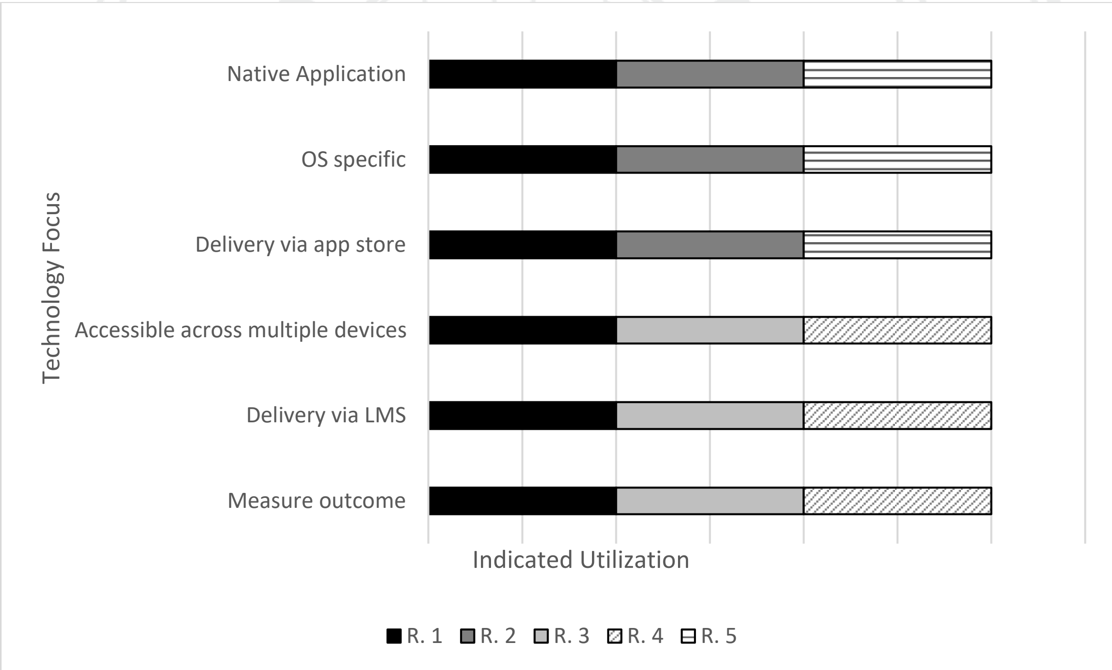

Figure 34: M-learning Components According to Respondent Utilization where “R.” is the Respondent Number.

4.2.8 Discussion

This study is among the first to empirically investigate what needs to be taken into consideration with regards to m-learning at the corporate level, including what aspects of m-learning are most sought after and incorporated. Although ample research surrounding mobile learning has been conducted, few have sought to understand how it is used at the corporate level. With regards to the existing body of research, this study first attempted to identify what devices are considered mobile. Based on the literature review, Smartphones, non-specific mobile phones, PDAs / Pocket PCs / UMPCs, Tablets, and Laptops / Notebooks are among the top mentioned devices used for m-learning. With regards to how this content is accessed, most of the studies reviewed during the literature review focused on using Native Applications followed by LMS and Web / Cloud environments. The data storage would tend to break into two parts with native applications housing the majority of the data on the mobile device while the LMS and web based / cloud environment would house the majority of the data on the server, to be accessed and downloaded as needed. Often times, users can choose what to download. One example of this is Moodle Mobile where the release of 2.8 now even allows users to download SCORM compliant items onto their mobile devise for use off line (Moodle, 2016).

Utilizing semi-structured interviews, this study attempted to understand any underlying trends with regards to m-learning design and capabilities needed and used at the corporate level. Overall, the findings fell into two camps: m-learning designed to control for achievement of the desired learning outcome; and m-learning designed to incorporate more edutainment, without the need to evaluate the learning outcome.

Ultimately when learning specialists are accountable for tracking and demonstrating learner achievement of the desired learning outcome, a multi-channel option with a focus on portability of learning content tied to a learning management system is preferred. The focus is more on the content being available anytime and anywhere regardless of which device the learner is using. This is accomplished via LMS which can be accessed directly via the web or via a native or hybrid app that connects directly to the LMS. Generally speaking, this was the preferred avenue for respondents who were in-house corporate training and development specialists.

Those m-learning initiatives designed more for edutainment tend to be OS specific native apps. While these apps can take full advantage of LBS or other context aware features, as one respondent noted, there is a lack of consistent accuracy with cellular network positioning. Thus, only once beacon technology becomes more common place will this technology be accurate enough to push the appropriate learning content at the appropriate place and time. Another respondent mentioned that their native apps focused more on gamification of content, giving the learner the chance to practice mundane concepts in a fun manner. That being said, the respondent mentioned that they did not track if the learners downloaded and used the app or even if the app helped learners better achieve the desired learning outcome. Furthermore, all three respondents that utilized the edutainment apps mentioned a strong desire to move more toward a system that would allow better tracking of learner achievement with regards to the desired learning outcome. This is consistent with research indicating the importance of monitoring for achievement of desired learning outcomes (Hori et al., 2016; Hung Wei, Yingqi, & Betty, 2016).

The use of mobile technology for learning content delivery is still in its initial stages in the corporate world. It is important to understand the needs of the corporate world in order to understand how emerging technologies can better be used to support those needs. For example, it is not enough to consider the context-aware features of a mobile device without considering the ability to track user performance.

Ultimately this research has limitations ranging from sample bias to generalizability. There is a possibility for sample bias because all respondents were within two degrees of separation of the interviewer.

While this research was to investigate what is considered mobile learning at the corporate level, it is not possible to generalize these findings. Accordingly, a quantitative study will be needed for more generalizable findings. Furthermore, this study has revealed the importance of being able to control for the learners' achievement of the desired learning outcomes. Accordingly, researchers focusing on m-learning, especially at the corporate level, should also include the ability to measure achievement of the desired learning outcome as an integral part of future studies.

M-learning can incorporate a great deal of context, offering a richer learning experience. However, for in-house T&D, the richer experience often takes a back seat to the ability to verify that the learner has achieved the desired learning outcome. In these cases, the focus is more on the mobility of the learning content than the incorporation of device specific context. Accordingly, they focus more on using learning management systems that allows for omni-channel usage. For training providers on the other hand, they tend to focus on offering edutainment with the native app being provided for fun and engaging opportunities to supplement learning. Using the native app allows online and offline access to the learning content.

4.3 Quantitative – Pilot Study

Model evaluation will follow the Hair, Ringle, and Sarstedt (2011) rule of thumb by first analyzing the reflective measurement models and then the structural model.

4.3.1 Sample Characteristics

Participants for this research were bachelor level business students at a university in Thailand. Convenience sampling was used for sample selection. Prior to conducting the survey, a set of five responsive designed asynchronous modules were created using Captivate and hosted on a Moodle LMS. The modules were created by following the ADDIE instructional design process. In other words, the needs of the students were considered when determining the content. The respondents were going to be from one of two different courses, one introductory level course and one advanced course. Each of those courses covered culture, with a focus on the Hofstede model. Accordingly, the modules created were "What is Culture," "Hofstede's Power Distance," "Hofstede's Individualism vs. Collectivism," "Hofstede's Masculinity vs. Femininity," and finally "Hofstede's Uncertainty Avoidance."

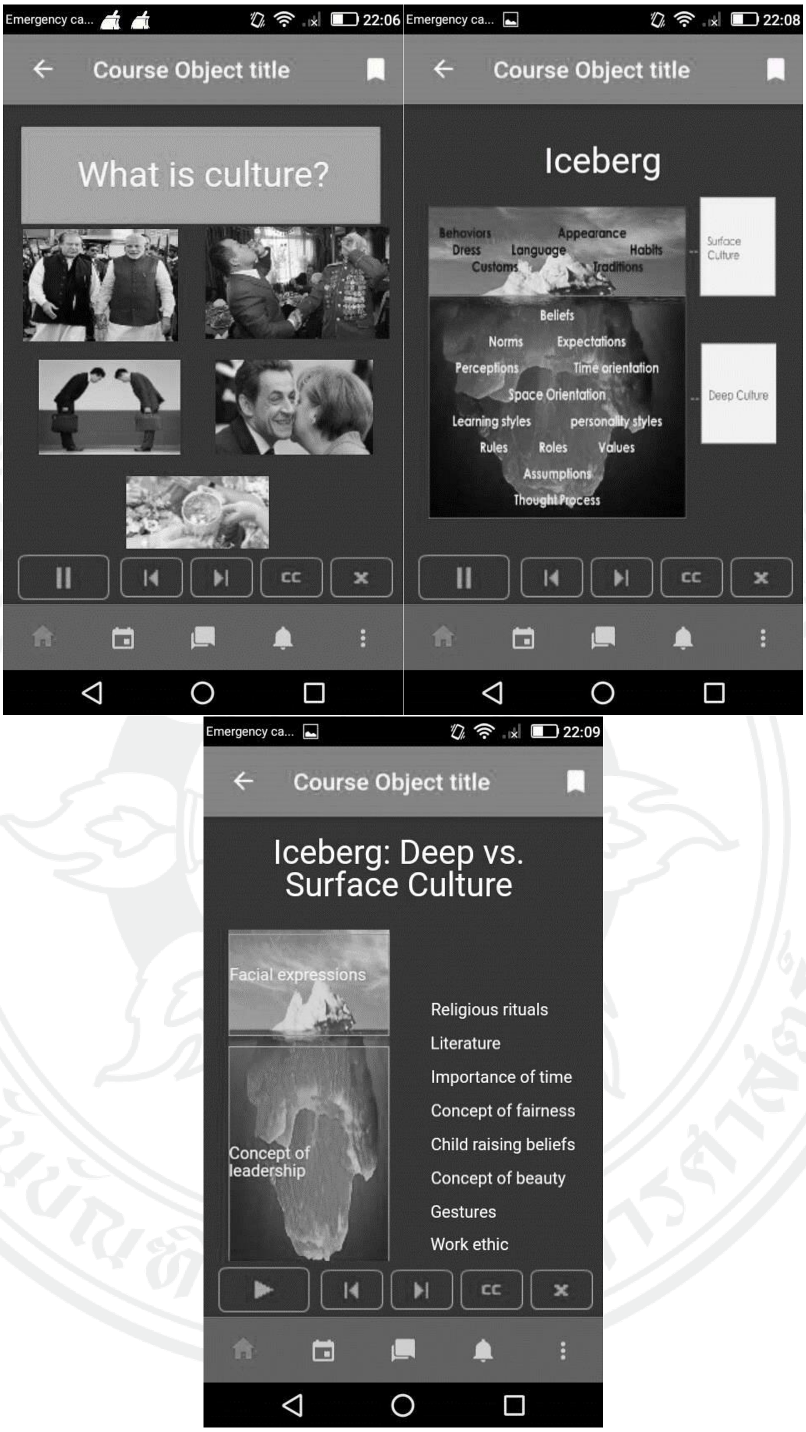

Figure 35 Screenshots of m-learning module “what is culture”

The modules were designed so that each module was five to ten minutes. During the development phase, the modules were shown to the department head and minor modifications were made. The modules were rolled out by adding them to the LMS and students were informed about their location and given a week to access the content.

Although the modules and system would allow respondents to access the content from multiple devices, the mobile nature of the design was explained to the participants and it was suggested that they access the learning modules via smart phones or tablets.

Table 21

Pilot Study Sample Demographics

	Frequency	Percent
Nationality		
Not Thai	25	10.5
Thai	213	89.5
Gender		
Male	95	39.9
Female	143	60.1
Age		
16-20	115	48.3
21-25	122	51.3
26-30	1	0.4

The survey was administered via GoogleForms and the link was shared with the participants via QR code. One QR code was for the English language questionnaire and one QR code for the Thai language questionnaire. Respondents were informed about the reason for the questionnaire and that participation in the research is voluntary and anonymous. There were 76 respondents for the English language questionnaire and 215 respondents for the Thai language questionnaire. After cleaning the data (incomplete questionnaires and unengaged respondents), there were 56 respondents for the English language questionnaire and 182 respondents for the Thai language questionnaire. This sample size meets the minimum size requirements for a pilot study addressed 3.4.1 Sample Description. Table 21 offers a summary of the respondent demographics.

The questionnaire also asked respondents to indicate which device they used to access the m-learning. As seen in Table 22, the majority of the respondents accessed the content using their smart phone.

Table 22

Technology Used to Access the Learning

	Frequency	Percent
Desktop	17	7.1
Laptop	45	18.9
Tablet	8	3.4
Smartphone	168	70.6

4.3.2 Distribution of Data

To test for normal distribution, as seen in Appendix U, both the Kolmogorov-Smirnov and the Shapiro-Wilk tests for normality were conducted. In all cases, the corresponding significance was 0.000. This indicated that the null hypothesis could not be rejected which means in all cases there is non-normal distribution. As previously mentioned, this non-normal distribution of the data, limits the battery of tests that can be conducted. Luckily, one benefit of PLS SEM is its ability to “provide precise estimates in situations with extremely non-normal data” (Ringle, Sarstedt, & Straub, 2012).

4.3.3 Reflective Measurement Models

This section will consider the extent to which changes in the indicators reflect the change in their associated latent construct. In other words, this section will consider the individual variables, focusing on the "causality flow from the latent construct to the indicator" (Coltman, Devinney, Midgley, & Venaik, 2008, p. 1250).

Prior to reviewing the data, the "Stop Criterion Changes" was reviewed to assess if the solution is stable. The number needs to be lower than the Maximum iterations which was set to 5000, although 300 is the standard setting (Hair et al., 2013). In this case, the algorithm converged after iteration 2.

Table 23
Pilot Study Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
A	0.869	0.920	0.793
AA	0.681	0.785	0.425
BI	0.741	0.885	0.794
HCC	0.725	0.828	0.547
LC	0.830	0.885	0.660
LI	0.808	0.867	0.565
PDI	0.843	0.884	0.560
PEOU	0.767	0.851	0.589
PU	0.849	0.898	0.689
SA	0.850	0.892	0.624

SN	0.806	0.873	0.632

4.3.3.1 Internal consistency reliability

Both Cronbach's Alpha and Composite reliability are used in order to assess internal consistency reliability. Generally speaking, scores between 0.7 and 0.9 are desirable with 0.95 being the upper limit. As seen in Table 23, all composite reliability indicators fall between 0.785 and 0.92. Furthermore, with the exception of AA, all other Cronbach's alphas fall within the range that would be considered desired. At 0.681, AA falls below what is desired, but it is at a level that could still be considered acceptable.

4.3.3.2 Convergent Validity

In assessing convergent validity (the degree to which the construct indicators which should be related are related), Average Variance Extracted (AVE) was considered. As seen in Table 23 construct reliability and validity were good with Cronbach's Alpha greater than 0.7 and AVE greater than 0.5 for all variables excluding AA (Hair et al., 2011).

4.3.3.3 Indicator reliability

As seen in Tables 24 and 25, the majority of the indicator loadings are above the suggested 0.70. It is suggested that "generally, indicators with outer loadings between .4 and .7 should be considered for removal from scales only when the indicator leads to an increase in the composite reliability" (Hair et al., 2013, p. 103).

Table 24

Pilot Study TAM/LI Cross-loadings

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A1	0.908	0.247	0.697	0.244	0.174	0.493	0.215	0.543	0.652	0.169	0.628
A2	0.902	0.274	0.677	0.216	0.141	0.410	0.228	0.548	0.595	0.129	0.581
A3	0.860	0.221	0.610	0.202	0.172	0.412	0.233	0.539	0.634	0.191	0.648
B1	0.618	0.282	0.881	0.226	0.173	0.392	0.312	0.499	0.549	0.220	0.599
B2	0.705	0.259	0.901	0.249	0.116	0.389	0.258	0.515	0.635	0.165	0.536
LI1	0.421	0.126	0.382	0.215	0.087	0.801	0.150	0.341	0.380	0.188	0.344
LI2	0.394	0.197	0.341	0.245	0.094	0.754	0.113	0.309	0.297	0.092	0.301
LI3	0.348	0.023	0.256	0.156	0.129	0.706	0.084	0.313	0.325	0.136	0.266
LI4	0.325	0.184	0.315	0.268	0.054	0.735	0.143	0.237	0.377	0.203	0.358
LI5	0.359	0.131	0.341	0.265	0.091	0.760	0.200	0.329	0.398	0.241	0.339
PEOU1	0.506	0.171	0.473	0.184	0.123	0.445	0.159	0.768	0.490	0.184	0.536
PEOU2	0.349	0.071	0.326	0.084	0.092	0.164	0.135	0.679	0.408	0.095	0.446
PEOU3	0.519	0.202	0.470	0.095	0.061	0.300	0.111	0.865	0.557	0.078	0.490
PEOU4	0.471	0.254	0.455	0.167	0.094	0.301	0.183	0.747	0.575	0.111	0.489
PU1	0.521	0.208	0.525	0.220	0.120	0.375	0.146	0.537	0.809	0.143	0.558
PU2	0.539	0.219	0.554	0.166	0.160	0.409	0.238	0.560	0.817	0.210	0.564
PU3	0.645	0.192	0.577	0.227	0.140	0.414	0.194	0.535	0.877	0.191	0.632
PU4	0.626	0.189	0.554	0.186	0.099	0.371	0.114	0.585	0.815	0.077	0.534
SN1	0.493	0.133	0.455	0.170	0.128	0.296	0.249	0.426	0.534	0.299	0.783
SN2	0.608	0.193	0.516	0.178	0.104	0.375	0.202	0.564	0.646	0.260	0.852
SN3	0.595	0.187	0.551	0.117	0.161	0.374	0.241	0.585	0.568	0.217	0.777
SN4	0.498	0.131	0.492	0.072	0.168	0.306	0.220	0.439	0.420	0.286	0.765

As seen in Table 24, PEOU2 is at 0.679, however given its proximity to 0.7 and the fact that it does not impact the AVE, it was left in. Furthermore, as seen in Table 25, one indicator for HCC, two for PDI, and one for SA4 fall below 0.7, however their removal does not result in a better outcome. AA was a bit more problematic in that three indicators fall below 0.7 with two of them below 0.6. While it was determined that AA will need to be reviewed and modified prior to the corporate study, these questionable indicator loadings should not be removed.

Table 25

Pilot Study Cross-Cultural Cross-loadings

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
AA11	0.255	0.721	0.264	0.150	0.262	0.050	0.300	0.193	0.215	0.276	0.241
AA3	0.190	0.642	0.189	0.107	0.411	0.181	0.396	0.129	0.158	0.321	0.175
AA5	0.178	0.720	0.222	0.191	0.184	0.138	0.196	0.176	0.159	0.188	0.064
AA6	0.110	0.567	0.113	0.207	-0.090	0.154	0.075	0.151	0.085	0.057	0.033
AA8	0.096	0.594	0.131	0.119	0.007	0.100	-0.030	0.101	0.123	-0.031	0.044
HCC10	0.210	0.109	0.231	0.765	-0.002	0.263	-0.045	0.164	0.253	-0.038	0.118
HCC11	0.214	0.212	0.196	0.708	0.273	0.174	0.279	0.188	0.123	0.291	0.132
HCC4	0.094	0.195	0.156	0.677	0.285	0.210	0.287	0.048	0.147	0.314	0.181
HCC8	0.196	0.179	0.196	0.802	0.161	0.252	0.192	0.102	0.172	0.211	0.090
LC10	0.128	0.248	0.094	0.226	0.776	0.123	0.307	0.059	0.063	0.258	0.133
LC11	0.137	0.277	0.083	0.229	0.763	0.092	0.296	0.079	0.111	0.294	0.084
LC8	0.142	0.224	0.179	0.137	0.825	0.092	0.466	0.094	0.142	0.435	0.154
LC9	0.179	0.257	0.145	0.168	0.880	0.092	0.471	0.143	0.172	0.426	0.176
PDI1	0.198	0.201	0.230	0.153	0.317	0.178	0.754	0.151	0.166	0.679	0.277
PDI3	0.144	0.214	0.241	0.251	0.316	0.149	0.671	0.138	0.192	0.411	0.147
PDI4	0.181	0.274	0.204	0.099	0.416	0.122	0.792	0.133	0.089	0.526	0.200
PDI6	0.265	0.324	0.336	0.134	0.260	0.088	0.687	0.182	0.157	0.361	0.255
PDI7	0.180	0.301	0.189	0.196	0.471	0.183	0.813	0.133	0.174	0.618	0.197
PDI9	0.120	0.210	0.168	0.132	0.465	0.108	0.763	0.091	0.133	0.602	0.172
SA4	0.100	0.192	0.101	0.207	0.245	0.219	0.428	0.073	0.122	0.667	0.195
SA5	0.150	0.247	0.190	0.167	0.400	0.169	0.588	0.179	0.174	0.865	0.277
SA6	0.210	0.317	0.192	0.221	0.367	0.198	0.598	0.136	0.191	0.865	0.319
SA7	0.114	0.201	0.159	0.179	0.387	0.158	0.613	0.120	0.130	0.823	0.271
SA8	0.111	0.212	0.200	0.196	0.370	0.197	0.564	0.058	0.084	0.710	0.211

4.3.3.4 Discriminant Validity

The examination of cross-loadings and Fornell-Larcker criterion were used to evaluate discriminant validity. “Discriminant validity ensures that a construct measure is empirically unique and represents phenomena of interest that other measures in a structural equation model do not capture” (Henseler, Ringle, & Sarstedt, 2015, p. 116).

Furthermore, Tables 25 and 26 illustrates how the cross-loadings reveal that the “indicators outer loadings on the associated construct are greater than the loadings on the other constructs” (Hair et al., 2013, p. 104).

As seen in Table 26, and according to Fornell and Larcker (1981), discriminant validity is supported as the square root of the AVE found on the diagonal is larger than the correlations between the latent variables in each column/row.

Recently, however studies have questioned the suitability of these measurements in assessing discriminant validity. Thus the Heterotrait-Monotrait ratio (HTMT) of the correlations, has been suggested as a viable alternative and is recommended by the SmartPLS statistics package (SmartPLS, 2017). It is recommended that discriminant validity is established if the HTMT is below 0.9. Accordingly, Table 27 shows the results of the HTMT. In all but one of the relationships, discriminant validity is established. In the case of BI – A, the HTMT is above the suggested .9 indicating that the predictive value of the relationship could be inaccurate. As this could potentially be a sampling fluke (A. M. Farrell, 2010), this will be re-evaluated in the corporate study.

Table 26

Pilot Study Fornell-Larcker Criterion

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A	0.89										
AA	0.278	0.652									
BI	0.744	0.303	0.891								
HCC	0.248	0.229	0.267	0.74							
LC	0.182	0.304	0.161	0.224	0.812						
LI	0.493	0.178	0.438	0.306	0.12	0.752					
PDI	0.253	0.347	0.318	0.219	0.489	0.186	0.748				
PEOU	0.61	0.237	0.569	0.177	0.12	0.408	0.192	0.768			
PU	0.704	0.243	0.666	0.241	0.156	0.473	0.208	0.668	0.83		
SA	0.183	0.304	0.215	0.24	0.449	0.23	0.705	0.154	0.187	0.79	
SN	0.695	0.206	0.635	0.171	0.174	0.428	0.286	0.64	0.69	0.33	0.795

Table 27

Pilot Study Heterotrait-Monotrait ratio (HTMT)

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA
AA	0.325									
BI	0.924	0.391								
HCC	0.303	0.359	0.358							
LC	0.212	0.400	0.198	0.350						
LI	0.586	0.268	0.562	0.396	0.150					
PDI	0.284	0.411	0.387	0.358	0.578	0.221				
PEOU	0.738	0.299	0.745	0.238	0.145	0.500	0.229			
PU	0.818	0.295	0.837	0.299	0.179	0.571	0.240	0.821		
SA	0.202	0.367	0.27	0.379	0.516	0.286	0.843	0.179	0.209	
SN	0.826	0.237	0.822	0.227	0.208	0.526	0.339	0.805	0.824	0.394

4.3.4 Structural Model

Figure 36 shows the results of the PLS SEM for the pilot study. According to Hair et al. (Hair et al., 2013), there are five steps in the structural model assessment procedure. The first step is to assess the structural model for collinearity issues. The second step is to assess the significance and relevance of the structural model relationships. The third step is to assess the level of R^2. The forth step is to assess the effect sizes of f^2 and finally the last step is to assess the predictive relevance of Q^2 and the q^2 effect sizes.

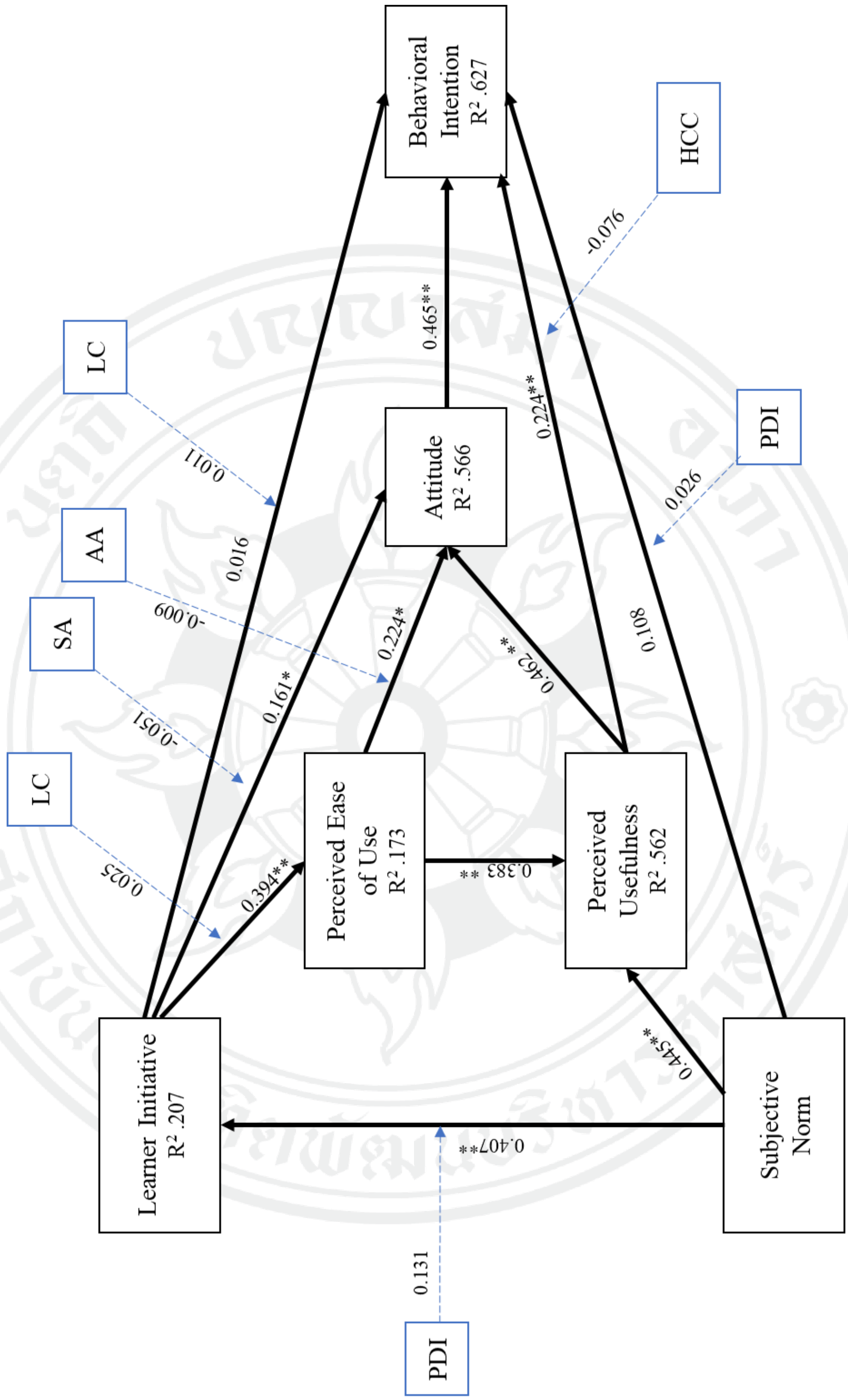

Figure 36: SEM Results of Pilot Study

4.3.4.1 Collinearity Assessment

Collinearity can negatively impact models by increasing the estimates of parameter variance. Furthermore, it can result in models with large R^2s but no variables with relationships that are statistically significant. Other potential problems that could arise range from incorrect parameter estimates to volatile models (O'brien, 2007, p. 673).

The Variance Inflation Factor (VIF) "indicates how much the estimated variance of the i^{th} regression coefficient is increased above what it would be if R^2 is equaled zero: a situation in which the i^{th} independent variable is orthogonal to the other independent variables in the analysis. VIF provides a reasonable and intuitive indication of the effects of multi-collinearity on the variance of the i^{th} regression co-efficient" (O'brien, 2007, p. 674).

All outer VIFs ranged between 1.179 and 2.886 and inner VIFs ranged between 1.039 to 2.57, which are all well below the suggested upper limit of 5.00 (Hair et al., 2013).

4.3.4.2 Assessment Significance and Relevance

When assessing significance and relevance, it is important to consider the path coefficients. The path coefficients "represent the hypothesized relationships among the constructs" (Hair et al., 2013, p. 170). In other words, for everyone standard deviation in the exogenous / partially endogenous variable, the endogenous variable will increase by the path coefficient. The coefficients range between -1 (strong negative relationship) and +1 (strong positive relationship) with 0 indicating a lack of relationship. As seen in Table 28, the strongest relationships (those above 0.15) that are also significant are A-BI (0.465), PU-A (0.462), SN-PU (0.445), SN-LI (0.407), LI-PEOU (0.394), PEOU-PU (0.383), PEOU-A (0.224), PU-BI (0.224), LI-A (0.161), PDI-BI (0.148).

Table 28

Pilot Study Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-statistic (|O/STDEV|)	p Values
A -> BI	0.465	0.469	0.095	4.896	0.000
AA -> A	0.093	0.101	0.046	2.031	0.042
AA mod PEOU-> A	-0.009	-0.019	0.046	0.193	0.847
HCC -> BI	0.047	0.052	0.045	1.030	0.303
HCC mod PU-> BI	-0.076	-0.079	0.038	2.009	0.045
LC -> BI	-0.063	-0.061	0.049	1.276	0.202
LC -> LI	0.018	0.020	0.078	0.226	0.821
LC -> PEOU	0.050	0.055	0.074	0.684	0.494
LC mod LI -> BI	0.011	0.005	0.054	0.206	0.837
LC mod LI -> PEOU	0.025	0.027	0.068	0.367	0.714
LI -> A	0.161	0.163	0.062	2.583	0.01
LI -> BI	0.016	0.021	0.058	0.276	0.782
LI -> PEOU	0.394	0.396	0.076	5.206	0.000
PDI -> BI	0.148	0.149	0.051	2.899	0.004
PDI -> LI	0.034	0.039	0.073	0.462	0.644
PDI mod SN-> BI	0.026	0.029	0.062	0.410	0.682
PDI mod SN -> LI	0.131	0.126	0.073	1.811	0.07
PEOU -> A	0.224	0.228	0.072	3.115	0.002
PEOU -> PU	0.383	0.381	0.085	4.499	0.000
PU -> A	0.462	0.453	0.077	6.006	0.000
PU -> BI	0.224	0.222	0.069	3.229	0.001
SA -> A	0.012	0.016	0.050	0.239	0.811
SA -> PEOU	0.037	0.044	0.076	0.481	0.631
SA mod LI -> A	-0.051	-0.045	0.048	1.055	0.291
SN -> BI	0.108	0.104	0.102	1.052	0.293
SN -> LI	0.407	0.412	0.07	5.819	0.000
SN -> PU	0.445	0.448	0.084	5.268	0.000

To what extent these findings are significant or not depends largely on the t-value obtained after running the bootstrapping. According to Hair et al., (2013) the "commonly used critical values for two-tailed tests are 1.65 (significance level = 10%), 1.96 (significance level = 5%), and 2.57 (significance level = 1%)" (p. 171). Furthermore, Table 28 shows the t-statistics that are above 2.57 are A-BI, LI-A, LI-PEOU, PDI-BI, PEOU-A, PEOU-PU, PU -> A, PU -> BI, SN -> LI, and SN -> PU. Those with values falling between 1.96 and 2.57 are AA- A, and the moderating effect of HCC on the relationship PU-> BI. It is interesting to note, that although not hypothesized and thus not seen in Figure 36, PD has a direct effect on BI and AA has a direct effect on A that are at levels that would be considered significant.

4.3.4.3 R^2

R squared (R^2) indicates how much of the variance in an endogenous latent variable can be account for by the exogenous variables. It is a measure of the model's predictive accuracy (Hair et al., 2013). The R square values for the TAM/LI variables can be seen in Table 29.

Table 29

Pilot Study R Square

	R Square	R Square Adjusted
A	0.566	0.553
BI	0.627	0.611
LI	0.207	0.193
PEOU	0.173	0.159
PU	0.562	0.559

According to Hair et al., (2011) the R^2 adjusted value for the endogenous latent variable BI (0.611) would be considered as falling between substantial and moderate level. This would indicate that approximately 61%- 62% of the variance in BI could be accounted for by A, HCC, LC, LI, PU, and SN. The R^2 adjusted values for the endogenous latent variables of A (.553) and PU (.559) would be considered as moderate while the R^2 adjusted values for LI (.193) and PEOU (.159) could be considered weak at best. Many consider the R^2 adjusted is a more conservative representation of the model's predictive accuracy. In this case, the R^2 adjusted is close to the R^2. In other words, approximately 55%-56% of the variance in A can be accounted for by AA, LI, PEOU, PU, and SA while approximately 56% of the variance in PU can be accounted for by PEOU and SN. Finally, 19%-20% of the variance in LI can be accounted for by LC, PDI, and SN and 15% - 17% of the variance in PEOU can be accounted for by LC, LI and SA.

4.3.4.4 Assessment of Effect Sizes of f^2

Table 30 shows the effect the predictor variables can be considered to have on the selected latent endogenous construct. Those with critical values above 0.35 can be considered as having a large effect while those with critical values between 0.15 and 0.35 can be considered as having a medium effect. Finally, those with critical values between 0.02 and 0.15 can be considered as having a small effect (Hair et al., 2013, p. 198).

Table 30
Pilot Study f Square

	A	BI	LI	PEOU	PU
A		0.226			
AA	0.017				
AA mod PEOU-A	0				
BI					
HCC		0.005			
HCC mod PU-BI		0.017			
LC		0.008	0	0.002	
LC mod LI-BI		0			
LC mod LI-PEOU				0.001	
LI	0.042	0		0.177	
PDI		0.04	0.001		
PDI mod SN-BI		0.002			
PDI mod SN-LI			0.023		
PEOU	0.059				0.198
PU	0.245	0.054			
SA	0			0.001	
SA mod LI-A	0.006				
SN		0.013	0.192		0.267

Note: f^2 values of 0.35 or greater indicate a large effect, values 0.15 or greater up to 0.35 indicate a medium effect, while values above 0.02 but below 0.15 indicate a weak effect.

Figure 37 illustrates those variables that could be considered as having an effect on their endogenous variable. None of the predictor variables can be considered to have a large effect while in six relationships: LI->PEOU, SN->LI, PEOU->PU, A->BI, PU->A, and SN->PU, the predictor variables have a medium effect on the endogenous variable. Finally, in four relationships: PDI->BI, LI->A, and PU->BI, the predictor variable has a small effect on the endogenous variable. Of those with a small effect, two would not be considered significant. Those two are the relationships: PD->BI and LI->A.

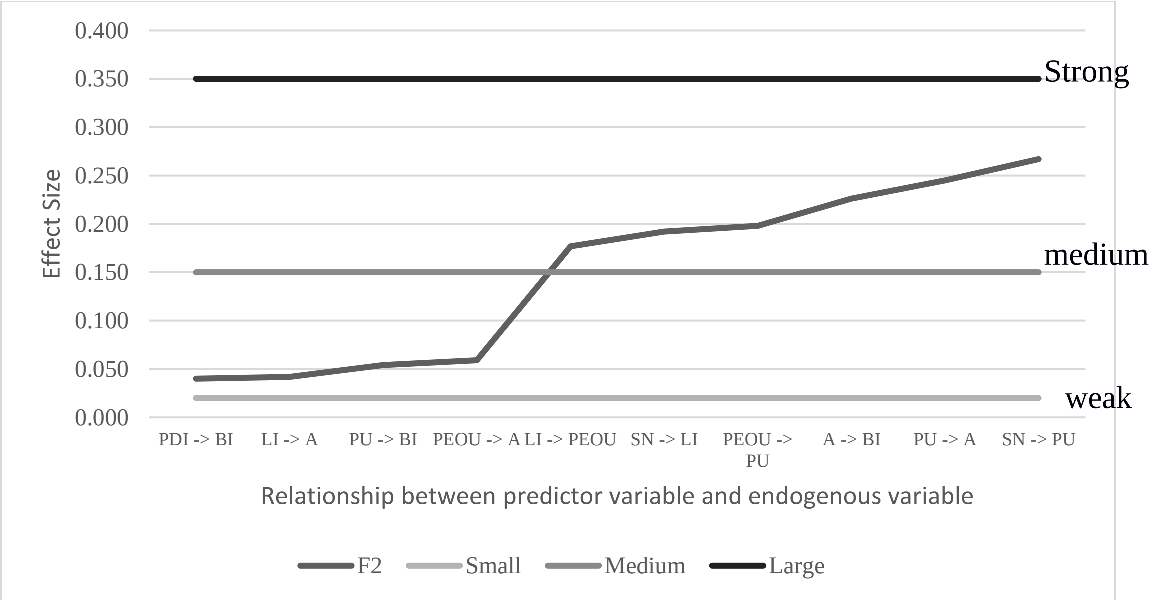

Figure 37: Predictor variables with f^2 Effect Size ranging between weak and strong.

4.3.4.5 Predictive Relevance of Q^2 and the q^2 Effect Sizes

Predictive Relevance of Q^2 is calculated using the blindfolding procedure, which “is a resampling technique that systematically deletes and predicts every data point of the indicators in the reflective measurement model of endogenous constructs” (Hair et al., 2013, p. 186). It compares the original values with the predictions and uses the prediction error to assess the predictive relevance. Basically, the calculation attempts to determine how well the model has predictive relevance. As seen in Table 31 the predictive measures for the endogenous constructs of A, BI, LI, PEOU, and PU all achieve a value greater than 0, thus indicating that the model has predictive relevance” (Chin, 2010, p. 439). In other words, a Q^2 greater than zero “indicates that the model is relevant to predicting that factor” (Garson, 2016, p. 115). Furthermore, values above 0.35 can be considered as having a large effect, values between 0.15 and 0.35 a medium effect and values between 0.02 and 0.15 a small effect. Thus with regard to BI, “this model has a high degree of predictive relevance” (Garson, 2016, p. 118).

Table 31

Pilot Study Predictive Relevance - Construct Cross-validated Redundancy

	SSO	SSE	Q^2 (=1-SSE/SSO)
A	717	419.908	0.414
BI	478	270.055	0.435
LI	1,195	1,074.59	0.101
PEOU	956	873.485	0.086
PU	956	608.708	0.363

Table 32 shows the predictive relevance of the predictor variables on the selected latent endogenous construct. Those with critical values above 0.35 can be considered as having a large effect while those with critical values between 0.15 and 0.35 can be considered as having a medium effect. Finally, those with critical values between 0.02 and 0.15 can be considered as having a small effect (Hair et al., 2013, p. 198).

Table 32

Analysis q2

Predictor	BI	A	LI	PEOU	PU
A	0.103				
LI		0.027		0.080	
PEOU		0.026			0.085
PU	0.027	0.137	0.001		
SN			0.096		0.118

None of the predictor variables can be said to have large or medium predictive relevance on the endogenous construct. A-BI, PU-BI, SN-BI, LI-A, PEOU-A, PU-A, SN-LI, LI-PEOU, PEOU-PU and SN-PU can be considered as having small predictive relevance. This means that in this case, there are potentially other forces, beyond the predictor variables, that are also influencing the endogenous variables.

4.3.5 Implications for Hypothesis

Table 33 summarizes the results of the hypotheses testing with regards to whether the hypothesis was supported, partially supported, or not supported at all. As seen, with the exception of H1g, the remaining H1 hypotheses regarding the relationship of the TAM variables were supported with positive path coefficients which corresponded to the relationship hypothesized and p-values which were below 0.05 which indicated the relationships were significant at a 95% confidence interval. While H1g had the path coefficient that corresponded to the hypothesized relationship, the p-value indicated that it was not at a level that could be considered significant.

Looking at the hypotheses surrounding LI, the results for H2 are similar in that the path coefficient corresponded to the hypothesized relationship, but the p-value was not at a level that could be considered significant. On the other hand, the hypothesis H3, H4, and H5 were all fully supported.

Regarding the hypothesized moderating effect of culture, H6a, H6b, H6c, and H6d were all only partially supported as the path coefficient corresponded to the hypothesized relationship, but the p-value was not at a level that could be considered significant. On the other-hand H6e and H6f were not at all supported in that the relationship indicated by the path coefficient was opposite to the hypothesized relationship. Furthermore, in both cases the p-value was not at a level that could be considered significant. The only hypothesized moderating effect of culture that was supported was H6g with a negative path coefficient which corresponded to the relationship hypothesized and a p-value below 0.05 which indicated significance

Table 33

Results of Hypothesis Testing

Number	Hypothesis	Result	Path Coefficient	p-value
H1a	Positive relationship between A and BI	Supported	0.465	0.00
H1b	Positive relationship between PU and BI	Supported	0.224	0.001
H1c	Positive relationship between PEOU and A	Supported	0.224	0.002
H1d	Positive relationship between PU and A	Supported	0.462	0.00
H1e	Positive relationship between PEOU and PU	Supported	0.383	0.00
H1f	Positive relationship between SN and PU	Supported	0.445	0.00
H1g	Positive relationship between SN and BI	Partially supported	0.108	0.293
H2	Positive relationship between LI and BI	Partially supported	0.016	0.782
H3	Positive relationship between LI and PEOU	Supported	0.394	0.00
H4	Positive relationship between SN and LI	Supported	0.407	0.00
H5	Positive relationship between LI and A	Supported	0.161	0.01
H6a	Positive relationship between PEOU and A would be moderated by the cultural value of AA such that the relationship would be stronger for individuals with a lower inclination toward AA	Partially supported	-0.009	0.847
H6b	Positive relationship between SN and BI would be moderated by the cultural value of PD such that the relationship would be stronger for individuals who accept greater PD	Partially supported	0.026	0.682
H6c	Positive relationship between SN and LI would be moderated by the cultural value of PD such that the relationship would be stronger for individuals who accept greater PD	Partially supported	0.131	0.07
H6d	The relationship between LI and A would be moderated by the	Partially supported	-0.051	0.291

	cultural value of SA such that the relationship would be weaker for individuals with greater SA expectations			
H6e	The relationship between LI and BI would be moderated by the cultural value of LC such that the relationship would be stronger for individuals more prone to internal over external control	Not supported	0.011	0.837
H6f	The relationship between LI and PEOU would be moderated by the cultural value of LC such that the relationship is stronger for individuals more prone to internal over external control.	Not supported	0.025	0.714
H6g	The relationship between PU and BI is moderated by the cultural value of HCC such that the relationship is stronger for individuals more prone to low context communication	Supported	-0.076	0.045

4.3.6 Discussion

This pilot study aimed to confirm that the constructs form a stable model and that there are indeed cross-cultural implication of learner initiative and technology acceptance of m-learning. Ranging from R^2 and Q^2, the results indicated that LI is an important factor, supporting the notion that it is central to mobile learning (H. Lin et al., 2016) and thus needs to be considered when researching the acceptance of mobile learning. The influence LI has on PEOU is moderate, while the relationship between SN and LI is strong, indicating that by engaging with a support group or enlisting the support of superiors, a potential lack of LI can be compensated for. This is consistent with previous studies indicating that the forces surrounding self-directedness “are as much political as they are pedagogical” (Ashley, Trumpower, Atas, & Purse, 2014, p. 48).

A is by far the strongest predictor of BI. In turn, although PU is the strongest predictor of A, both LI and PEOU were found to have a relationship with A that although weak was still found to be statistically significant. The findings regarding both the relationship between A as a predictor of BI and PEOU as a predictor of A were consistent with the TAM model as shown by Davis et al., (1989). Furthermore, the findings suggesting LI is a predictor of A is also consistent with research indicating the more learners develop strategies supplementary to LI, the more positive their attitude (Victori & Lockhart, 1995).

It was interesting to note that both LI and SN did not have a direct relationship with BI that was statistically significant. Other studies have also come to similar conclusions (Chau & Hu, 2002; Kidwell & Jewell, 2008; Malik & Guptha, 2013). The reasoning for the lack of a statistically significant direct relationship between LI has on BI on the other hand is less straight forward. However, as seen in 0, further investigation revealed the existence of a moderating effect of SN which would indicate the relationship between LI and BI is positively strengthened with greater SN. This is also significant.

With the exception of the moderating effect of HCC on the relationship between PU and BI, the majority of the cross-cultural elements did not function as moderating variables. Furthermore, it was found that the cultural element of SA directly impacted SN in that the more an individual had more ascriptive tendencies, the more that individual perceived that their peers and managers wanted them to use the m-learning system. With a path coefficient of .327, this was the strongest relationship any of the cultural elements had with any of the TAM/LI model elements. This relationship was significant at p=0.00. The next strongest relationship is between AA and PEOU with the positive path coefficient of 0.168 indicating that the more prone the respondent was to Ambiguity avoidance the more they found the m-learning easy to use. The corresponding p value of 0.003 indicates that this finding was significant. Perhaps as directions were prepared and shared with the class, those with higher AA took the time to read the directions thus making the system seem easier to use. Next, HCC had a direct impact on PU. With the positive path coefficient of 0.113, the results indicated that the more prone the respondent was to higher context communication, the more they found the m-learning useful. The p value was 0.013 indicating that this finding was significant. As high context communicators prefer more non-verbal communication methods, the embedded video, images, and interactions could have better met such needs. Finally, PDI impacted BI. The positive path coefficient of 0.105 indicated that those with expectations of greater power distance were more inclined to use the system. The p value of 0.012 indicates that this finding was significant. This could be due to the roll-out mechanism used at the university where the professors (those with the power) strongly encourage usage of the system with the students (the less powerful). It was interesting to note that LC did not directly impact any of the TAM/LI elements directly but rather was related to the other cultural dimensions.

In all cases, these elements will need to be reconsidered as part of the corporate study.

4.4 Quantitative – Corporate Study

4.4.1 Sample Characteristics

Participants for this research were individuals based in Thailand, the UK and the USA who had prior exposure m-learning through their workplace. Prior exposure was confirmed in at least one of three ways. The first option was to target companies that already had m-learning and thus enlist respondents who already utilized the system. The second option was to work with companies and create asynchronous content using responsive design prior to giving respondents access to the questionnaire. The third option was to work with an online survey panel provider and modify the first question to help identify individuals who had previously utilized their company's m-learning. Table 34 illustrates the distribution of respondents among the three options.

Table 34

Corporate Study Respondent Source

Source	Frequency	Percent
Option 1	82	19.95%
Option 2	23	5.60%
Option 3	306	74.45%

In the case of option 1, companies were identified through discussions with T&D professionals and other employees. Where possible, all attempts were made to work with the HR department. Where this was not possible, tools like LinkedIn were utilized to attempt to make direct contact with potential respondents. However, in some cases, neither of those options were possible so access to the employees in specific organizations came through a snowball sampling based on convenience sampling of individuals working in those companies. Links to both Thai and English language questionnaires were provided, and respondents could choose based on their native language / proficiency. Respondents were informed about the reason for the questionnaire and that participation in the research is voluntary and anonymous. There were 48 respondents for the English language questionnaire and 35 respondents for the Thai language questionnaire. After cleaning the data (incomplete questionnaires and unengaged respondents), there were 82 respondents total.

In the case of option 2, similar to the pilot study, an asynchronous module was created using responsive design. Following the ADDIE model of instructional design, the training needs were first **(A)** analyzed with regards to the desired learning outcome and the subject specific knowledge level of the learners. Ultimately, for the majority of the learners, the training focus was not new, but for many, the details involved were either unclear or entirely unknown. This was the first time they were using any form of e-learning. There was a desire to be able to assess that the desired learning outcome was achieved and monitor if the module was completed but at the same time there was a fear that the learners may feel like “big brother” is watching.

Accordingly, as seen in Figure 38 an asynchronous module was **(D)** designed to be “fun.” It was set up as question and answer where the learning was in the debrief of the answer. This design was chosen as learners already had exposure to the content, so would not be interested in “re-learning” what they already knew. The passing rate was set at 60% and learners could retake the module as many times as they wanted. Passing the module would earn the learner an achievement which would be shown on their LMS page. The module was hosted on Moodle LMS.

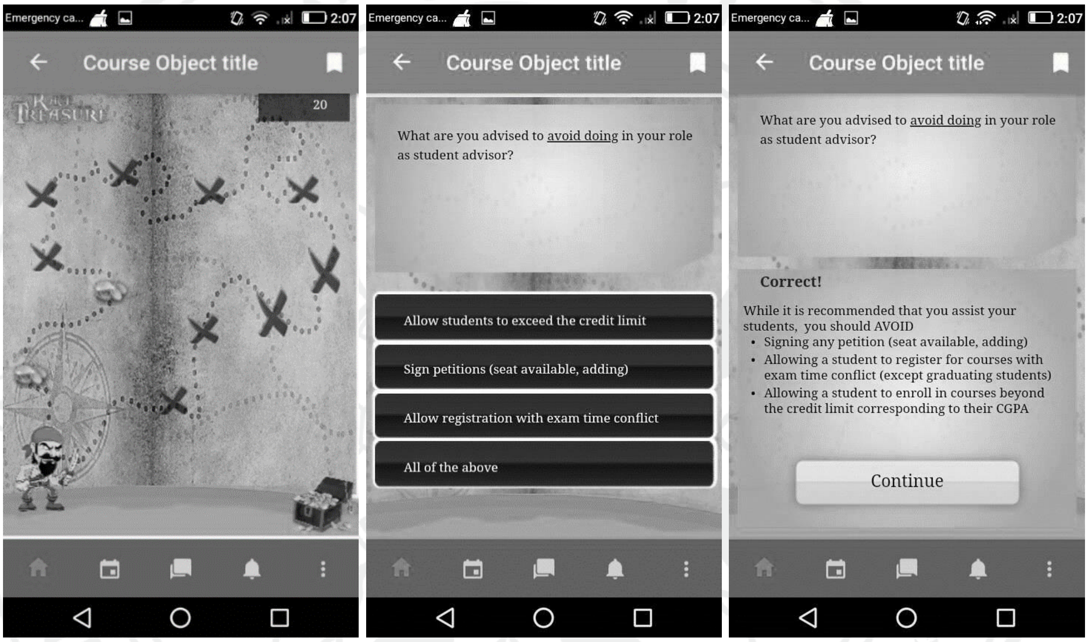

Figure 38 Screen shots of m-learning module

After the module was designed **(D)**, it was shared with the management for feedback and review. The feedback was incorporated and then launched on the LMS. During the implementation **(I)** phase, the mobile nature of the design was explained to the participants, and respondents were provided with directions on how to install and use the mobile application. The survey was part of the evaluation **(E)** phase and was administered via Moodle LMS and took advantage of the anonymous setting. The link was shared with the participants through the system and all potential respondents were emailed about completing the asynchronous module and about the questionnaire. Although the asynchronous module was in English, access to both English and Thai language questionnaires was provided, and respondents could choose based on their native language / proficiency. Respondents were informed about the reason for the questionnaire and that participation in the research is voluntary and anonymous. There were 22 respondents for the English language questionnaire and five respondents for the Thai language questionnaire. After cleaning the data (incomplete questionnaires and unengaged respondents), there were 23 respondents total.

In the case of option 3, the online survey panel provided access to their pre-screened survey panel. The link for the English language questionnaire was sent to respondents in the USA and the UK. It was live for 3 days and was clicked a total of 2125 times with the survey actually being started 1881 times. 1358 applicants were sorted out based on the first question leaving 523. A further 186 were sorted out based on the second question leaving 337. One of those respondents did not complete the questionnaire and after cleaning the data, 336 remained. Table 35 offers a summary of all the respondent demographics included in this research. The study was attempting to emulate the distribution of the white-collar workforce population with 10% in Thailand, 16% in the UK and 74% in the USA.

Table 35

Corporate Study Sample Demographics

	Thai		UK		USA		Complete	
	N	Percent	N	Percent	N	Percent	N	Percent
Nationality	78	19%	100	24%	233	57%	411	100%
Gender								
Male	23	29%	59	59%	111	48%	193	47%
Female	55	71%	41	41%	122	52%	218	53%
Age								
16-20	0	0%	4	4%	15	6%	19	5%
21-25	10	13%	9	9%	27	12%	46	11%
26-30	10	13%	20	20%	45	19%	75	18%
31-35	11	14%	17	17%	38	16%	66	16%
36-40	21	27%	9	9%	29	12%	59	14%
41-45	13	17%	16	16%	18	8%	47	11%
46-50	3	4%	6	6%	19	8%	28	7%
51-55	6	8%	6	6%	16	7%	28	7%
56-60	3	4%	4	4%	12	5%	19	5%
61-65	1	1%	7	7%	13	6%	21	5%
66+	0	0%	2	2%	1	0%	3	1%
Education								
Primary	0	0%	0	0%	3	1%	3	1%
Secondary	0	0%	26	26%	57	24%	83	20%
Vocational	1	1%	18	18%	13	6%	32	8%
Associates	0	0%	8	8%	36	15%	44	11%
Bachelor’s	19	24%	33	33%	70	30%	122	30%
Master’s	46	59%	14	14%	49	21%	109	27%
Ph.D.	12	15%	1	1%	5	2%	18	4%
Occ. Seniority								
Entry Level	7	9%	13	13%	36	15%	56	14%
Admin	14	18%	19	19%	34	15%	67	16%
Sales	3	4%	10	10%	22	9%	35	9%
Professional	29	37%	18	18%	71	30%	118	29%
Management	24	31%	33	33%	53	23%	110	27%
Upper Level Management	1	1%	6	6%	9	4%	16	4%
C-Suite	0	0%	1	1%	8	3%	9	2%

As observed, the distribution ended up with 19% in Thailand, 24% in the UK and 57% in the USA. Although this deviated, somewhat from the intended distribution, not doing so could have yielded data too heavily focused on the USA. Accordingly, it was determined that this distribution was acceptable to proceed with the study. According to WorldBank Gender Statistics (2018b), in 2017 females in Thailand, UK and USA accounted for 45.7%, 46.5%, and 45.8% of the labor force resulting in an average of 46%. That would mean that in Thailand and the USA, females were over represented in the study while in the UK, females were under represented. Across all of the countries, the majority of the respondents were between the ages of 21 and 45. With regards to education, the Thai respondents are heavily skewed toward advanced degrees while the UK and USA tend to be distributed and include the lower education levels. That being said, due to the newness of m-learning in Thailand, it cannot be expected to be as pervasive and thus only those with higher education would be at levels in a company that would allow for access to m-learning. Finally, in Thailand, the majority of the respondents fell into the categories of Professional and Management. While in the UK and USA, the respondents tend to be distributed among the levels.

Given the fact that the learning is designed to be responsive and thus can be utilized across multiple device types, Table 38 shows which device the learners used to access the m-learning. Since many of the respondents had been exposed m-learning multiple times, those respondents often used more than one device to access the learning. The Laptop was the most used device to access the learning followed by the desktop. In the UK Tablets and Smartphones were tied while in both Thailand and the USA, tables were the least used device to access the learning.

Table 36

Technology Used to Access the Learning

	Thai		UK		USA		Complete	
	N	Percent	N	Percent	N	Percent	N	Percent
Nationality	78	19%	100	24%	233	57%	411	100%
Desktop								
Yes	33	42%	59	59%	133	57%	225	55%
No	45	58%	41	41%	100	43%	186	45%
Laptop								
Yes	50	64%	70	70%	134	58%	254	62%
No	28	36%	30	30%	99	42%	157	38%
Tablet								
Yes	4	5%	36	36%	59	25%	99	24%
No	74	95%	64	64%	174	75%	312	76%
Smartphone								
Yes	25	32%	36	36%	86	37%	147	36%
No	53	68%	64	64%	147	63%	264	64%

4.4.2 Distribution of Data:

As seen in Appendix Q, both the Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted to check the distribution of the data. In all cases, the corresponding significance was 0.000, indicating that the null hypothesis could not be rejected. This means in all cases there is non-normal distribution.

After dividing the skewness or kurtosis scores (seen in Appendix Q) by its standard error, scores outside of ± 2.58 can be considered to contain skewness or kurtosis at a level that is significant (Ghasemi & Zahediasl, 2012). In this case the kurtosis scores range from -5.083 to 10.133 while the skewness scores range from -10.535 to 10.429.

Given the non-normal distribution of the data, the Mann-Whitney U and the Kruskal-Wallis are more suitable methods of analyses of statistical significance as they do not assume normal distribution of data as opposed to the t-test and ANOVA which do. However, both tests have an assumption of homogeneity of variance. Considering all nationalities at once proved to be difficult. Thus, the Levene test of Homogeneity of Variances was conducted three times. The first test conducted considered Thai / Other, the second was USA / Other, and the third was UK/ Other.

Table 37
Test for Homogeneity of Variance

	Thai / Other	USA / Other	UK / Other
PEOU	No	Yes	Yes
PU	Yes	Yes	Yes
BI	Yes	Yes	Yes
A	Yes	Yes	Yes
LI	Yes	Yes	Yes
SA	No	No	Yes
HCC	Yes	Yes	Yes
PD	Yes	Yes	Yes
LC	Yes	No	Yes
AA	No	No	Yes

Note: Yes indicates that according to the Levene test, the assumption of Homogeneity of Variances has been satisfied.

Table 37 summarizes the findings found in Appendix R. The assumption of homogeneity of variance was satisfied for seven variables in the Thai/Other. Those variables were PU, BI, A, LI HCC, PD, and LC. It was satisfied in seven variables

(PEOU, PU, BI, A, LI, HCC, and PD). in the USA / Other. Finally, homogeneity of variance was satisfied for all of the variables in the UK / Other groupings.

As mentioned previously, in those cases where the assumption of homogeneity of variance is not satisfied, it is akin to comparing apples to oranges rather than apples to apples. Accordingly, in those cases, it is only possible to consider the mean rank as an indicator of a general difference.

4.4.3 Mann-Whitney U

By grouping the variables in this way, each test would only have two grouping variables. Thus, the Mann-Whitney U was conducted three times. Table 38 summarizes the findings found in Tables S.2, S.3, and S.4 in Appendix S with regards to the Thai / Other grouping. The grouping size was 333 for Other (UK and USA) and 78 for Thai. As mentioned previously, the assumption of homogeneity of variance between groups was satisfied for PU, BI, A, LI, HCC, PD, and LC.

Looking at PU, the Other group was higher (median 4.00, first quartile 3.25, and third quartile 4.25) than the Thai group (median 3.50, first quartile 3.00, and third quartile 4.00). This indicates that the Thai group finds m-learning less useful than the Other group. With regards to SN both groups had the same median (3.75). However, the Other group had higher quartiles (first quartile of 3.50 and third quartile of 4.25) than did the Thai group (first quartile of 3.00 and second quartile of 4.00). This would indicate that the Other group had a stronger perception that their management / organization wanted them to use the system. In both cases the finds were at a level that could be considered significant.

A on the other hand was not as clear cut. Both groups had the same median (4.0) but the Other group had a lower first quartile value (3.5) than the Thai (3.67). At the same time, the Other group had a higher third quartile (4.67) than the Thai group (4.33). This left the interquartile range far greater for the Other group (1.17) than the Thai (0.66). Given this range, it is hard to determine which group had a better attitude regarding using m-learning. If based purely on mean rank, a case could be made that the Other group (mean rank of 208.03) had a slightly more positive attitude than the

Thai group (mean rank of 197.35). That being said, it was not at a level that could be considered significant.

With regards to BI both groups had the same median (4.00). However, the Other group had higher quartiles (first quartile of 3.50 and third quartile of 4.50) than did the Thai group (first quartile of 3.00 and second quartile of 4.00). This would indicate that the Other group had a greater intention to use the system. Finally, with regards to LI, across the board, the Other group was higher (median 4.00, first quartile 3.60, and third quartile 4.20) than the Thai group (median 3.80, first quartile 3.35, and third quartile 4.00). This would indicate that over all, the Other group perceived themselves as having greater initiative to not only start but also persevere to the ultimately completion of a learning goal. In both cases the findings were at a level that could be considered significant.

Finally, PEOU was the only TAM / LI construct that did not satisfy the assumption of homogeneity of variance. Accordingly, the results only indicate a general direction. As seen in Table 38 the Other group tend to perceive m-learning as easier to use (mean rank of 213.04) compared to the Thai group (mean rank of 175.96). This finding is at a level that could be considered significant.

With regards to the cross-cultural constructs, a more detailed discussion of the results can be found in the scale development section 4.1.2.4. Generally speaking the results indicate that the Other group was less AA, preferred greater HCC, perceived a more internal LC, showed greater PD, and were fairly similar with regards to SA to the Thai Group. Only in the case of AA and PD were the findings significant.

Table 38

Mann-Whitney U test on TAM / LI constructs – Thai / Other (UK & USA)

	Levene	Mann-Whitney U	Wilcoxon W	Z	Sig.	Thai	N	Mean Rank	Median	Q1	Q3
PEOU	0.024	10644.0	13725.0	-2.504	0.012	Other	333	213.04	4.00	3.50	4.25
						Thai	78	175.96	3.75	3.19	4.06
PU	0.341	10808.0	13889.0	-2.325	0.020	Other	333	212.54	4.00	3.25	4.25
						Thai	78	178.06	3.50	3.00	4.00
SN	0.560	11011.5	14092.5	-2.108	0.035	Other	333	211.93	3.75	3.50	4.25
						Thai	78	180.67	3.75	3.00	4.00
A	0.690	12312.0	15393.0	-2.219	0.468	Other	333	208.03	4.00	3.50	4.67
						Thai	78	197.35	4.00	3.67	4.33
BI	0.893	10961.5	14042.5	-0.726	0.026	Other	333	212.08	4.00	3.50	4.50
						Thai	78	180.03	4.00	3.00	4.00
LI	0.776	10728.5	13809.5	-2.409	0.016	Other	333	212.78	4.00	3.60	4.20
						Thai	78	177.04	3.80	3.35	4.00
AA	0.000	9166.5	64777.5	-4.066	0.000	Other	333	194.53	3.80	3.20	4.00
						Thai	78	254.98	4.00	3.60	4.20
HCC	0.094	11885.5	14966.5	-1.171	0.242	Other	333	209.31	3.00	2.50	3.75
						Thai	78	191.88	3.00	2.50	3.50
LC	0.216	12124.0	67735.0	-0.918	0.359	Other	333	203.41	2.25	1.50	3.00
						Thai	78	217.06	2.25	1.75	3.00
PD	0.092	9928.5	13009.5	-3.251	0.001	Other	333	215.18	3.00	2.25	3.75
						Thai	78	166.79	2.50	2.00	3.25
SA	0.000	12931.0	16012.0	-0.059	0.953	Other	333	206.17	2.20	1.60	3.40
						Thai	78	205.28	2.20	1.80	2.80

Note: Values below 0.05 for the Levene test of Homogeneity of Variances indicate that the particular variable does not satisfy the assumption of have homogeneity of variance between the groups and thus caution is needed when interpreting the Mann-Whitney U results for that variable.

Table 39 summarizes the findings found in Tables S.5, S.6, and S.7 in Appendix S with regards to the USA / Other (Thai and UK) grouping. The grouping size was 178 for Other and 233 for USA. The assumption of homogeneity of variance between the two groups was satisfied in eight variables (PEOU, PU, BI, A, SN, LI, HCC, and PD).

For the TAM constructs, although the mean rank would indicate that the USA tended to have a more favorable perception of each variable, the medians and quartiles show the potential difference to be small. For example, the other group had a lower median (3.75) than the USA group (4) for PEOU, but in both cases the first quartile (3.50) and third quartile (4.25) as well as the corresponding interquartile spread (0.75) were the same. This was the same for SN, with a lower median for the Other group (3.75) than the USA group (4.00) but the rest the same (first quartile (3.25), third quartile (4.25), and interquartile spread (1)). PU differs slightly in that both have the same third quartile (4.25) but the Other group has a lower median (3.88) and first quartile (3.0) than the USA group (median (4.0) and first quartile (3.25) leaving the USA group with a smaller interquartile spread of 0.25 compared to 0.37 for the Other group. For A, both groups had the same median (4.0) and third quartile (4.67) but the Other group had a higher first quartile (3.67) than the USA Group (3.33). This means the interquartile spread for the Other group (1) was smaller that the spread for the USA (1.34). Finally, for BI, both the median (4.0) and first quartile (3.5) were the same while the Other group had a lower third quartile (4.5) than the USA group (4.75). Accordingly, the interquartile spread is larger for the USA group (1.25) compared to the Other group (1). In all cases, however, these differences indicating the USA group tended to have a more favorable perception of each variable is at a level that could not be considered significant. With regards to LI, on the other hand, although both groups had the same interquartile spread (0.8), the USA group showed stronger LI at all levels (median 4.0, first quartile 3.60 and third quartile 4.40) than the other group (median 3.8, first quartile 3.4 and third quartile 4.2). Furthermore, this difference was at a level that could be considered significant.

Table 39

Mann-Whitney U test – USA / Other (Thai & UK)

	Levene	Mann-Whitney U	Wilcoxon W	Z	Sig.	Group	N	Mean Rank	Median	Q1	Q3
PEOU	0.250	18926.0	34857.0	-1.532	0.126	Other	178	195.83	3.75	3.50	4.25
						USA	233	213.77	4.00	3.50	4.25
PU	0.431	19650.0	35581.0	-0.918	0.359	Other	178	199.89	3.88	3.00	4.25
						USA	233	210.67	4.00	3.25	4.25
SN	0.810	19339.5	35270.5	-1.180	0.238	Other	178	198.15	3.75	3.25	4.25
						USA	233	212.00	4.00	3.25	4.25
A	0.576	20016.5	35947.5	-0.613	0.540	Other	178	201.95	4.00	3.67	4.67
						USA	233	209.09	4.00	3.33	4.67
BI	0.521	19416.5	35347.5	-1.145	0.252	Other	178	198.58	4.00	3.50	4.50
						USA	233	211.67	4.00	3.50	4.75
LI	0.524	18330.0	34261.0	-2.031	0.042	Other	178	192.48	3.80	3.40	4.20
						USA	233	216.33	4.00	3.60	4.40
AA	0.009	18288.500	45549.500	-2.062	0.039	Other	178	219.76	3.80	3.40	4.20
						USA	233	195.49	3.80	3.20	4.00
HCC	0.066	18290	45551	-2.059	0.040	Other	178	219.75	3.00	2.50	3.75
						USA	233	195.50	3.00	2.25	3.50
LC	0.034	16989	44250	-3.156	0.002	Other	178	227.06	2.25	2.00	3.00
						USA	233	189.91	2.00	1.25	3.00
PD	0.451	19467	35398	-1.068	0.285	Other	178	198.87	2.75	2.25	3.50
						USA	233	211.45	3.00	2.25	3.75
SA	0.031	19016.5	46277.5	-1.445	0.148	Other	178	215.67	2.40	1.80	3.20
						USA	233	198.62	2.20	1.60	3.40

Note: Values below 0.05 for the Levene test of Homogeneity of Variances indicate that the particular variable does not satisfy the assumption of have homogeneity of variance between the groups and thus caution is needed when interpreting the Mann-Whitney U results for that variable.

Furthermore, as discussed in 4.1.2.4 Statistical Significance, the Other group had higher AA, HCC, LC (more external), and SA but lower PD, than did the USA group. That said, it was not possible to reject the null hypothesis that the distributions of both groups are identical for PD and SA. Accordingly, the differences were only at a level that could be considered significant for AA, HCC, and LC.

Table 40 summarizes the findings found in Tables S.8 and S.9 in Appendix S with regards to the UK / Other grouping. The grouping size was 311 for Other and 100 for UK. According to the Levene test, the assumption of homogeneity of variance between groups was satisfied for all variables. For the TAM constructs, although the mean rank would indicate that the UK tended to have a more favorable perception of each variable except A, the medians and quartiles show the potential difference to be small at best. For example, the median (4.0) and first quartile (3.5) for PEOU were the same for both groups with only the third quartile differing between the Other group (4.25) and the UK group (4.5). The corresponding interquartile spread was larger for the UK group (1) than the other group (0.75). For PU, both groups had the same median (4.0) and interquartile range (1.25) but the other group had a lower first quartile (3.0) and third quartile (4.25) than did the UK group (first quartile 3.25 and third quartile 4.5). This was also the case for SN, where both groups had the same median (3.75) and interquartile range (1) but the Other group had a lower first quartile (3.25) and third quartile (4.25) than did the UK group (first quartile 3.5 and third quartile 4.5). Here it is interesting to note that with regards to A and BI both groups were the same. For A both groups had the same median (4.0), first quartile (3.67) and third quartile (4.67) and for BI both groups had the same median (4.0), first quartile (3.5) and third quartile (4.5). Finally, for LI, both groups had the same third quartile (4.20) but the Other group had a lower median (3.80) and first quartile (3.40) than the UK group (median 4.0 and first quartile 3.6). Accordingly, the interquartile spread for the Other group was larger (0.8) than the UK group (0.6). Thus, although according to the above, the Other group had a lower PEOU and PU of the mobile learning, were less influenced by SN, had a barely perceptible more positive A but a lower BI and lower LI than did the UK, in all cases these differences were not at a level that could be considered significant.

Furthermore, as discussed in 4.1.2.4 Statistical Significance, the Other group had lower SA, lower HCC, lower PD, lower external LC, and higher AA than the UK group. However, only in the cases of HCC and LC is it possible to reject the null hypothesis and conclude that the two groups are distinct.

Table 40

Mann-Whitney U test – UK / Other

	Levene	Mann-Whitney U	Wilcoxon W	Z	Sig.	Group	N	Mean Rank	Median	Q1	Q3
PEOU	0.676	15018.0	63534.0	-0.520	0.603	Non	311	204.29	4.00	3.50	4.25
						UK	100	211.32	4.00	3.50	4.50
PU	0.503	14458.0	62974.0	-1.065	0.287	Non	311	202.49	4.00	3.00	4.25
						UK	100	216.92	4.00	3.25	4.50
SN	0.418	14972.0	63488.0	-0.564	0.573	Non	311	204.14	3.75	3.25	4.25
						UK	100	211.78	3.75	3.50	4.50
A	0.319	15504.5	20554.5	-0.045	0.964	Non	311	206.15	4.00	3.67	4.67
						UK	100	205.55	4.00	3.67	4.67
BI	0.472	14845.0	63361.0	-0.706	0.480	Non	311	203.73	4.00	3.50	4.50
						UK	100	213.05	4.00	3.50	4.50
LI	0.327	15401.5	20451.5	-0.145	0.885	Non	311	206.48	3.80	3.40	4.20
						UK	100	204.52	4.00	3.60	4.20
AA	0.603	14178.0	19228.0	-1.334	0.182	Non	311	210.41	3.80	3.40	4.20
						UK	100	192.28	3.80	3.20	4.00
HCC	0.401	12001.5	60517.5	-3.448	0.001	Non	311	194.59	3.00	2.25	3.50
						UK	100	241.49	3.25	2.75	4.00
LC	0.135	12665.0	61181.0	-2.805	0.005	Non	311	196.72	2.25	1.50	3.00
						UK	100	234.85	2.50	2.00	3.00
PD	0.873	13761.5	62277.5	-1.737	0.082	Non	311	200.25	2.75	2.25	3.50
						UK	100	223.89	3.00	2.50	3.75
SA	0.131	13773.5	62289.5	-1.723	0.085	Non	311	200.29	2.20	1.60	3.00
						UK	100	223.77	2.40	1.80	3.55

Note: Values below 0.05 for the Levene test of Homogeneity of Variances indicate that the particular variable does not have homogeneity of variance between the groups and thus caution is needed when interpreting the results for that variable.

4.4.4 Reflective Measurement Models

As in the pilot study, this first section will consider the extent to which changes in the indicators reflect the change in their associated latent construct. Stability was assessed using “Stop Criterion Changes” where the algorithm converged after iteration 2 (i.e lower than the Maximum iterations which was set to 5000).

Table 41

Corporate Study Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
A	0.877	0.924	0.803
AA	0.830	0.876	0.586
BI	0.825	0.920	0.851
HCC	0.770	0.834	0.563
LC	0.721	0.821	0.535
LI	0.808	0.866	0.565
PDI	0.777	0.850	0.587
PEOU	0.787	0.861	0.614
PU	0.920	0.944	0.807
SA	0.887	0.916	0.685
SN	0.790	0.864	0.613

Note: Moderating effect of AA on PEOU-A, HCC on PU-BI, LC on LI-BI, LC on LI-PEOU, PDI on SN-BI, PDI on SN-LI, and SA on LI-A plus the Dummy / Single item scales Activist, Gender, Org A, Org B, Org C, Org D, Pragmatist, and Theorist as well as the ordinal scale items Age, Education, Occupational Seniority all have Cronbach's Alphas, Composite Reliability, and Average Variance Extracted equal to one

4.4.4.1 Internal consistency reliability

Both Cronbach's Alpha and Composite reliability were used in order to assess internal consistency reliability. As seen in Table 41, in all cases the Cronbach's Alpha and composite reliability are between 0.7 and 0.95. However, as seen in Appendix W, when looking at the groups separated out by countries, there are some reliability issues in both Thailand and the UK. Table W.1 shows that in Thailand, HCC is a bit problematic because at 0.674, the Cronbach’s alpha is a little low, as is the Composite Reliability (0.341). With regards to PD, the Cronbach’s alpha is good, but the composite reliability is low at 0.383. Furthermore, Table W.2 shows that in the UK, the only problem that arose was with LC which had a slightly low Cronbach’s alpha at 0.594. However, the Composite Reliability was good at 0.729. In the USA on the other hand, all indicators were good. Bardi and Schwartz (2003) also experienced a similar range (0.49-0.84) in indicators between groups. The study suggested that “this variation in alphas corresponded to differences in the breadth of the value constructs and in the range of contexts in which values may be pursued” (p. 1217).

4.4.4.2 Convergent Validity

As in the pilot study, Average Variance Extracted (AVE) was considered when assessing convergent validity (degree of actual relationship). In all cases the AVE was greater than 0.5 (Hair et al., 2011). Furthermore, seen in Appendix W, Table W.1 shows that in Thailand, the AVE for AA is a little low at 0.474, even though both the Cronbach’s alpha and Composite reliability are good. Furthermore, HCC is a bit more problematic as the AVE (0.220) is very low and PD is also low at 0.245. Finally, with regards to SA, the AVE is a little low at 0.418. As observed in Table W.2, in the UK, the only issue that arose was LC with an AVE of 0.413. In the USA, all AVE were good. As previously mentioned, these differences could correspond to the range of contexts in which the different values inherent in the various indicator items may be pursued.

4.4.4.3 Indicator reliability

As seen in Tables 42 and 43, with the exception of PEOU2, AA5, HCC1, HCC3, LC6, LC8, and PDI7, the indicator loadings are above the suggested 0.70. Those indicator outer loadings below 0.70 ranged between 0.580 and 0.696 and thus needed closer consideration. The indicators were reviewed and given their proximity to 0.7, it was determined that their removal would not benefit the scale. Accordingly, all the items were retained (Hair et al., 2013). The issues associated with AA in the pilot study were addressed and as seen below, are no longer an issue. That being said, as seen in Appendix X, when considering the results by nationality, the results become more problematic.

As seen in Table X.1, the results for Thailand show issues with indicators in AA, where AA2 is 0.335 and AA5 is 0.586. Furthermore, with the exception of HCC5, the remaining HCC indicators are very low. For LC, although LC6 and LC8 are below 0.7, they are still within the range of what could be deemed acceptable. This is also the case for LI3, LI4, and LI5. That is not the case for PDI, which only has one indicator above .7 with the remaining being extremely low. With regards to SA, SA4 is moderately low while SA 2 and SA6 are extremely low. Finally, SN3 is only slightly low and within the realm of acceptable. If this were a separate study, the majority of the above-mentioned indicators would be removed. However, as the removal of any of the indicators would negatively impact the UK, USA, and Combined results, they were not removed. Table X.2 shows that in the UK, with the exception of LC7 at 0.479 and SA6 at 0.258, the indicators that are lower than 0.7 tend to be above 0.5. Again, none of the indicators of concern were removed as it would impact the USA, Thai and Combined results. Finally, Table X.3 shows that in the USA, with the exception of PEOU2 (0.495), those loadings that are below 0.7 fall within the range of 0.5 and above. As mentioned previously, there is no way to remove items to make the loadings work for each different country as those that have low loadings in one country have high loadings in the other countries.

Table 42

Corporate Study Cross-loadings for TAM / LI Construct Items

Items	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A1	0.893	0.244	0.726	0.091	-0.207	0.495	0.063	0.545	0.640	-0.047	0.604
A2	0.909	0.216	0.664	0.042	-0.222	0.450	0.027	0.516	0.586	-0.094	0.557
A3	0.886	0.190	0.636	0.078	-0.211	0.463	0.054	0.529	0.574	-0.092	0.566
BI1	0.705	0.136	0.925	0.069	-0.232	0.497	0.048	0.466	0.551	-0.083	0.642
BI2	0.690	0.144	0.920	0.088	-0.184	0.500	0.029	0.46	0.501	-0.064	0.61
LI1	0.459	0.173	0.408	0.065	-0.168	0.764	0.128	0.415	0.374	-0.035	0.397
LI2	0.455	0.205	0.425	0.098	-0.171	0.808	0.138	0.360	0.383	0.035	0.435
LI3	0.349	0.156	0.354	0.194	-0.054	0.712	0.244	0.274	0.286	0.143	0.345
LI4	0.321	0.066	0.372	0.069	-0.14	0.714	0.100	0.320	0.274	-0.008	0.336
LI5	0.369	0.154	0.463	0.086	-0.107	0.758	0.164	0.403	0.356	0.049	0.383
PEOU*AA	-0.122	-0.006	-0.099	0.102	0.087	-0.027	0.196	-0.013	0.011	0.190	-0.071
PEOU1	0.535	0.214	0.419	0.114	-0.157	0.395	0.067	0.814	0.509	-0.011	0.473
PEOU2	0.259	0.15	0.289	0.135	0.029	0.255	0.194	0.580	0.240	0.117	0.282
PEOU3	0.514	0.219	0.419	0.110	-0.106	0.460	0.178	0.879	0.489	0.045	0.465
PEOU4	0.485	0.163	0.428	0.132	-0.100	0.352	0.208	0.827	0.507	0.081	0.447
PU*HCC	-0.153	0.078	-0.067	0.077	-0.020	0.005	0.116	-0.020	-0.217	0.119	0.007
PU1	0.568	0.209	0.499	0.155	-0.108	0.432	0.179	0.566	0.879	0.093	0.592
PU2	0.591	0.220	0.506	0.178	-0.068	0.407	0.190	0.469	0.896	0.140	0.55
PU3	0.593	0.189	0.494	0.169	-0.100	0.368	0.156	0.512	0.909	0.104	0.53
PU4	0.656	0.211	0.549	0.219	-0.099	0.409	0.187	0.524	0.910	0.088	0.569
SN * PDI	0.050	0.072	0.089	0.089	-0.020	0.036	0.101	0.034	-0.015	0.121	0.018
SN * PDI	0.050	0.072	0.089	0.089	-0.020	0.036	0.101	0.034	-0.015	0.121	0.018
SN1	0.413	0.214	0.442	0.142	-0.056	0.354	0.216	0.34	0.461	0.136	0.783
SN2	0.482	0.227	0.480	0.184	-0.081	0.340	0.200	0.384	0.570	0.164	0.808
SN3	0.528	0.218	0.558	0.114	-0.181	0.419	0.126	0.472	0.500	-0.044	0.760
SN4	0.575	0.190	0.626	0.002	-0.223	0.462	0.02	0.487	0.424	-0.147	0.780

Table 43

Corporate Study Cross-loadings for Cross-Cultural Construct Items

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
AA2	0.119	0.708	0.048	0.222	0.020	0.043	0.265	0.094	0.136	0.188	0.162
AA4	0.143	0.786	0.070	0.25	0.006	0.095	0.33	0.179	0.161	0.267	0.184
AA5	0.124	0.693	0.086	0.351	0.015	0.144	0.388	0.136	0.115	0.321	0.144
AA6	0.240	0.830	0.162	0.166	-0.086	0.214	0.204	0.233	0.211	0.138	0.238
AA8	0.234	0.801	0.156	0.142	-0.087	0.209	0.232	0.218	0.215	0.108	0.259
HCC1	0.054	0.171	0.038	0.636	0.298	0.113	0.482	0.173	0.150	0.439	0.116
HCC3	0.023	0.225	0.012	0.637	0.235	0.048	0.449	0.068	0.140	0.518	0.104
HCC4	0.084	0.263	0.097	0.910	0.231	0.145	0.412	0.133	0.195	0.536	0.141
HCC5	0.044	0.160	0.052	0.783	0.218	0.045	0.355	0.076	0.117	0.510	0.054
LC5	-0.231	-0.008	-0.199	0.267	0.809	-0.181	0.24	-0.111	-0.068	0.366	-0.17
LC6	-0.150	-0.089	-0.147	0.232	0.676	-0.064	0.208	-0.097	-0.035	0.309	-0.092
LC7	-0.160	-0.047	-0.196	0.173	0.775	-0.137	0.125	-0.087	-0.123	0.271	-0.151
LC8	-0.134	-0.030	-0.075	0.206	0.656	-0.09	0.213	-0.053	-0.075	0.355	-0.073
PDI3	0.054	0.181	0.041	0.399	0.221	0.187	0.803	0.159	0.146	0.553	0.198
PDI5	0.073	0.389	0.082	0.339	0.096	0.157	0.727	0.152	0.146	0.357	0.153
PDI6	0.026	0.236	0.006	0.437	0.246	0.154	0.830	0.177	0.195	0.592	0.081
PDI7	-0.035	0.273	-0.062	0.443	0.323	0.079	0.696	0.068	0.104	0.596	0.024
SA2	-0.049	0.210	-0.028	0.524	0.346	0.026	0.593	0.052	0.169	0.794	0.081
SA3	-0.044	0.164	-0.044	0.564	0.315	0.059	0.577	0.087	0.134	0.843	0.039
SA4	-0.077	0.190	-0.065	0.485	0.398	0.048	0.544	0.078	0.076	0.842	-0.003
SA5	-0.103	0.202	-0.118	0.574	0.382	0.007	0.563	0.032	0.074	0.913	0.005
SA6	-0.045	0.240	-0.021	0.491	0.341	0.084	0.491	0.02	0.086	0.737	0.020

Table 44

Corporate Study Cross-loadings for Control Variables

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
Activist	0.109	0.083	0.071	0.018	-0.029	0.132	0.124	0.129	0.166	0.075	0.104
Age	0.068	-0.063	0.104	-0.104	-0.05	0.032	-0.114	-0.065	-0.081	-0.156	0.011
Education	-0.001	-0.038	-0.002	-0.033	-0.009	-0.064	-0.179	-0.089	-0.116	-0.102	-0.016
Gender	-0.021	0.012	0.041	-0.191	-0.004	0.017	-0.138	-0.055	0.005	-0.209	-0.023
Occ. Seniority	0.085	-0.026	0.110	-0.026	-0.055	0.037	0.040	0.097	-0.015	-0.056	0.064
Pragmatist	-0.132	-0.033	-0.097	-0.039	0.031	-0.092	-0.08	-0.021	-0.105	-0.027	-0.096
Theorist	-0.059	-0.006	-0.081	0.133	0.099	-0.014	0.137	-0.053	-0.032	0.159	-0.033
OrgCultA	-0.057	-0.013	-0.054	-0.028	-0.004	0.018	0.013	-0.017	-0.024	0.022	-0.041
OrgCultD	0.020	-0.001	0.040	0.026	0.078	0.058	0.003	0.021	0.022	0.023	0.019
OrgCultC	0.035	0.061	0.035	-0.003	0.019	0.021	-0.018	-0.015	-0.049	0.021	-0.016

4.4.4.4 Discriminant Validity

As in the pilot study, the cross-loadings, the Fornell-Larcker criterion, and the HTMT were evaluated to establish discriminant validity (that the construct measurements only measure construct of interest).

Referring back to Tables 42, 43 and 44, the cross loadings would suggest that discriminant validity has been established, since all the “indicators’ outer loadings on the associated construct are greater than the loadings on the other constructs” (Hair et al., 2013, p. 104). Again, while this works for the combined dataset, this would not be the case for the cultural variables on a country specific basis.

As seen in Table 45, since the square root of the AVE found on the diagonal is larger than the correlations between the latent variables in each column/row, discriminant validity is established (Hair et al., 2013). Even when breaking out the results on a nationality basis, discriminant validity can be established for each country (Appendix Y).

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Fornell-Larcker Criterion

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A	0.896										
AA	0.243	0.765									
BI	0.756	0.152	0.923								
HCC	0.079	0.268	0.085	0.75							
LC	-0.238	-0.054	-0.226	0.298	0.732						
LI	0.524	0.205	0.54	0.133	-0.173	0.752					
PDI	0.054	0.344	0.042	0.511	0.261	0.203	0.766				
PEOU	0.592	0.24	0.502	0.151	-0.123	0.476	0.195	0.783			
PU	0.671	0.231	0.571	0.202	-0.105	0.45	0.199	0.577	0.898		
SA	-0.086	0.237	-0.08	0.631	0.433	0.045	0.658	0.062	0.118	0.828	
SN	0.644	0.271	0.679	0.138	-0.178	0.507	0.173	0.543	0.624	0.026	0.783

Finally as seen Table 46, discriminant validity is established as all HTMT are below 0.9 (SmartPLS, 2017).

Table 46

Corporate Study Heterotrait-Monotrait ratio (HTMT)

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA
AA	0.261									
BI	0.886	0.164								
HCC	0.082	0.364	0.082							
LC	0.287	0.107	0.271	0.431						
LI	0.616	0.226	0.659	0.154	0.206					
PDI	0.074	0.466	0.087	0.726	0.391	0.239				
PEOU	0.609	0.275	0.617	0.198	0.168	0.581	0.242			
PU	0.745	0.249	0.654	0.232	0.125	0.516	0.226	0.655		
SA	0.088	0.316	0.077	0.794	0.546	0.094	0.824	0.108	0.144	
SN	0.765	0.317	0.833	0.201	0.214	0.626	0.235	0.67	0.731	0.190

Taking a look specifically at the case of BI – A, the HTMT is below the suggested 0.9 indicating that in this case discriminant validity has been established. As seen in Appendix Y, discriminant validity can also be established for USA and Thai country specific analysis, however as seen in Table Y.5, for the UK, discriminant validity cannot be established in the case of A-BI, SA-PD (relationship between two cross-cultural variables is not being investigated in the model) and SN-PU. This would mean that in the UK, it is not possible for the latent variable to account for more variance than the error or other constructs within the model (A. M. Farrell, 2010). This could be due to expected associations between the constructs (Schutte et al., 1998) or even possibly respondent error. Ultimately, with regards to UK specific conclusions, caution will need to be taken in reaching conclusions on the relationship between A-BI and SN-PU.

4.4.5 Structural Model

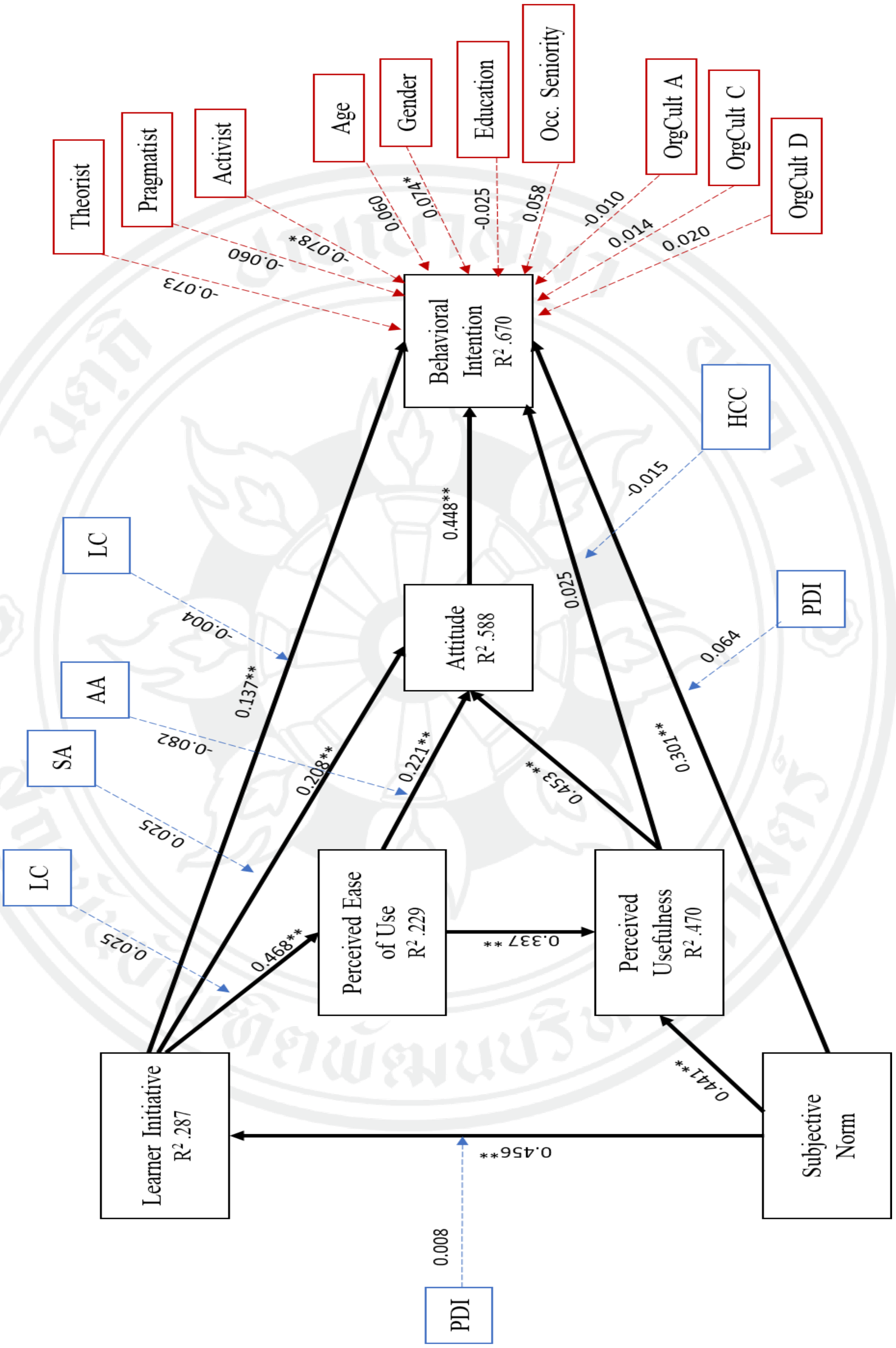

Figure 39: PLS SEM Results for Corporate Study

As previously mentioned, PLS SEM is able to still "provide precise estimates in situations with extremely non-normal data" (Ringle et al., 2012).

Consistent with the pilot study, the structural model seen in Figure 39 will be assessed in 5 steps: (1) assess the structural model for collinearity issues, (2) assess the significance and relevance of the structural model relationships, (3) assess the level of R^2, (4) assess the effect sizes of f^2 and (5) finally the last step is to assess the predictive relevance of Q^2 and the q^2 effect sizes (Hair et al., 2013).

4.4.5.1 Collinearity Assessment

As mentioned previously, collinearity can negatively impact the integrity of the findings. Accordingly, the Variance Inflation Factor (VIF) is being utilized to rule out possible multi-collinearity. For the combined data, all outer VIFs and inner VIFs were well below the suggested upper limit of 5 (Hair et al., 2013).

An issue occurred once the data was grouped by country. It happened that there were a few cases where multi-collinearity could not be ruled out. As seen in Appendix Z, in the case of the Thai group, the outer VIF for PU3 (5.312) falls above five and thus would be considered to correlate with other predictors. Looking at Table AA.1 in Appendix AA, it can be seen that PU3 is strongly correlated with other PU (above 0.790 Pearson Correlation Coefficient and significant at 0.01 level). Given the high correlation with the other PU variables, the high VIF could mean that it would be hard to distinguish between the specific effect PU3 has and the specific effect the other PU variables have on the endogenous variable. This may be less of a problem as PU3 is part of the latent variable PU.

On the other hand, the UK group also has an issue where the outer VIF for SA5 is 5.938. Looking at Table BB.1 in Appendix BB it can be seen that SA5 displays correlation (all above .626 Pearson Correlation Coefficient) that is significant at the 0.01 level with the other SA indicators. Moreover, a corresponding level of correlation exist with PD (ranging from 0.298 to 0.677) and HCC (0.407 to 0.630). Furthermore, SA5 shows correlation at this level of significance with SN1 (0.289), SN2 (0.307), AA4 (0.267), AA5 (0.267), LC5 (0.308), LC8 (0.277). There is also correlation with AA2 (0.223), AA6 (0.215), and LC6 (0.242) which is significant at the 0.05 level.

Thus, for the UK, given the high correlation with the other SA variables as well as PD and HCC, the high VIF could mean that it would be hard to distinguish between the specific effect SA5 has and the specific effect the other SA, PD and HCC variables have on the endogenous variable. One way to address this would be to remove issues causing collinearity (Dormann et al., 2013), however, this would then negatively impact the complete, Thai, and USA data sets. Accordingly, caution will need to be taken if analyzing SA5 independently for the UK data group.

4.4.5.2 Assessment of Significance and Relevance

Looking at the Path Coefficients, which represent "the hypothesized relationships among the constructs" (Hair et al., 2013, p. 170), those coefficients that are closer to ±1 are the strongest while those closer to 0 are weakest.

As seen in Table 47 there are 13 relationships that are strong, with t-values over 2.57 indicating a significance level of 1%. There are another four that have t-values less than 2.57 but greater than 1.96, indicating a significance level of 5%. Finally, there are five relationships, outside of those mentioned above, with values for two two-tailed tests less than 1.96 but greater than 1.65, indicating a significance level of 10 %. The five strongest relationships starting with the strongest are (1) SN-LI, (2) A-BI, (3) LI-PEOU, (4) PU-A, and (5) SN-PU.

Table 47

Corporate Study Path Coefficients

	Original Sample (O)	Sample Mean (M)	Std Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
A -> BI	0.448	0.448	0.047	9.459	0.000
AA -> A	0.079	0.077	0.039	2.010	0.045
AA mod PEOU -> A	-0.082	-0.080	0.046	1.796	0.073
Activist -> BI	-0.078	-0.078	0.036	2.207	0.028
Age -> BI	0.060	0.062	0.030	2.009	0.045
Education -> BI	-0.025	-0.025	0.033	0.738	0.461
Gender -> BI	0.074	0.071	0.029	2.512	0.012
HCC -> BI	0.050	0.048	0.055	0.904	0.366
HCC mod PU -> BI	-0.015	-0.017	0.039	0.387	0.698
LC -> BI	-0.023	-0.025	0.030	0.783	0.434
LC -> LI	-0.133	-0.137	0.043	3.107	0.002
LC -> PEOU	-0.045	-0.048	0.044	1.009	0.313
LC mod LI -> BI	-0.004	-0.003	0.028	0.154	0.878
LC mod LI -> PEOU	0.025	0.024	0.052	0.483	0.629
LI -> A	0.208	0.207	0.052	4.036	0.000
LI -> BI	0.137	0.136	0.039	3.529	0.000
LI -> PEOU	0.468	0.471	0.054	8.693	0.000
Occ. Seniority -> BI	0.058	0.057	0.032	1.786	0.074
Org A -> BI	-0.010	-0.009	0.033	0.294	0.769
Org C -> BI	0.014	0.014	0.025	0.546	0.585
Org D -> BI	0.020	0.021	0.032	0.623	0.534
PDI -> BI	-0.067	-0.061	0.044	1.525	0.128
PDI -> LI	0.158	0.162	0.047	3.338	0.001
PDI mod SN -> BI	0.064	0.064	0.033	1.953	0.051
PDI mod SN -> LI	0.008	0.008	0.041	0.206	0.837
PEOU -> A	0.221	0.221	0.056	3.939	0.000
PEOU -> PU	0.337	0.339	0.059	5.712	0.000
PU -> A	0.453	0.450	0.051	8.881	0.000
PU -> BI	0.025	0.025	0.045	0.560	0.576

Pragmatist -> BI	-0.060	-0.060	0.035	1.710	0.088
SA -> A	-0.169	-0.166	0.045	3.755	0.000
SA mod LI -> A	0.025	0.026	0.033	0.748	0.455
SN -> BI	0.301	0.297	0.056	5.365	0.000
SN -> LI	0.456	0.458	0.043	10.72	0.000
SN -> PU	0.441	0.440	0.055	8.013	0.000
Theorist -> BI	-0.073	-0.071	0.038	1.942	0.052

Figure 40 summarizes the TAM/LI findings found in Appendix CC. As seen, only the relationships A -> BI, LI -> PEOU, PEOU -> A, SN -> LI, and SN -> PU remain strong and significant in all three countries. In the UK, the relationships LI -> A, LI -> BI, PEOU -> PU, and SN -> BI are not strong or significant while in Thailand, the relationships LI -> BI and SN-BI are not strong or significant. In the USA, however all the TAM/LI relationships remain strong and significant. In the Thai data group those with t-values above 2.57 (significance level = 1%) are: A -> BI, LI -> A, LI -> BI, LI -> PEOU, PEOU -> A, PEOU -> PU, PU->A, SN -> BI, SN -> LI, and SN -> PU.

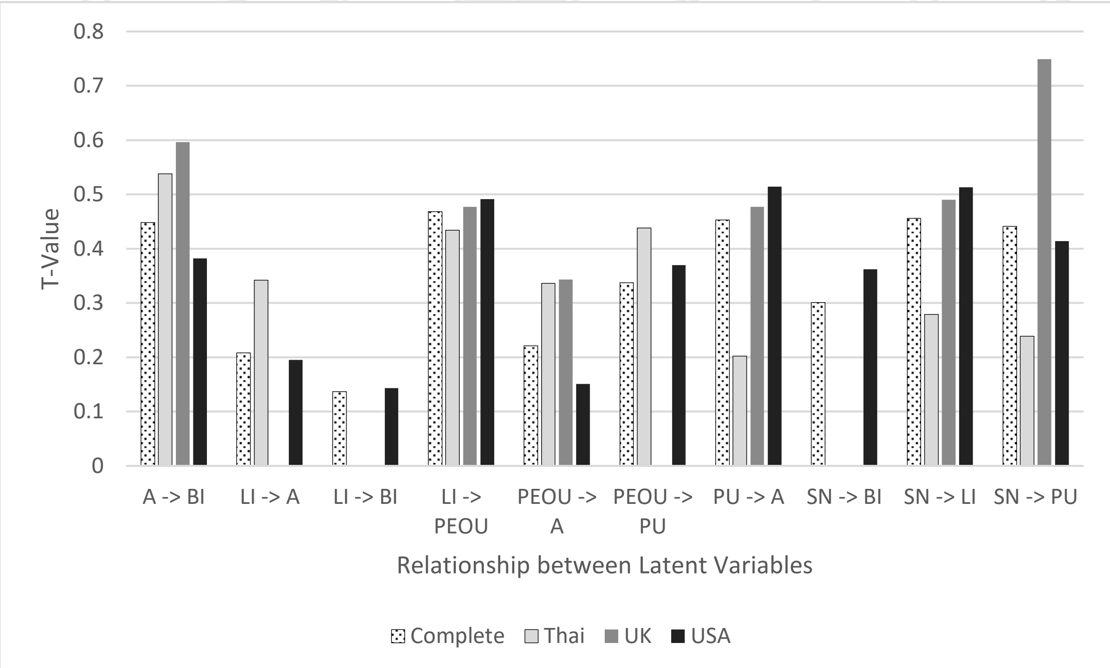

Figure 40: Country Comparison of TAM / LI Findings

In the UK data group, the strongest relationships with t-values above 2.57 (significance level = 1%) are A -> BI, LI -> PEOU, PEOU -> A, PU->A, SN -> LI, and

SN -> PU. None of the TAM/LI relationships were found in either the ranges 1.96 to 2.57 or 1.65 to 1.96. It is important to remember that in the UK, discriminant validity could not be established in the case of A-BI and SN-PU. Accordingly, the somewhat higher relationships of A-BI and SN-PU for the UK shown in Figure 40, could be due to a lack of discriminant validity and thus the path coefficients for those relationships cannot be taken at face value.

Finally, in the USA, the strongest relationships with t-value above 2.57 (significance level = 1%) are A -> BI, LI -> A, LI -> PEOU, PEOU -> PU, PU->A, SN -> BI, SN -> LI, and SN -> PU. With a t-value less than 2.57 but greater than 1.96, LI -> BI, PEOU -> A is considered to have a significance level of 5%. None of the TAM/LI relationships were found in the range with a t-value 1.65 to 1.96.

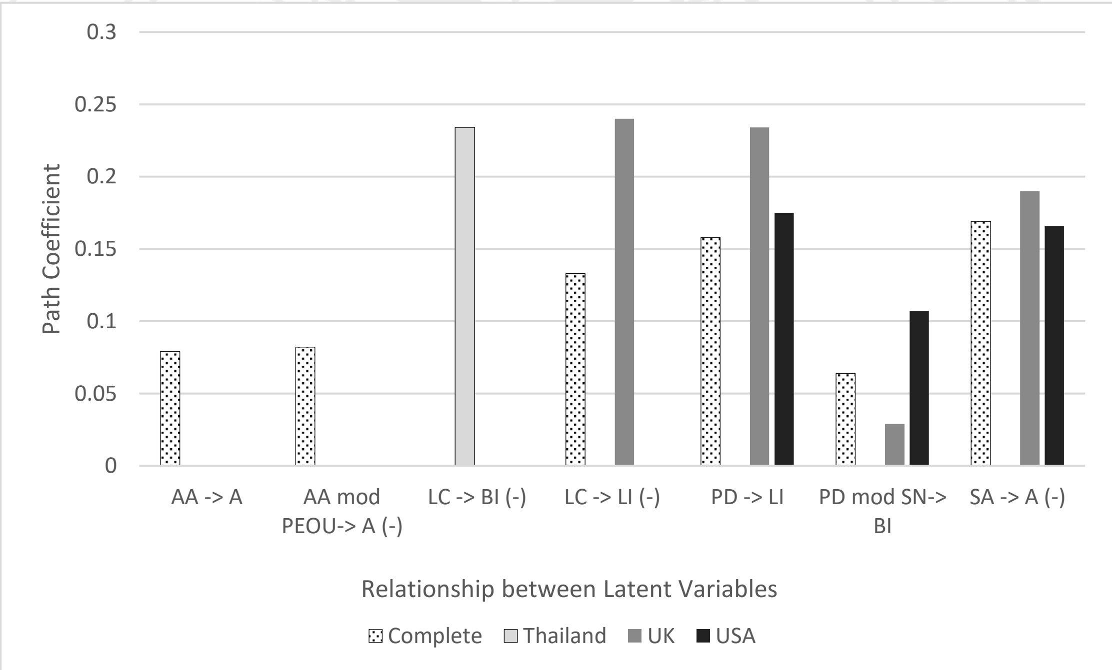

Figure 41: Country Comparison of Cross-Cultural Findings According to Path Coefficients with at least a 10% Significance Level. "(-)" Indicates that the Path Coefficient is Negative

A summary of the latent cultural variable findings found in Appendix CC. Figure 41 summarizes those findings, showing the path coefficients and including only those relationships that are significant at a level equal to at least 10% (t-value greater than 1.65). Here it can be seen that differences arise when the data is broken out by country data group and that none of the relationships remain significant across all countries.

The relationship AA - A (0.079) is only significant at a level of 10% for the complete data and is neither strong nor significant for the Thai, UK and USA data groups. Similarly, the moderating effect of AA on the relationship PEOU-> A (-0.082) is only significant at a level of 10% for the complete data and is neither strong nor significant for the country data groups.

On the other hand, the relationship LC -> BI (-0.234) is only significant at a level of 10% for the Thai data group and is neither strong nor significant for the combined data or the UK or USA country data groups. The relationships LC -> LI is only strong for the combined data (-0.133) and the UK (-0.240) data group and in both cases significant at a level of 1%.

Similarly, the relationship PD -> LI is strong only for the combined data (0.158), the UK (0.234) data group and the USA (0.175) data group and also significant at a level of 1%. Looking at the moderating role of PD on SN-> BI, it is only relevant in the combined data (0.064) and is only significant at a level of 10%.

Finally, the relationship SA -> A is neither strong nor significant for the Thai data group, however it is strong and significant at a level of 1% for the combined data (-0.169), the UK (-0.190) and the USA (-0.166) data groups.

Lastly, the control variables were selected due to their likelihood to impact the latent variables. Looking at the data in its entirety, various control variables do indeed impact the ultimate BI to use m-learning, as illustrated in Figure 42. That being said, none of the control variables remained strong and significant across all data groups. The relationship Age – BI was only somewhat strong for the combined data (0.06) and significant at a level of 5%. Gender-BI was also only somewhat strong for the combined data (0.074) and the USA data group (0.113) and while it was significant at a 5% level for the combined data, it was significant at a level of 1% for the USA data group.

Looking at learning styles, the relationship activist – BI was not strong or significant for the USA data group but was for the combined (-0.078) 5%, the Thai (-

0.216) and the UK (0.299). While both the combined and Thai data groups were significant at a level of 5%, the UK data group was significant at a level of 1%. The relationship between the style pragmatist – BI was not strong or significant for the complete data, but was for the Thai (-0.192), UK (-0.156), and USA (-0.093) data groups. While the UK was significant at a level of 5% both the UK and USA were significant at a level f 10%. Finally, the relationship between the style theorist – BI was neither strong nor significant for the Thai or USA data groups but was for the combined (-0.073) and the UK (-0.248) data groups. For the Thai data group, it was significant at a level of 5% while for the UK it was significant at a level of 10%.

Last but not least the relationship occupational seniority – BI was neither strong nor significant for the UK or USA data groups but was for the combined (0.058) and the Thai (0.342) data group. For the combined data it was significant at a level of 10% while for the Thai group it was significant at a level of 1%.

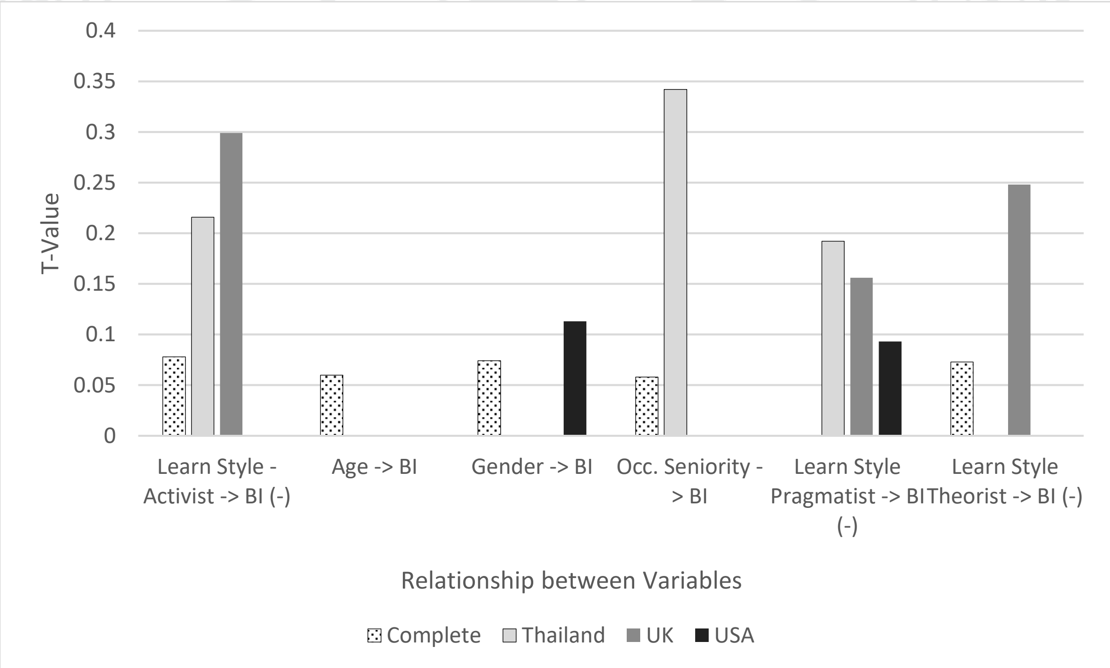

Figure 42: Country Comparison of Control Variable Findings According to Path Coefficients with at least a 10% Significance Level. The Data is Part of the Corporate Level Study. “(-)” Indicates that, with the Exception of Thailand, the Path Coefficient is Negative

4.4.5.3 R^2 and adjusted R^2

R Square (R^2) and adjusted R^2 consider the extent to which the variance in an endogenous latent variable can be account for by the predictor variables. Table 48 displays the R^2 for each endogenous variable. Using the R^2 adjusted, which is considered the more conservative measurement, it can be said that the R^2 adjusted for endogenous latent variables BI (0.653) and of A (0.581) are moderate to substantial (between 0.50 and 0.75)(Hair Jr et al., 2011). In other words, approximately 65.3% of the variance in BI could be accounted for by A, HCC, LC, LI, PDI, PU, SN and the control variables while 58.1% of the variance in A can be accounted for by AA, LI, PEOU, PU, and SA. The R^2 adjusted value for the endogenous latent variables LI (0.280), PEOU (0.223), and PU (0.467) could be considered weak to moderate (between 0.25 and 0.50). Accordingly, approximately 46.7% of the variance in PU can be accounted for by PEOU and SN. Finally, 28.4% of the variance in LI can be accounted for by LC, PDI, and SN and 22.3% of the variance in PEOU can be accounted for by LC, LI and SA.

Table 48

R Square Values for Complete Data from the Corporate Level Study

	R Square	R Square Adjusted
A	0.588	0.581
BI	0.670	0.653
LI	0.287	0.280
PEOU	0.229	0.223
PU	0.470	0.467

R^2 values are substantial at 0.75, moderate at 0.50 and weak at 0.25 (Hair, Hult, Ringle, & Sarstedt, 2016)

As seen in Appendix DD and summarized in Figure 43, when considering the data groups for the countries individually, the R squared varies. The R^2 adjusted for the endogenous latent variable A could be considered moderate in the Thai data group

(0.528), moderate to substantial in the UK (0.744) data group and moderate in the USA (0.561) data group. This means that across the data groups (Thailand, UK, and USA) 52.8%, 74.4%, and 56.1% respectively of the variance in A can be accounted for by AA, LI, PEOU, PU, and SA.

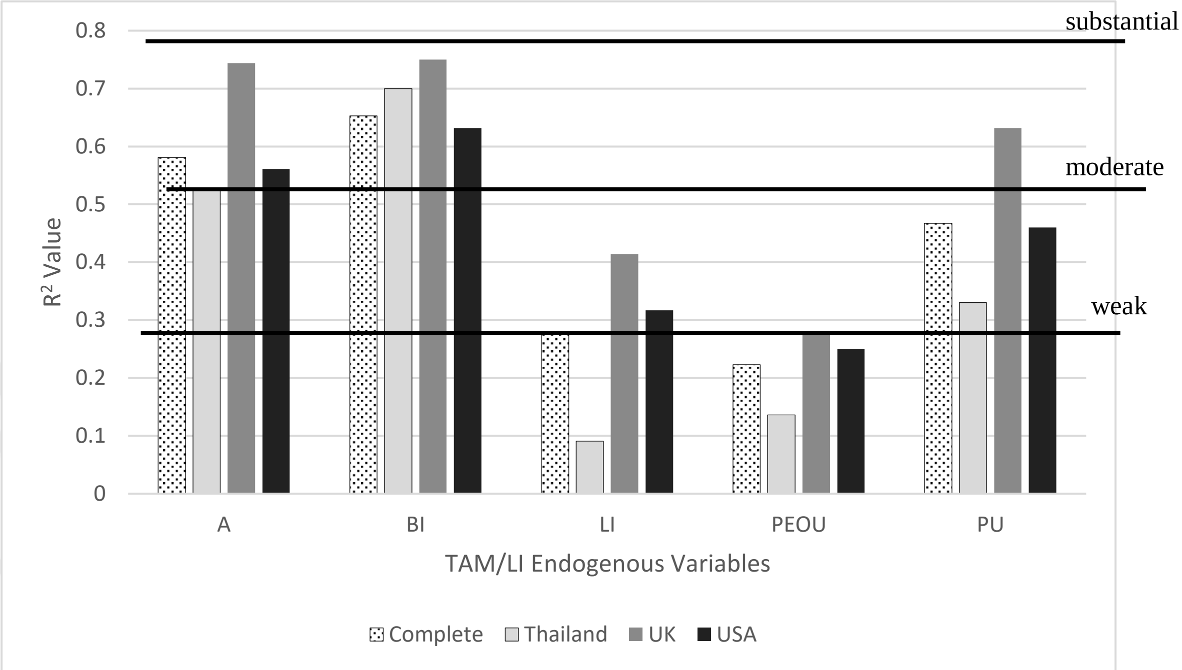

Figure 43: R^2 Values of Latent Endogenous Variables According to Data Group from the Corporate Level Study

The R^2 adjusted for the endogenous latent variable BI could be considered moderate to substantial in the Thai data group (0.70), substantial in the UK (0.75) data group and moderate to substantial in the USA (0.632) data group. Accordingly, 70%, 75%, and 63.2% respectively of the variance in BI could be accounted for by A, HCC, LC, LI, PDI, PU, SN and the control variables.

The R^2 adjusted for the endogenous latent variable LI could be considered extremely weak in the Thai data group (0.091), weak to moderate in the UK (0.414) data group and weak to moderate in the USA (0.317) data group. This indicates that 9.1%, 41.4%, and 31.7% respectively of the variance in LI can be accounted for by LC, PDI, and SN.

The R^2 adjusted for the endogenous latent variable PEOU could be considered very weak in the Thai data group (0.136), weak in the UK (0.275) data group and weak to moderate in the USA (0.25) data group. Thus 13.6%, 27.5%, and 25% respectively of the variance in PEOU can be accounted for by LC, LI and SA.

Finally, the R^2 adjusted for the endogenous latent variable PU could be considered weak in the Thai data group (0.33), moderate to substantial in the UK (0.632) data group and weak to moderate in the USA (0.46) data group. Indicating that 33%, 63.2% and 46% respectively of the variance in PU can be accounted for by PEOU and SN.

It is interesting to note that in all cases, the R^2 and R^2 adjusted for the UK data group are the strongest while the R^2 and R^2 adjusted for the Thai data group are the weakest. On the one hand this could indicate that the model has better explanatory power for the UK data group. On the other hand, the lack of discriminant validity in the UK data group with A-BI and SN-PU could be impacting the variables importance with regards to the R^2 results.

4.4.5.4 Assessment of Effect Sizes of f^2

In order to understand if a latent variable has a substantive impact on a corresponding endogenous construct, the f^2 effect size must be considered. Ultimately, the f^2 effect size value is calculated by considering what the R^2 value is with the predictor variable included (R^2_{incl}) and what it would be without the latent variable as a predictor variable (R^2_{excl}). The equation could be written as $f^2 = (R^2_{incl} - R^2_{excl}) / 1- R^2_{incl}$ (Hair et al., 2016). In this regard, SmartPLS calculates the f^2 effect size for all the relationships in the model.

Table 49

f^2 effect size calculations according to SmartPLS

	A	BI	LI	PEOU	PU
A		0.237			
AA	0.013				
AA mod PEOU-A	0.019				
Activist		0.011			
Age		0.009			
Education		0.001			
Gender		0.015			
HCC		0.005			
HCC mod PU-BI		0.001			
LC		0.001	0.022	0.002	
LC mod LI-BI		0			
LC mod LI-PEOU				0.001	
LI	0.073	0.036		0.276	
Occ. Seniority		0.009			
Org A		0			
Org C		0.001			
Org D		0.001			
PDI		0.008	0.030		
PDI mod SN-BI		0.013			
PDI mod SN-LI			0.000		
PEOU	0.071				0.151
PU	0.308	0.001			
Pragmatist		0.006			
SA	0.061				
SA mod LI-A	0.001				
SN		0.128	0.267		0.258
Theorist		0.009			

Note: f^2 values of 0.35 or greater indicate a large effect, values 0.15 or greater up to 0.35 indicate a medium effect, while values above 0.02 but below 0.15 indicate a weak effect.

While the values produced by SmartPLS differ from those values obtained through manual computation, it can be argued that the scores produced by SmartPLS are more reliable. This is because "when manually computing the f^2 values by estimating the model with and without a latent variable, the model changes and, thus, the latent variable scores. Hence the difference of the manually computed f^2 values results from the changes in the latent variable scores due to model modification" (Hair et al., 2016, p. 288).

Table 49 depicts the values resulting from the SmartPLS calculations. Looking at the effect size the predictor variables have on the endogenous variables, none of the variables would be considered as having a large effect (≥0.35) on their endogenous variables. A-BI, LI-PEOU, PEOU-PU, PU-A , SN-LI, and SN -PEOU all would be considered as having a moderate to large effect. While LI-A, LI-BI, PDI–LI, PEOU–A, SA-A, and SN-BI and would all be considered to have a small effect.

Figure 44 combines the findings in Appendix EE and illustrates how, when breaking the TAM / LI data out by country, the effect sizes varies greatly. With regards to the relationship A-BI, the predictor variable has a substantial effect on BI in the Thai data group (0.561) and the UK data group (0.424). In the US, on the other hand, it would be considered to have a moderate effect on BI (0.152). This would mean that the effect A has on BI is stronger in the Thai and UK data groups than the USA. With regards to the UK data group, larger effect size could be a result of the lack of discriminant validity seen in Table Y.5.

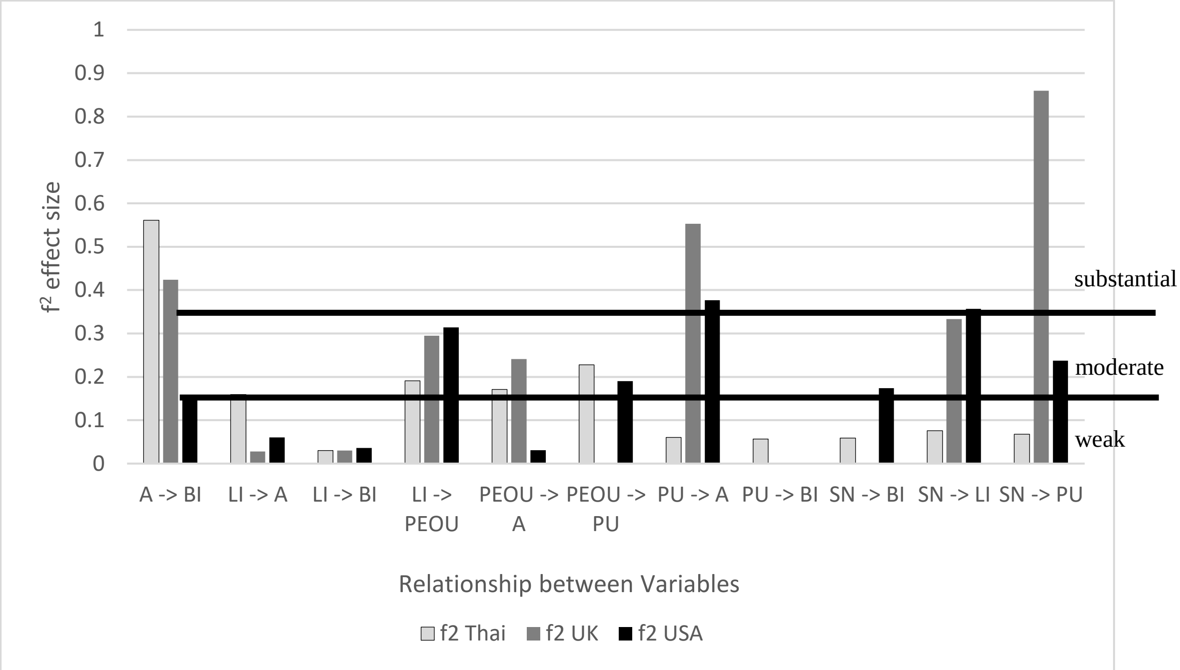

Figure 44: Country comparison of f^2 effect size for the TAM / LI constructs. f^2 values of 0.35 or greater indicate a large effect, 0.15 to 0.35 a medium effect, 0.02 to 0.15 a weak effect.

Looking at LI as a predictor variable, the extent to which the it can account for the variance in an endogenous latent variable also varies between the country data groups. In the relationship LI-A, LI has a moderate effect on A in the Thai data group (0.159), but a weak effect in both the UK (0.028) and USA (0.06) data groups. In the relationship LI-BI, LI has a weak effect on BI in all three data groups (0.03). Finally, in the relationship LI -> PEOU, LI it has a moderate effect on PEOU in all three of the data groups with the effect being the lowest in the Thai (0.191) and the highest in the USA data groups (0.314).

Considering the predictor variable PEOU, the effect it has on the endogenous variable A is moderate in the Thai (0.171) and UK (0.241) data groups and weak in the USA data group (0.031). The effect it has on the endogenous variable PU is moderate in both the Thai (0.228) and USA (0.190) data groups but lacking in the UK.

With regards to PU, the effect it has on A is weak in the Thai data group (0.06) but substantial in the UK (0.553) and USA (0.377) data groups. On the other hand, the effect it has on BI is weak in the Thai data group (0.057) and lacking in the UK and USA data groups.

Finally, considering the predictor variable SN, the effect it has on BI is weak in the Thai data group (0.059), lacking in the UK data group, and moderate in the USA data group (0.174). The effect it has on LI is weak in the Thai data group (0.076), moderate in the UK data group (0.333) and strong in the USA data group (0.357). The effect it has on PU is weak in the Thai data group (0.068), substantial in the UK data group (0.86) and moderate in the USA data group (0.237)

Furthermore, as seen in Figure 44, only eight of the eleven predictor variables have an effect on the specific endogenous variable across all three countries. They are: A-BI, LI-A, LI-BI, LI-PEOU, PEOU-A, PU-A, SN-LI, and SN-PU.

As seen in Figure 45, when breaking the cross-cultural data out by country the f^2 effect sizes varies greatly as well. Looking at the moderating effect AA has on the PEOU-A relationship, it can be said to have a weak effect in the UK data group (0.022) but otherwise lacking in the Thai and USA data groups. HCC as a predictor variable has a weak effect (0.04) in the Thai data group only and is otherwise lacking in the other data groups.

With regards to LC as a predictor variable, it has a moderate effect on BI in the Thai data group (0.16) but lacking in the UK and USA data groups. It has a weak effect on LI in the UK but is lacking in the Thai and USA data groups. It has a weak effect on PEOU in both the Thai (0.024) and UK (0.031) data groups but is lacking in the USA data group. Finally, with regards to the moderating effect LC has on the LI – PEOU relationship, it has a weak effect in the Thai (0.029) data group only and lacking in the UK and USA.

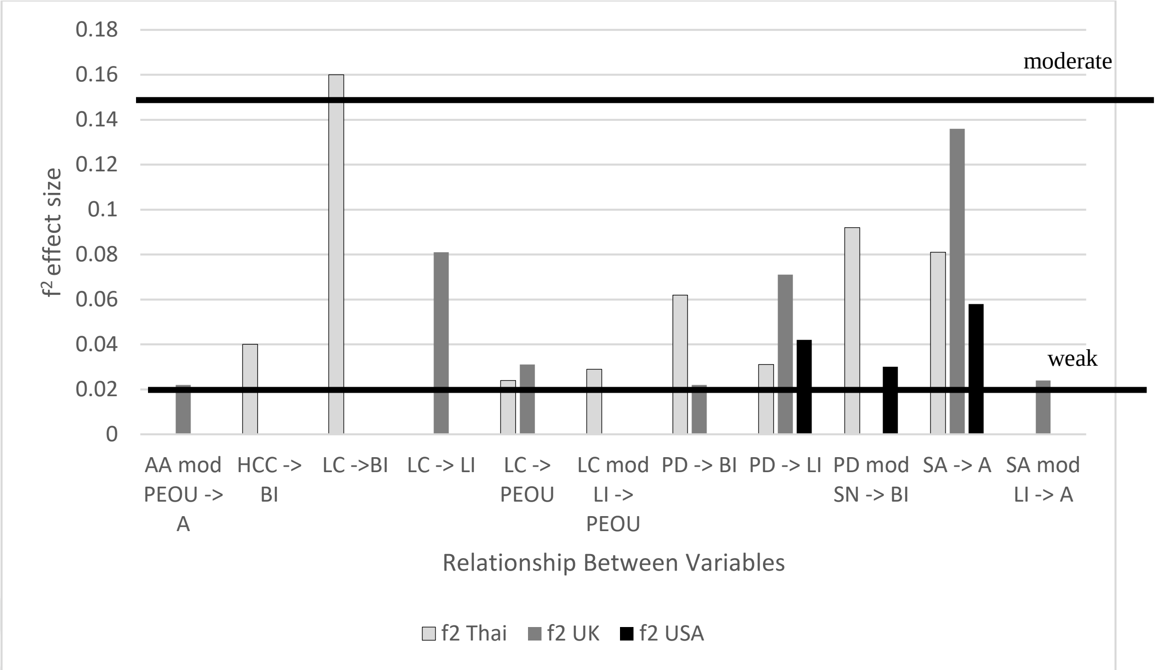

Figure 45: Country comparison of cross-cultural f^2 effect size. Values of 0.35 or greater indicate a large effect, values 0.15 to 0.35 indicate a medium effect, while values above 0.02 but below 0.15 indicate a weak effect.

Considering PD as a predictor variable, it has a weak effect in both the Thai (0.062) and UK (0.022) data groups and is lacking in the USA. It also has a weak effect across all the data groups with Thai (0.031), UK (0.071) and USA (0.042). Finally, with regards to the moderating effect PD has on the SN-BI relationship, it has a weak effect in the Thai (0.092) and USA (0.03) data groups and is lacking in the UK.

Finally, with regards to SA, as a predictor variable, it has a weak effect on the endogenous variable A across all three data groups with the UK data group 0.136 sowing the strongest effect and the USA data group (0.058) showing the weakest. Last but not least, with regards to the moderating effect SA has on the LI -> A relationship, it has a weak effect on the endogenous variable in the UK (0.024) data group only and is lacking in the Thai and USA groups.

Figure 46 summarizes the differences in control variable f^2 effect size when breaking the cross-cultural data out by country. The predictor variable of age only has a weak effect on the endogenous variable BI in the UK (0.024) and is otherwise lacking in both the Thai and USA data groups. Education only has a weak effect on BI in the Thai (0.04) and is otherwise lacking in the UK and USA data groups. Gender has a weak effect on BI across all three data groups with the strongest effect in the Thai (0.055) data groups and the weakest in the UK (0.025) data group.

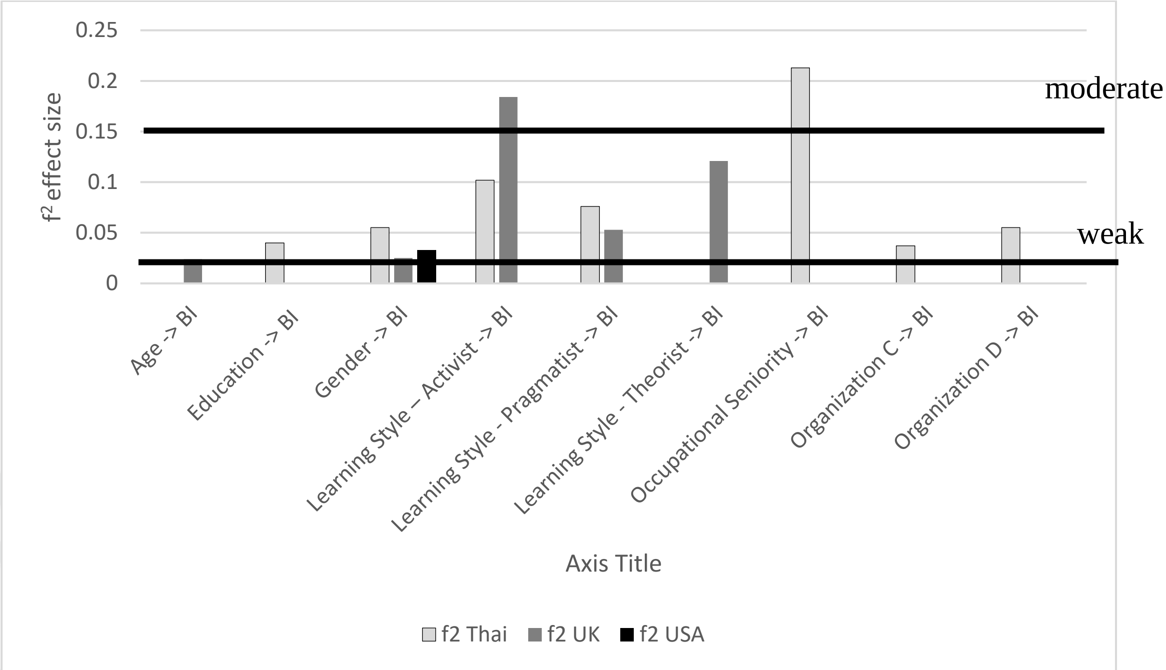

Figure 46: Country Comparison of Control Variable f^2 effect size. Values of 0.35 or greater indicate a large effect, values 0.15 to 0.35 a medium effect, and values 0.02 to 0.15 a weak effect.

Looking at learning styles, the activist learning style has a weak effect on BI in the Thai (0.102) data group, a moderate effect in the UK (0.184) data group and is lacking in the USA data group. The pragmatist style has a weak effect in the Thai (0.076) and UK (0.053) data groups and is lacking in the USA data group. The theorist style has a weak effect in the UK (0.121) data group and is lacking in both the Thai and USA data groups.

Occupational seniority has a moderate effect on BI in the Thai data group but is lacking in the UK and USA data groups. Looking at organizational culture, Organization C (0.037) and organization D (0.055) have a weak effect on BI in the Thai data group only and are otherwise lacking in both the UK and USA data groups.

4.4.5.5 Predictive Relevance of Q^2 and the q^2 Effect Sizes

In order to assess predictive relevance of the path model, the Q^2 statistic is calculated using the blindfolding procedure in Smart PLS. This procedure uses a resampling technique that systematically deletes data points to predict values and then calculates a prediction error by comparing the original values with the predicted values. Then by taking the sum of the squared prediction errors (SSE) and dividing it by the sum of the squared observations (SSO) and subtracting that from 1.0 (1-sse/sso) we are able to obtain the Q^2 value. Predictive relevance is established with Q^2 values greater than zero (Hair et al., 2013). Table 50 illustrates the extent to which the path model has predictive relevance on the endogenous variables A, BI, LI, PEOU, and PU. Since the model is designed to understand the elements that impact BI, the results fit with expectations that the path model has the highest predictive relevance for BI.

Table 50
Predictive Relevance - Construct Cross-validated Redundancy

Latent Variable	SSO	SSE	Q^2 (=1-SSE/SSO)
A	1,233	695.594	0.436
BI	822	397.762	0.516
LI	2,055	1,751.29	0.148
PEOU	1,644	1,433.27	0.128
PU	1,644	1,064.47	0.353

Note: Omission Distance Specified to Six

Table 51

q2 Effect Size with respect to all the relationships in the model

Predictor	BI	A	PEOU	PU	LI
A	0.132			0.000	0.000
AA	0.000	0.016	0.000	0.000	0.000
Activist (LS)	0.004	0.000	0.000	0.000	0.000
Age	0.004	0.000	0.000	0.000	0.000
Edu	0.000	0.000	0.000	0.000	0.000
Gender	0.004	0.000	0.000	0.000	0.000
HCC		0.000	0.000	0.000	0.000
LC		0.000		0.002	0.008
LI	0.010	0.037	0.138		
Occ. Sen	0.002	0.000	0.000	0.000	0.000
PDI	0.002	0.000	0.000	0.000	0.011
PEOU	0.000	0.046		0.091	0.000
Pragmatic (LS)	0.000	0.000	0.000	0.000	0.000
PU		0.167	0.000		
SA	0.000	0.028	0.000	0.000	0.000
SN	0.070	0.000	0.000	0.158	0.119
Theorist (LS)	0.002	0.000	0.000	0.000	0.000

Note: The endogenous constructs are listed in the top row while the predictor variables are listed in the left column

Those relationships that have predictive relevance can be seen in the analysis of the q^2 values in Table 51. When considering the predictor variables that have a predictive relevance on the endogenous construct, none of the variables would be considered as having a large effect. Those variables with medium predictable relevance on the endogenous construct include A-BI, PU-A, and SN-PU. Those variables with small predictable relevance on the endogenous construct include LI-A, LI-PEOU, PEOU-A, PEOU-PU, SA-A, SN-BI, and SN-LI.

Figure 47 summarizes the TAM / LI findings in Appendix FF, on the predictive relevance q2 when the data is broken down by country. As seen below, there are 10 cases where the predictor variable can be considered to have predictive relevance for the endogenous variable. In only four of those cases do the predictor variables have predictive relevance across all three countries. Those four cases are A-BI, LI-PEOU, PU-A, and SN-PU. However, in each of those six cases, the degree of predictive relevance varies. For example, in the relationship A-BI, A has a moderate predictive relevance in the Thai data group and the UK data group but only a small predictive relevance in the USA. LI has a weak predictive relevance across all three countries with regard to PEOU, while PU has a moderate predictive relevance on A in the UK and USA data groups but a rather weak predictive relevance in the Thai data group. With regards to the predictive relevance of SN on PU, the UK data group shows a strong predictive relevance while in the Thai and USA data groups it is weak. One potential reason for the results in the UK is due to the lack of discriminant validity between SN and PU. Accordingly, we can expect that had discriminant validity been established, the enormous difference in predictive relevance between the UK and the other two countries would not exist.

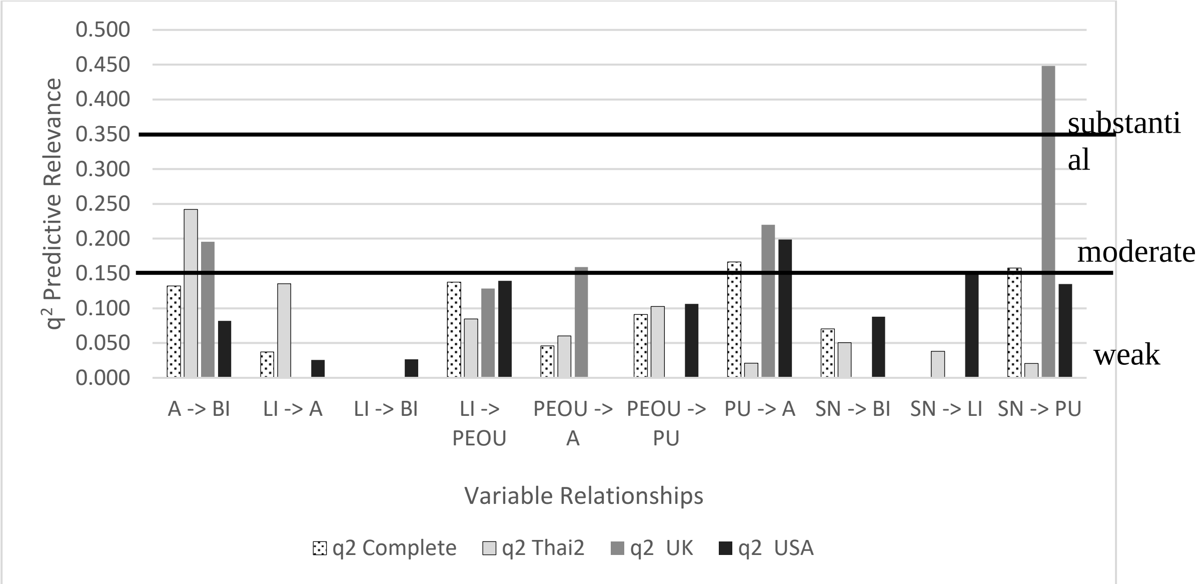

Figure 47: q^2 Predictive Relevance Effect Sizes Thai, UK, USA comparison (TAM / LI variables) Values of 0.35 or greater indicate a large effect, values 0.15 to 0.35 indicate a medium effect, while values above 0.02 but below 0.15 indicate a weak effect

Figure 48 summarizes the findings for the cross-cultural variables in Appendix FF with regards to the predictive relevance q^2 when the data is broken down by country. As seen below, none of the cross-cultural predictor variables have predictive relevance across all three countries. In Thailand, LC has weak predictive relevance for both BI and PEOU while in the USA, SA has weak predictive relevance on A. This is also shown for the complete data. In the UK, none of the cultural elements show predictive relevance.

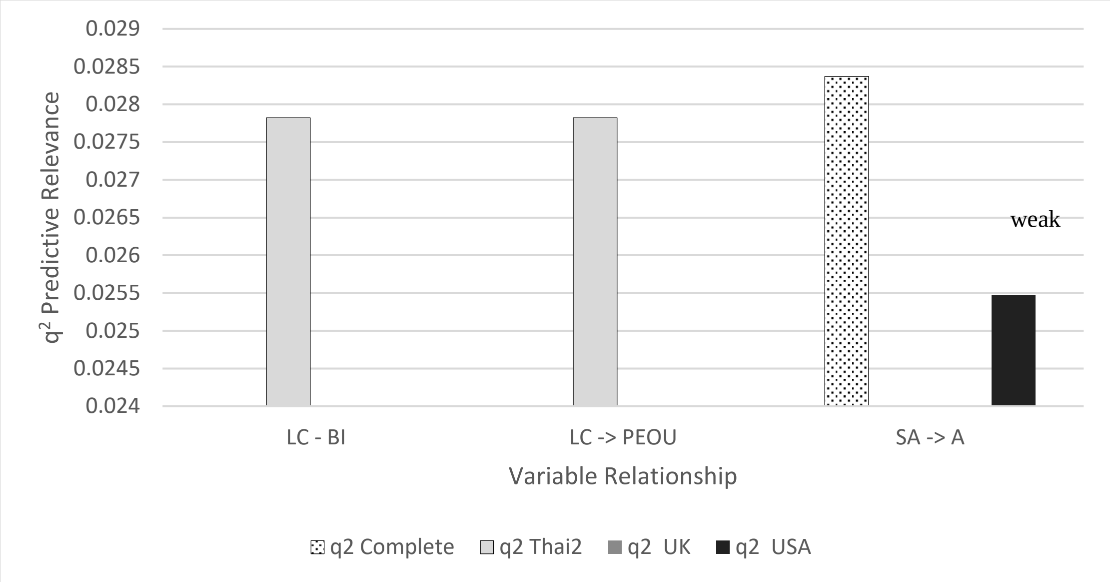

Figure 48: q^2 Predictive Relevance Effect Sizes Thai, UK, USA comparison (cross-cultural variables)

Figure 49 summarizes the findings for the control variables in Appendix FF with regards to the predictive relevance q^2 when the data is broken down by country.

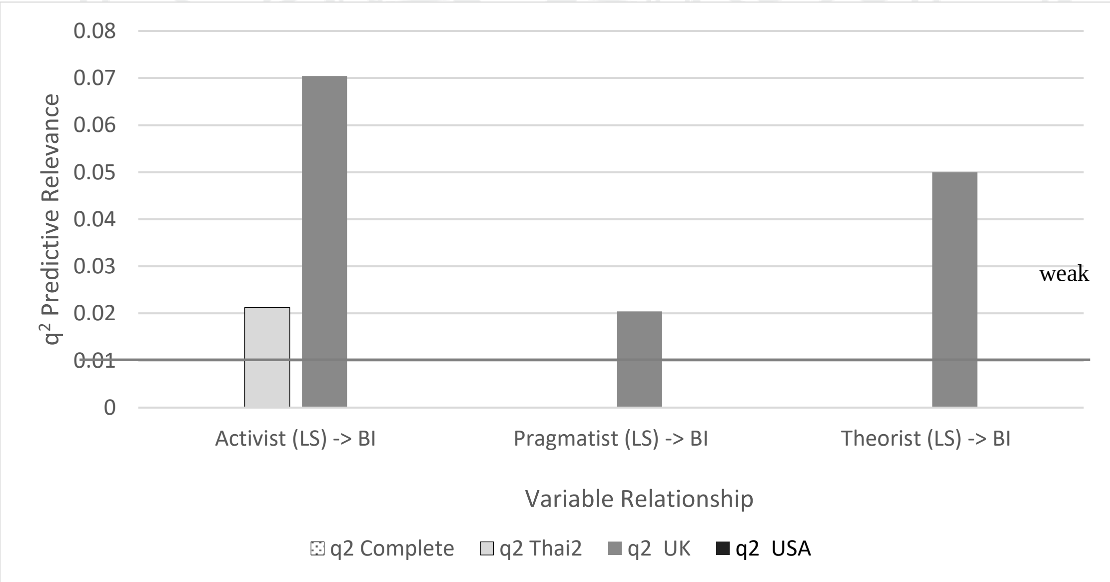

Figure 49: q^2 Predictive Relevance Effect Sizes Thai, UK, USA comparison (control variables)

As seen, none of the control variables have predictive relevance across all three countries or even on the combined data. In Thailand, the learning style "activist" has weak predictive relevance while all three learning styles have predictive relevance in the UK data groups. None of the control variables have predictive relevance in the USA data group.

4.4.6 Implications for Hypothesis

Hypothesis **H1a** suggested that there would be a positive relationship between A and BI. This hypothesis is **supported**. According to the path coefficient (0.448), this relationship is positive. Furthermore, a p-value of 0.000 and a t-value of 9.87, indicate a level of significance of 1%. This hypothesis continues to remain supported at this level of significance when breaking the data out by country.

Hypothesis **H1b** stated that there would be a positive relationship between PU and BI. This hypothesis is **partially supported**. According to the path coefficient (0.025) this relationship is positive however with a p-value of 0.554 and a t-value of 0.592, this cannot be considered significant. However, this hypothesis would be supported to a greater extent when looking only at the Thai data group. The path coefficient of 0.166 means that in the Thai data group, the relationship is stronger and the p-value of 0.078 and t-value of 1.764 indicate a level of significance of 10%.

Hypothesis **H1c** said there would be a positive relationship between PEOU and A. This hypothesis is **supported**. According to the path coefficient (0.221) this relationship is positive. The p-value of 0.000 and t-value of 3.847, indicate a level of significance of 1%. This hypothesis continues to remain supported when breaking the data out by country, however in the USA, the p-value of 0.019 and t-value of 2.348 indicate a level of significance of 5%.

Hypothesis **H1d** stated that there would be a positive relationship between PU and A. This hypothesis is **supported**. The path coefficient of 0.453 indicates positive relationship and the p-value of 0.000 and t-value of 8.917 indicate a level of significance of 1%. This hypothesis continues to remain supported when breaking the data out by country, however in the Thai data group, the p-value of 0.033 and t-value of 2.133 indicate a level of significance of 5%.

Hypothesis **H1e** stated that there would be a positive relationship between PEOU and PU. This hypothesis is **supported**. According to the path coefficient (0.337) this relationship is positive. The p-value of 0.000 and t-value of 5.626 indicate a level of significance of 1%. When breaking the data out by country, this hypothesis remains fully supported only for the Thai and USA data groups. However, in the UK data group, the path coefficient (0.073) is weaker and the p-value of 0.556 and t-value of 0.589 would indicate a lack of significance.

Hypothesis **H1f** stated that there would be a positive relationship between SN and PU. This hypothesis is **supported**. According to the path coefficient (0.441) this relationship is positive. The corresponding p-value of 0.000 and t-value of 8.227 indicate a level of significance of 1%. This hypothesis continues to remain supported when breaking the data out by country, however in the Thai data group, the p-value falls to 0.029 and t-value to 2.191 and thus indicate a level of significance of 5%.

Hypothesis **H1g** stated that there would be a positive relationship between SN and BI. This hypothesis is **supported**. According to the path coefficient (0.301) this relationship is positive. The p-value of 0.000 and t-value of 5.43 indicate a level of significance of 1%. When breaking the data out by country, this hypothesis remains fully supported only for the USA data group. In the Thai and UK data groups, although the relationship is positive it lacks significance.

Hypothesis **H2** stated that there will be a positive relationship between LI and BI. This hypothesis is **supported**. According to the path coefficient (0.137), although weak, this relationship is positive. Furthermore, the corresponding p-value of 0.000 and t-value of 3.629 indicate a level of significance of 1%. It is interesting to note that when breaking the data out by country, this hypothesis remains fully supported only for the USA data group. However, the t-value falls to 2.385, indicating a level of significance only at 5%. Then in the Thai and UK data groups, although the relationship is positive it lacks significance.

Hypothesis **H3** stated that there will be a positive relationship between LI and PEOU. This hypothesis is **supported**. According to the path coefficient (0.468) this relationship is positive. The corresponding p-value of 0.000 and t-value of 9.004 indicate a level of significance of 1%. This hypothesis continues to remain supported at this level of significance when breaking the data out by country.

Hypothesis **H4** stated that there will be a positive relationship between SN and LI. This hypothesis is **supported**. According to the path coefficient (0.456) this relationship is positive. The corresponding p-value of 0.000 and t-value of 10.479 indicate a level of significance of 1%. This hypothesis continues to remain supported at this level of significance when breaking the data out by country.

Hypothesis **H5** stated that there will be a positive relationship between LI and A. This hypothesis is **supported**. According to the path coefficient (0.208) this relationship is positive. The corresponding p-value of 0.000 and t-value of 4.098 indicate a level of significance of 1%. When breaking the data out by country, this hypothesis remains fully supported at the same level of significance for the Thai and USA data groups. However, for the UK data group, the hypothesis is only partial supported as path coefficient (0.102) remains positive but the t-value falls to 1.381, indicating the relationship lacks significance.

Hypothesis H6 suggested that the positive relationship between LI and TAM will be moderated by the cultural elements. As seen below, this was largely unsupported.

Hypothesis **H6a** suggested that the positive relationship between PEOU and A would be moderated by the cultural value of AA such that the relationship would be stronger for individuals with a lower inclination toward AA. This hypothesis is only **partially supported**. According to the path coefficient (-0.082) although weak, the relationship is negative, indicating a stronger relationship between PEOU and A when individuals are less AA. The corresponding p-value of 0.083 and t-value of 1.734 would indicate a level of significance of 10%. When breaking the data out by country, although the relationship remains negative, in none of the country level data groups is the t-value at a level that would indicate a lack of significance.

Hypothesis **H6b** stated that the positive relationship between SN and BI would be moderated by the cultural value of PD such that the relationship would be stronger for individuals who accept greater PD. This hypothesis is only **partially supported**. According to the path coefficient (0.064), although weak, the relationship is positive, indicating a stronger relationship between SN and BI when individuals are more PD. The corresponding p-value of 0.053 and t-value of 1.939 would indicate a level of significance of 10%. When breaking the data out by country, the hypothesis becomes fully supported in the USA with a positive path coefficient (0.107) and a corresponding p-value of 0.032 and t-value of 2.144 that would indicate a level of significance of 5%. On the other hand, for both the Thai and UK data groups, although the relationship remains positive, the t-value is at a level that would indicate a lack of significance.

Hypothesis **H6c** suggested that the relationship between SN and LI is moderated by the cultural value of PD such that the relationship is stronger for individuals who accept greater PD. This hypothesis is only **partially supported**. According to the path coefficient (0.008), although weak, the relationship is positive, indicating a stronger relationship between SN and LI when individuals are more PD. However, the corresponding p-value of 0.835 and t-value of 0.208 indicate a lack of significance. When breaking the data out by country, the hypothesis remains partially supported in the USA with a positive path coefficient (0.079) but a p-vale and t-value that indicate a lack of significance. On the other hand, the relationship is not supported for both the Thai and UK data groups. In both groups the relationship becomes negative and the t-value is at a level that would indicate a lack of significance.

Hypothesis **H6d** suggested that the relationship between LI and A would be moderated by the cultural value of SA such that the relationship would be weaker for individuals with greater SA expectations. This hypothesis is **not supported**. According to the path coefficient (0.025), the relationship is positive, indicating a stronger relationship (as opposed to a weaker relationship) between LI and A when individuals have greater ascriptive tendencies. The corresponding p-value of 0.444 and a t-value of 0.766 means it cannot be considered significant. The findings remain unsupported for the UK and USA data groups but becomes partially supported in the Thai data group where the negative path coefficient (-0.107) indicates a weaker relationship between LI and A when individuals have greater ascriptive tendencies. That being said, the p-value of 0.494 and t-value of 0.684 mean it cannot be considered significant at the requisite level.

Hypothesis **H6e** stated that the relationship between LI and BI would be moderated by the cultural value of LC such that the relationship would be stronger for individuals more prone to internal over external control. This hypothesis is **only**

partially supported. According to the path coefficient (-0.004), although very weak, the relationship is negative, indicating a weaker relationship between LI and BI when individuals are prone to more external control. The corresponding p-value of 0.866 and t-value of 0.168 means it cannot be considered significant. It remains partially supported when looking just at the USA data group. For both the Thai and UK data groups it becomes not supported as the path coefficients become positive however the p-values and t-values are at levels cannot be considered significant.

Hypothesis **H6f** suggested that the relationship between LI and PEOU would be moderated by the cultural value of LC such that the relationship is stronger for individuals more prone to internal over external control. This hypothesis is **not supported**. According to the path coefficient (0.025), although weak, the relationship is positive, indicating a stronger relationship between LI and PEOU when individuals are prone to more external control. The corresponding p-value of 0.295 means it cannot be considered significant. It remains not supported when looking at the Thai and UK data groups. For the USA data group however, it becomes partially supported with a negative path coefficient (-0.005) indicating a stronger relationship for individuals more prone to internal control (low LC). That being said, the p-value and t-value are at levels cannot be considered significant.

Hypothesis **H6g** focuses on the moderating effect of HCC on the relationship between PU and BI. It suggested that the relationship between PU and BI is stronger for individuals more prone to low context communication. This hypothesis is only **partially supported**. According to the path coefficient (-0.015), the negative sign indicated a tie to low context communication. In other words, the higher the context the weaker the relationship. With a p-value of 0.696 and t-value of 0.391mean this moderating effect cannot be considered significant. This hypothesis continues to remain partially supported with negative path coefficients but a lack of significance when breaking the data out by country.

4.4.7 Discussion

4.4.7.1 Findings – TAM / LI

This corporate level research aimed to confirm that there are indeed cross-cultural implication of LI and technology acceptance of m-learning. LI being the measurement of a person's initiative associated with learning in general, i.e. not specific to the m-learning in question. With regards to the TAM construct, as seen in Table 52, the relationships A-BI, PEOU-A, PU-A, and SN-PU remained positive, strong, and significant across all data groups, e.g. the pilot study, the complete corporate study, and the different data groups of the corporate study when broken out by country. On the other hand, although PEOU-PU, PU-BI and SN-BI were positive, they were weak and insignificant. Ma and Liu (2004) found that in 18.2% of the studies they surveyed PEOU-PU was indeed weak and insignificant. One potential reason for this is that all of the respondents had, to a greater or lesser extent, experience with m-learning and it has been suggested that the greater the experience the lesser the effect of the relationship (Li, Qi, & Shu, 2008). That being said, the lack of relationship PEOU-PU only existed in the UK data group.

Table 52

TAM Results Across Data Groups

Relationship	Corp (All)	T	P	Thai	T	P	UK	T	P	USA	T	P	Pilot	T	P
A -> BI	0.45	9.92	0.00	0.54	5.34	0.00	0.6	5.42	0.00	0.38	5.48	0.00	0.47	4.7	0
PEOU -> A	0.22	3.96	0.00	0.34	3.04	0.00	0.34	4.14	0.00	0.15	2.28	0.02	0.22	3.21	0
PEOU -> PU	0.34	5.65	0.00	0.44	3.56	0.00	0.07	0.57	0.57	0.37	6	0.00	0.38	4.48	0
PU -> A	0.45	8.88	0.00	0.2	2.13	0.03	0.48	6.85	0.00	0.51	6.09	0.00	0.46	6.03	0
PU -> BI	0.03	0.58	0.57	0.17	1.74	0.08	0.08	0.62	0.54	-0.01	0.13	0.9	0.22	3.36	0
SN -> BI	0.3	5.42	0.00	0.15	1.29	0.2	0.05	0.4	0.69	0.36	5.12	0.00	0.11	1.02	0.31
SN -> PU	0.44	8.24	0.00	0.24	2.15	0.03	0.75	7.01	0.00	0.41	6.36	0.00	0.45	5.08	0

Note: T=T Statistics (|O/STDEV|) / P=P Values. (t-values: 2.57 ≤ significance level of 1%, 2.57 < ≥ 1.96 significance level of 5%, 1.96 < ≥ 1.65 significance level of 10 %)

On the other hand, the relationship PU-BI was weak and insignificant across all of the different data groups in the corporate study. This could also be tied to greater prior exposure compared to the respondents in the pilot study. According to Li, Qi and Shu (2008), this is because early on in the technology acceptance phase, the relationship PU-BI is stronger while at later stages it becomes more indirect. This could also explain why the relationship is slightly stronger and significant at 10% in Thailand as the technology is still new. Finally, the relationship between SN-BI is only significant in the combined corporate data group and the USA data group. This corresponds with the findings that 50% of the studies found no significant SN-BI relationship (Li et al., 2008).

Looking at LI, the results reconfirmed that LI is a crucial factor and should be considered as central to mobile learning technology acceptance research. Table 53 illustrates that LI remained an essential element in the both the pilot study and the corporate level study and even remained important when the results were broken out by country. Although the impact LI had on the latent variables A and BI varied between the pilot study, the complete corporate study and the different data groups of the corporate study when broken out by country, the relationship between LI and PEOU as well as SN-LI remained strong and highly significant for all of the data groups.

Looking specifically at the relationship LI-PEOU, the theory of planned behavior suggests that perceptions of behavioral control impact behavioral intention (Ajzen, 1991). Venkatesh (2000) suggests it is the perception of control that impacts PEOU. Perhaps with regards to learning, it is less the perceived control over the technology and more the perceived control to start, resume, and persevere in learning that ultimately impacts the PEOU of learning technology. Furthermore, the strong relationship between SN-LI would confirm that peer support, as suggested by Tuckman (2007), is a tool that can help support LI and even enhance it where it would be otherwise lacking.

Table 53
LI with TAM

Relationship	Corp (All)	T	P	Thai	T	P	UK	T	P	USA	T	P	Pilot	T	P
LI -> A	0.21	4.12	0.00	0.34	2.89	0.00	0.10	1.37	0.17	0.20	2.84	0.01	0.16	2.73	0.01
LI -> BI	0.14	3.62	0.00	0.12	1.14	0.26	0.11	1.38	0.17	0.14	2.4	0.02	0.02	0.28	0.78
LI -> PEOU	0.47	8.97	0.00	0.43	3.52	0.00	0.48	5.01	0.00	0.49	7.42	0.00	0.39	5.41	0.00
SN -> LI	0.46	10.37	0.00	0.28	2.61	0.01	0.49	5.13	0.00	0.51	8.97	0.00	0.41	5.72	0.00

*T=T Statistics (|O/STDEV|) / P=P Values

Considering the statistical significance of the country specific results of TAM/LI, as seen in Appendix T, out of the TAM/LI variables only in the case of PEOU and LI is it possible to reject the null hypothesis across all three countries and conclude that the three groups are distinct. Furthermore, the comparison of mean ranks between the countries seen in Figure 50 indicates that the Thai group had the lowest mean rank for all of the variables with the exception of A. The remaining differences are at a level that could be considered significant. One reason for the lower level of technology acceptance could be as Saekow and Samson (2011) indicate, that Thailand still needs both public and private sector support for such efforts to succeed. Or because of the digital divide experienced by developing countries such as Thailand, which according to Ssekakubo et al. (2011) yields “high ICT-illiteracy rates and the low comfort levels with technological solutions [which] have led to slow acceptance” (p. 235). Bhuasiri, Xaymoungkhoun, Zo, Rho, and Ciganek (2012) found that “creating technology awareness, motivation, and changing learners’ behavior are required for the success of e-learning implementation. Learners are accustomed to traditional teaching approaches especially in developing countries where ICT is still in the early stages of adoption” (p. 850). This could also be tied to the greater orientation in the SVS to self-transcendence and conservation which could have led to the hesitation of adopting this new technology (Sagiv & Schwartz, 2007).

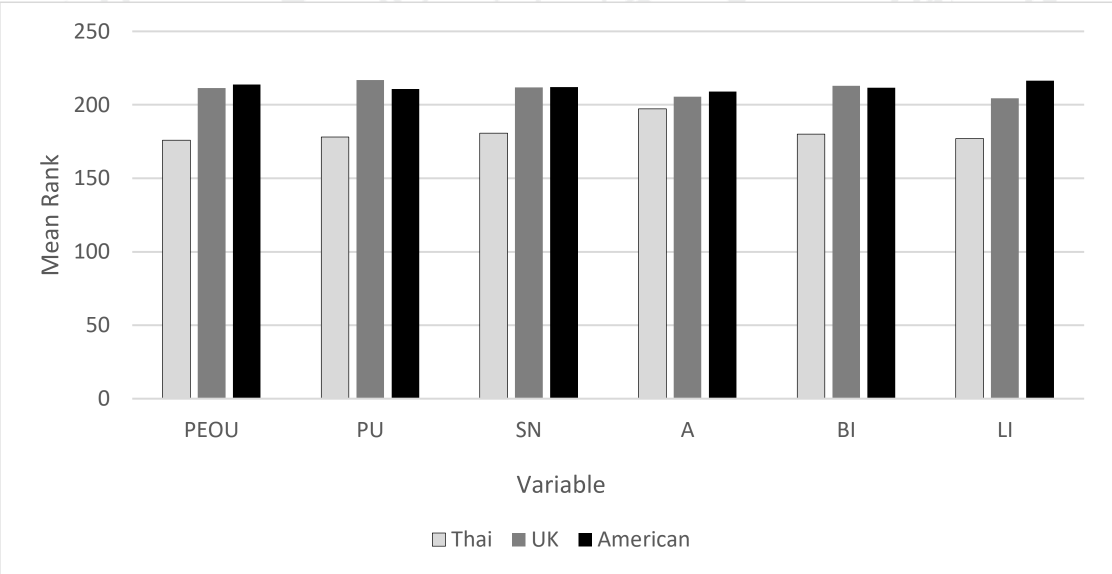

Figure 50: TAM/LI Mean Rank

From an LI perspective, perhaps the lower level of LI is tied to the educational value as suggested by Komin (1990). According to the study, Thais' value education not for education's sake but rather for the corresponding symbols that enhance ego and social position. Thus, the difference could be because LI focuses on learning goals rather than other goals that may have a greater impact on learning in Thailand.

On the other hand, the USA had a significantly higher LI than did the Other data group. That being said, the differences between just the USA and UK were close enough as to not have a difference at a level that could be considered significant. Kim and McLean (2014) suggest that differences in Hofstede national level dimensions would support this difference in LI. As seen in Appendix GG, in line with the results of the PLS SEM, the results of a regression analysis confirm that both PD and LC had an influence on LI in the combined data. PD positively influenced LI while LC negatively influenced LI. However, in this regard, neither proved influential for the Thai data group. Furthermore, in all cases the R squared was minimal.

4.4.7.2 Findings – Cross-Cultural

While this does show that there are differences that could potentially be attributed to culture, none of the cross-cultural elements that were hypothesized consistently impacted the LI / TAM construct. However, as seen in Figure 51, based on further exploratory analysis (see Appendix HH) the relationship between AA and SN remains positively associated, moderately strong, and significant across all data groups in both the pilot and corporate studies. This would indicate that in all studies the more ambiguity avoidant a respondent, the more they perceived that those that influenced them wanted them to use the system. This corresponds to the findings from Hitosugi (2009) that suggest the two are strongly associated and that those higher in AA tend to seek out approval of others (SN) more. Furthermore, AA-PEOU was positively associated and moderately strong and significant in the pilot as well as the corporate study and country specific data groups UK and USA. This corresponds to the findings from Hwang (2005) which found that AA had a significant positive effect on PEOU. This positive relationship could be expected in that the more an individual person tries to avoid ambiguity, the more that person looks for information and procedures to minimize the ambiguity. In doing so, that person becomes informed about the system, thus making it easier to understand and use.

However, for the Thai data group, the relationship AA-PEOU was very weak and was not at a level that could be considered significant. Although the Thai group has the highest AA, it had the lowest PEOU. One potential reason for this is that the factors influencing PEOU in Thailand may have less to do with culture and more to do with the corresponding computer anxiety and lack of self-efficacy (I. T. Brown, 2002) inherent in the relative newness of internet technology in Thailand.

The two remaining relationships that remained positively associated, moderately strong and significant between the pilot study and the corporate level study were HCC-PU, and PD-SN. However, when broken out by country, each only remained strong and significant in one country. The limited influence HCC and PD have across all of the country data groups could be due to the differences in the "contexts in which values may be pursued" (Bardi & Schwartz, 2003, p. 1217).

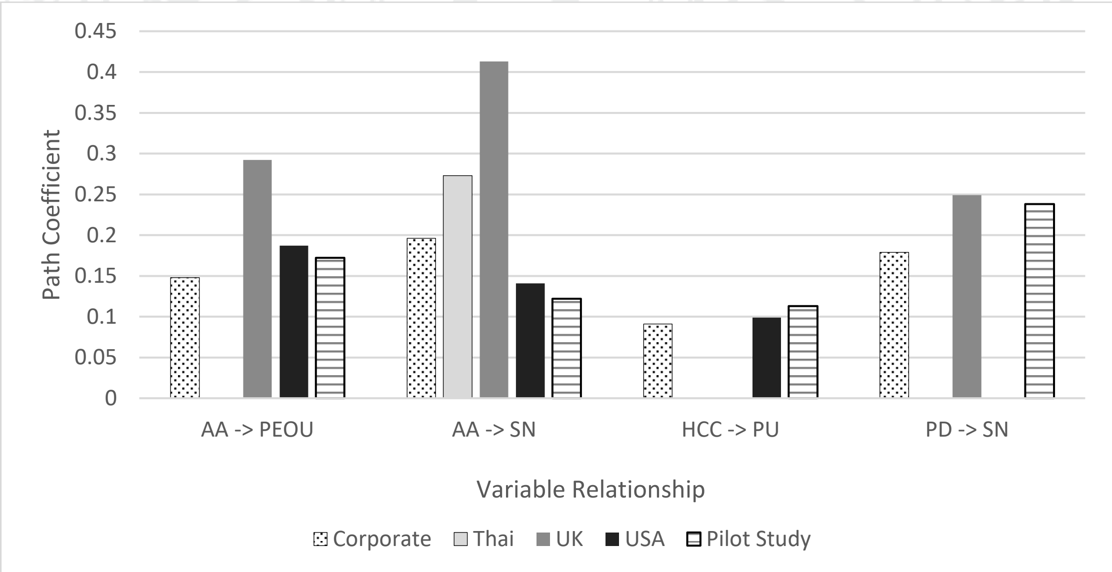

Figure 51: Cross-Cultural Relationships

For example, although as seen in Figure 52, the UK has the greatest tendency toward HCC out of the three country specific data groups which with regards to the UK corresponds to expectations of polite conversation, avoiding conflict, and "keeping a stiff upper lip" (MacLean, 2010). However, this preference toward HCC may not translate into a preference toward greater use of animation, images, and video (Würtz, 2005). On the other hand, Thailand had the lowest score for HCC, although all expectations would suggest just the opposite. As discussed earlier, this could be tied to the sample being more "western" oriented, or it could be response bias on behalf of the Thai respondents. Regardless, this would explain the lack of correlation between HCC – PU in Thailand. Finally, the US showed a tie between HCC and PU meaning that the more an individual preferred to incorporate context into communication, the more that person perceived the m-learning as useful. This could be potentially due to the above-mentioned incorporation of animation, images, and video utilized by many designers of asynchronous learning modules.

Figure 52 summarizes the country specific results of the Kruskal-Wallis Test found in Appendix T for the three cross-cultural variables identified above.

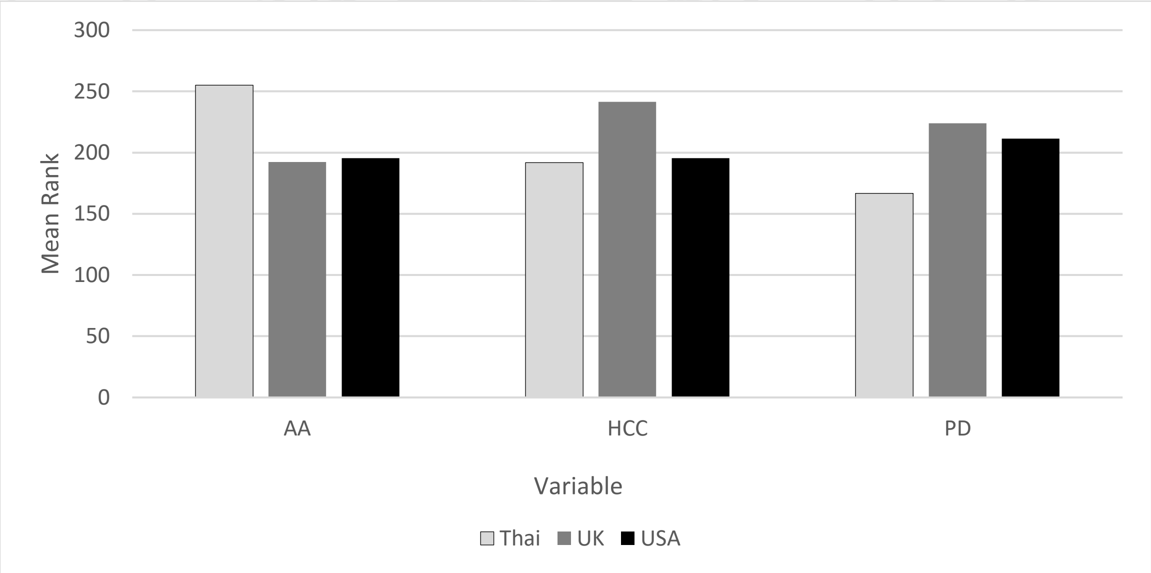

Figure 52: AA, HCC and PD Mean Ranks by Country

The most unexpected finding is with regards to the cross-cultural elements and specifically with regards to the fact that Thailand, with the exception of AA, was opposite to the majority of the expectations. As discussed previously, this could largely be related to the fact that the sample was already among those in the more powerful social strata and many of the respondents either had studied abroad or worked for a foreign company. While this sample fit with the research demographic, in terms of exposure to m-learning, it could not be considered to fit with Thai values as expected.

For more representative cross-cultural results, a study aimed at achieving a truly representative cross section of society would need to be conducted.

4.4.7.3 Relevance

This study showed that the main relationships of the TAM: A-BI, PEOU-A, PU-A, and SN-PU, all remained positive, strong, and significant across all data groups. But more importantly, it showed the strength of LI as a variable that needs to be considered when studying the technology acceptance of learning systems. Furthermore, it showed that regardless of the culture SN is a strong support for LI, indicating that where the learner may be lacking in initiative, it can, to some extent, be enhanced with the support of peers and managers.

4.4.7.4 Limitations

Although all efforts were made to be thorough in each aspect of the research, there are still limitations which must be considered. Firstly, in Thailand, a large number of the respondents were gathered via snowball sampling. This was largely due to the lack of companies utilizing any form of electronic based training, compounded with a lack of access to those that do. While snowball sampling solved the solution of access, it could also be expected that the sample was not representative of all users in the company. Furthermore, emphasis was placed on recruiting respondents in each country according to each country's overall percentage of the workforce of the three countries combined. However, that led to an uneven sample size of respondents in each country. This is not uncommon for cross-cultural studies, "for example, while some countries in Hofstede's dataset were represented by thousands of respondents, samples drawn in other countries were very small, such as 76 for Thailand or 80 for Taiwan" (Taras et al., 2009). Although comparatively for this study the smallest sample of 78 in Thailand was a much larger percentage of the overall data, the uneven samples sizes could have impacted the tests to assess statistical significance such as the Mann-Whitney U.

Although the study focused on individuals who had accessed m-learning over the past 18 months, there was a range of levels of exposure and national level adoption which could have impacted the overall model. Especially in the case of Thailand, it is still fairly new and underutilized, while, in the UK and the USA, it has enjoyed greater adoption.

The study design itself, which relied on self-report questionnaires could have led to response bias. First, culture has been shown to impact acquiescence bias, where respondent tends to agree to everything. This occurs especially among those cultures that tend to score low on Hofstede's Individualism and Masculinity dimensions. While higher scores on the Power Distance and Masculinity dimensions were associated with extreme responding bias where respondents tend to select the extremely negative or extremely positive responses (Johnson, Kulesa, Cho, & Shavitt, 2005). According to Hofstede, Thailand would score low in Individualism and Masculinity, but high in Power Distance, while the UK and USA would be the opposite. Furthermore, higher Ambiguity Avoidance has been associated with increased social desirability response bias (Bernardi, 2006). Social desirability response bias happens when respondents either engage in self-deception or attempt to answer according to what they perceive as being the acceptable values (Van de Mortel, 2008).

Finally, the use of online survey platforms to distribute the survey could have resulted in nonresponse bias, the potential that responses of respondents could vary from responses of non-respondents. This difference could occur because respondents who choose to respond to the survey may have stronger opinions about the survey topic than those that do not respond (Y.-H. Hwang & Fesenmaier, 2004). Furthermore, the use of the online survey panel provider, which offers respondents compensation for taking part in the survey, could result in respondents taking part in the survey who would not have otherwise done so and also it could cause some respondents to attempt to "conceal information that would disqualify them from the study" (Bentley & Thacker, 2004, p. 297).

4.4.7.5 Future Research

This research was a strong but initial step in understanding the cross-cultural implications of LI on the intention to use m-learning at the corporate level. This study made a concerted effort to utilize the parsimonious TAM to better assess the implications of LI and culture. Future studies should consider the implication of LI with regards to the UTAUT. Although the UTAUT is intended to be a complete model which includes all extensions, perhaps with regards to technologies that support learning, it would be good to consider the implications of LI.

As SN was shown to be a impact LI, it would be important to understand what other motivational scaffolding might be equally effective in the workplace. From gamification and creating stimulating modules to creating online learning communities, there are many forms of motivational scaffolding that should be empirically researched in combination with LI and learning technology acceptance. This would include empirical research on blended learning, a hot trend of 2018 (Castanha, 2018), and its relationship with LI and m-learning technology acceptance.

Furthermore it has been shown that self-efficacy, the belief in one's ability to perform a task, is a predictor of PEOU (Agarwal & Karahanna, 2000). Consequently, it would be interesting to understand the relationship between LI and self-efficacy with regards to the PEOU of learning technologies. Here to, the relationship between LI and self-directed learning would be beneficial to understand.

Finally, while this study shows the importance of utilizing individual level cross-cultural scales, it also shows that cultural values can be largely impacted by the demographic it is studying. Thus, especially in Thailand, these scales could benefit from further research focusing on a more representative sample across Thailand. That being said, this study did reveal that there are differences between the country data groups in the overall acceptance of m-learning technology, especially with regards to LI and PEOU. Accordingly, future research should consider further cultural or even institutional differences that could have facilitated these this difference.

CHAPTER 5

CONCLUSION

Theses series of studies were conducted to understand the cross-cultural implications of learner initiative on mobile learning technology acceptance at the corporate level. In order to achieve this, the effects of LI on TAM needed to be investigated and individual level cross-cultural scales needed to be identified and integrated into the model.

The studies revealed at an early stage that there is a lack of cross-cultural scales that both measure culture at an individual level and are valid and reliable. Accordingly, cross-cultural scale development was undertaken, resulting in five dimensions that are both valid and reliable. Those dimensions are AA, HCC, LC, PD, SA. It was found that Thailand was by far the most ambiguity avoidant and by far the least power distant of the three cultures. Furthermore, the Thais were prone to lower context communication while falling between the UK and USA with regards to locus of control and status ascription. While the scales corresponded, more or less, with expectations from the UK and USA, with the exception of AA, it deviated from expectations in Thailand. It is expected that this deviation occurred due to the make-up of the Thai sample being more internationally oriented and more upwardly mobile than the average Thai.

M-learning can mean many things to many people and few studies had attempted to understand corporate level needs and usage. Accordingly, the next step of the study was to define what is m-learning at the corporate level. The devices that were identified through the literature as mobile devices used for corporate m-learning included laptop, tablet, and smartphone. The study found that there were two camps of needs and usages of m-learning at the corporate level. The first group focused on edutainment and utilized standalone native apps. These apps focused more on fun and/or convenient ways to access the learning content but were in no way tied to any evaluation of learner achievement of desired learning outcomes. The second group focused on m-learning which was designed to not only allow users to access the content across multiple devices but also control for achievement of the desired learning outcome. Ultimately, even those in the first group were seeking to move more toward the second group. Accordingly, for the purposes of this study, m-learning at the corporate level was defined as a multi-device option with a focus on portability of learning content tied to a learning management system that allows for tracking and demonstrating learner achievement of the desired learning outcome.

The final steps of the study focused on tying the TAM/LI and cross-cultural variables together to quantitatively understand the acceptance of the above-mentioned definition of m-learning. As previously mentioned, the main relationships of the TAM: A-BI, PEOU-A, PU-A, and SN-PU, all remained positive, strong, and significant across all data groups. Furthermore, the research showed that LI is a crucial element in mobile learning technology acceptance research. Across all the studies and data groups, the relationship between LI and PEOU remaining strong and highly significant. Furthermore, the relationship between SN-LI also remained strong and highly significant across all the studies and data groups. This would indicate that SN may support learners potentially lacking initiative independently, thus enhancing their ultimate LI. Finally, the hypothesized cross-cultural relationships were only found to have inconsistent relationships with the TAM/LI construct across the different studies and data groups. Based on further analysis, the only relationships that remained moderate and significant across the two different studies were AA-PEOU, AA-SN, HCC-PU and PDI-SN. With this in mind, the only one of those four relationships that also remained moderate and significant across the different country specific data groups was AA-SN. This indicates that in more AA cultures, SN is an important element in the learner's decision-making process to utilize learning technologies.

For training and development professionals, this study indicates the importance of LI. Where LI is abundant, learners will become sufficiently acquainted with learning technology to perceive it as easy to use and thus impacting their attitude toward and ultimate behavioral intention to use the technology. Regardless of the culture, it will be important to design systems that helps learners assess a need for learning, initiate it, and persevere through to the ultimate achievement of their learning goal. This can be aided through systems designed to measure learners' achievement of the desired learning outcome as they can also hold learners accountable. Learners can be surveyed to determine their level of LI and the corresponding support structure can be put in place. The construct in this study that supported increased LI is increased SN. Accordingly, it is imperative that practitioners ensure that with future roll-outs of learning initiatives senior level support is enlist. Steps can be taken to ensure those individuals with lower LI are provided extra reinforcement from superiors. Managers must fully understand their role in supporting LI and the corresponding successful roll-out of m-learning initiatives. Beyond supporting LI, SN also has a large impact on if learners perceive the system to be useful. Accordingly, support and reinforcement from the superiors is especially important in cultures that tend toward higher ambiguity avoidance.

For academic researchers, this study takes steps to fill the gap in cross-cultural individual level scales that offer both validity and internal reliability. Industry experts were enlisted in the process to ensure the scales were developed to aligned with the actual dimensions discussed in the research. The scales developed were chosen due to their relevance for business and ICT research. Furthermore, the study demonstrates the importance of not using national level cross-cultural scores to interpret ICT research results.

The study extends the body of knowledge revolving around learning technology acceptance through the inclusion of LI. An individual's LI has an influence on their overall learning technology acceptance and was shown to differ among cultures. This research takes a first step at understanding how cross-cultural values result in such differences, but still further research is necessary to understand the implications of other cultural values.

In conclusion, the overarching goal of this research was to understand the implications of LI and culture on the acceptance of m-learning technology. To accomplish this, cross-cultural scales were developed and m-learning at the corporate level was defined. The results indicated that there are indeed implications of LI and culture on m-learning technology acceptance. Given the growth of e-learning and its extension into m-learning, this research has value both for practitioners as well as academic theory development. It is hoped that this dissertation will stimulate academics and practitioners alike to extend this line of research.

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APPENDIX

Appendix A: **M-learning Literature**

Table A.1
A review of literature to define m-Learning

Year	Article
2010	– Chang, H.-P.. Applying adaptive course caching and presentation strategies in M-learning environment (Chang, 2010) – Fardoun, H. M., Villanueva, P. G., Garrido, J. E., Rivera, G. S., & Lopez, S. R.. Instructional m-Learning System Design Based on Learners: MPrinceTool. (Fardoun, Villanueva, Garrido, Rivera, & Lopez, 2010) – Fetaji, M., Fetaji, B., & Ebibi, M., Analyses of multicollinearity of m-learning and e-learning. (Fetaji & Fetaji, 2011) – Gong, C., & Hu, J., The Design and Development of 3G English M-Learning Platform (Gong & Hu, 2010) – Hashim, A. S., Ahmad, W. F. W., & Rohiza, A., A study of design principles and requirements for the m-learning application development (Hashim, Ahmad, & Rohiza, 2010) – Hejazinia, M., & Razzazi, M. R., M-learning system over MANET on mobile phones. (Hejazinia & Razzazi, 2010) – Lam, P. H.-C., & Wan, S. W.-Y., Students' Voices: Enriching Learning Experiences through M-learning.(Lam & Wan, 2010) – Meere et al., Adaptation for Assimilation: Shaping Context-Sensitive M-learning Services within a Multi-agent Environment.(Meere, Ganchev, O'Dróma, Stojanov, & Valkanova, 2010) – Min, H., & Xiaoqing, F., Prospective View on M-Learning via Wireless Handheld Devices and its Application. (Min & Xiaoqing, 2010) – Najima, D., & Rachida, A., MADAR learning: An interoperable environment for E&M learning. (Najima & Rachida, 2010) – Pettersson, O., & Gil, D., On the Issue of Reusability and Adaptability in M-learning Systems. (Pettersson & Gil, 2010) – Rebaque-Rivas, P., Gil-Rodríguez, E. P., & Manresa-Mallol, I., Mobile learning scenarios from a UCD perspective. (Rebaque-Rivas, Gil-Rodríguez, & Manresa-Mallol, 2010) – Shih, C.-C., Horng, M.-F., & Pan, J.-S., A scaffolding M-learning framework with IMS based IPTV PVR service. (Shih, Horng, & Pan, 2010)

	– Tang, Y.-m., Liu, Q., & Wang, L.-l. The application of flash into M-learning in 3G initial stage. (Tang, Liu, & Wang, 2010)
	– Yau, J. Y.-K., & Joy, M., A Context-Aware Personalized M-learning Application Based on M-learning Preferences. (Yau & Joy, 2010)
	– Yuchao, Chen, and Jia Hu., Study on M-learning mode in the whole process supervision of location, independent, exploration and mutual aid. (Yuchao & Hu, 2010)
	– Zhenfang, L., & Hui, Z., Research perspective and development of M-learning. (Zhenfang & Hui, 2010)
2011	– Fetaji, M., & Fetaji, B., Devising M-learning Usability Framework. (Fetaji & Fetaji, 2011)
	– Garcia, A. M. F., & Esteban, A. P., Reusing Educational Contents in M-learning. (Garcia & Esteban, 2011)
	– Hrad, J., Zeman, T., & Nevosad, M., The way towards M-learning. (Hrad, Zeman, & Nevosad, 2011)
	– Hu et al., M-learning Knowledge Interactive Design in College English. (L. Hu, Zhuang, Shi, & Zhang, 2011)
	– Kalloo, V., & Mohan, P., Correlation between Student Performance and Use of an mLearning Application for High School Mathematics. (Kalloo & Mohan, 2011)
	– Podhradský et al., Enhanced ICT in virtual training and m-learning. (Podhradský, Kadlic, Londák, Lábaj, & Levický, 2011)
	– Shuai, Q., What will cloud computing provide for Chinese m-learning? (Shuai, 2011)
	– Wendeson, S., Ahmad, W. F. W., & Haron, N. S., Platform independent mobile learning tool (M-LT). (Wendeson, Ahmad, & Haron, 2011)
	– Xu et al., Fostering M-Learning Knowledge Management Ability. (Xu, Tian, Sun, & Zhang, 2011)
	– Yang et al., M-learning mode research based on Internet of Things. (Yang, Nie, Shi, & Gan, 2011)
	– Yunpeng, M., A framework for building M-Learning environment based on micro-blogging and cellular phones. (Yunpeng, 2011)
	– Zhong, P., & Zheng, G., Research on the application of M-Learning based on intelligent mobile devices. (Zhong & Zheng, 2011)
2012	– Annan, N. K., Ofori-Dwumfuo, G., & Falch, M., Authoring m-learning content: A case study of using power point mobile enabled

tools to create content for learning anywhere anytime. (Annan, Ofori-Dwumfuo, & Falch, 2012)

- Casany, M. J., Alier, M., & Barceló, M.. Integration of M-learning and LMS: A sustainability approach. (Casany, Alier, & Barceló, 2012)
- Erradi et al., ArabicTutor: A multimedia m-Learning platform for learning Arabic spelling and vocabulary (Erradi, Nahia, Almerekhi, & Al-kailani, 2012a)
- Erradi et al., LingoSnacks: m-Learning platform for language learning. (Erradi, Nahia, Almerekhi, & Al-kailani, 2012b)
- Gil, D., Andersson, J., Milrad, M., & Sollervall, H., Towards a Decentralized and Self-Adaptive System for M-Learning Applications. (Gil, Andersson, Milrad, & Sollervall, 2012)
- Ibrahim, N., Halim, S. A., & Ibrahim, N., The design of persuasive learning pills for m-learning application to induce enthusiastic learning habits among learners. (Ibrahim, Halim, & Ibrahim, 2012)
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- Kumar, A., & Pilli, E. S., University Wide M-Learning Using Cloud Environment. (Kumar & Pilli, 2012)
- Miao, G., Interactive Design and Realization of Mobile Learning Resources Through 3G Mobile Phones. (Miao, 2012)
- Molnar, G., New learning spaces? M-learning's, in particular the iPad's potentials in education. (Molnar, 2012)
- Wang, Y., Tang, S., & Zhou, Y., A preliminary study on instructional design model in M-learning. (Wang, Tang, & Zhou, 2012)

2013

- Alrasheedi, M., & Capretz, L. F. , Applying CMM towards an m-learning context (Alrasheedi, 2013)
- Chao, C., & Yue, Z. Research on the M-learning model based on the cloud computing. (Chao & Yue, 2013)
- Filho, N. F. D., & Barbosa, E. F., A requirements catalog for mobile learning environments (Filho & Barbosa, 2013)
- Giousmpasoglou, C., & Marinakou, E., The Future Is Here: m-Learning in Higher Education. (Giousmpasoglou & Marinakou, 2013)
- Hamada, M., & Mitsui, T., A Mobile-based Multimedia System for Learning Japanese (Hamada & Mitsui, 2013)

- Heimonen et al., Seek'N'Share: A Platform for Location-based Collaborative Mobile Learning. (Heimonen et al., 2013)
- Hockly, N., Mobile learning. (Hockly, 2013)
- Pal et al., M - learning in university campus scenario - Design and implementation issues. (Pal, Mukherjee, Choudhury, Nandi, & Debnath, 2013)
- Pereira, O. R. E., & Rodrigues, Joel J. P. C., Survey and analysis of current mobile learning applications and technologies. (Pereira & Rodrigues, 2013)
- Picek, R., & Grčić, M., Evaluation of the Potential Use of m-learning in Higher Education. (Picek & Grčić, 2013)

2014

- Bhullar, M. S.. A new method of learning: M-Learning (Mobile Learning). (Bhullar, 2014)
- Dekhane, S., & Johnson, C.. Using mobile apps to support novice programming students.(Dekhane & Johnson, 2014)
- Herrera, S. I., & Sanz, C. V., Collaborative m-learning practice using Educ-Mobile. (Herrera & Sanz, 2014)
- Karadimce, A., & Davcev, D., Model for collaborative and adaptive multimedia content delivery in a collaborative m-learning environment. (Karadimce & Davcev, 2014)
- Mesarosova, A., Hernandez, M. F., & Mesaros, P. Augmented reality as an educational tool of M-learning focused on architecture and urban planning. (Mesarosova, Hernandez, & Mesaros, 2014)
- Rahim et al., Engineering M-Learning Using Agile User-Centered Design. (Rahim, Isa, Lokman, Taharim, & Wahid, 2014)
- Sevkli, A., & Abdulkarem, H., A Context-aware Mobile Application for Cultural Learning. (Sevkli & Abdulkarem, 2014)

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- Aljohani, M., & Alam, T. Design an M-learning framework for smart learning in ad hoc network of Android devices. (Aljohani, 2015)
- Bachmann, A. M. R., Menestrina, R. V., & Domingues, M. J.. The M-Learning Use in Higher Education: A Study in Santa Catarina Universities. (Bachmann et al., 2015)
- Bralic, A., Cukusic, M., & Jadric, M.. Comparing MOOCs in m-learning and e-learning settings. (Bralic, Cukusic, & Jadric, 2015)
- Cleary, Y., & Marcus-Quinn, A., Use of m-learning among Irish technical communication students. (Cleary & Marcus-Quinn, 2015)

- Merabet et al., BBA virtual laboratory through m-learning. (Merabet et al., 2015)
- Moein, R., Malmir, B., & Mousavi, M., Evaluating and ranking the learning components of entrepreneurial skills based on a hybrid approach of the M-learning technology and TOPSIS method. (Moein, Malmir, & Mousavi, 2015)
- Mohammad, S., Effectiveness of M-Learning in Blended Learning-Design of Prototype Framework for AOU Bahrain.(Mohammad, 2015)
- Newell et al., Models for an Intelligent Context-Aware Blended m-Learning System (Newell, Davies, Austin, Moore, & Sharma, 2015)
- Smith et al., Improving undergraduate soft skills using m-learning and serious games. (S. P. Smith et al., 2015)
- Vrana, R., The developments in mobile learning and its application in the higher education including libraries. (Vrana, 2015)

2016

- Adamu, M. S., Developing a Mobile Learning App: A User-Centric Approach. (Adamu, 2016)
- Hickmott, D., Smith, S. P., Bille, R., Burd, E., Stephens, L., & Southgate, E., Building Apostrophe Power: Lessons Learnt for Serious Games Development. (Hickmott et al., 2016)
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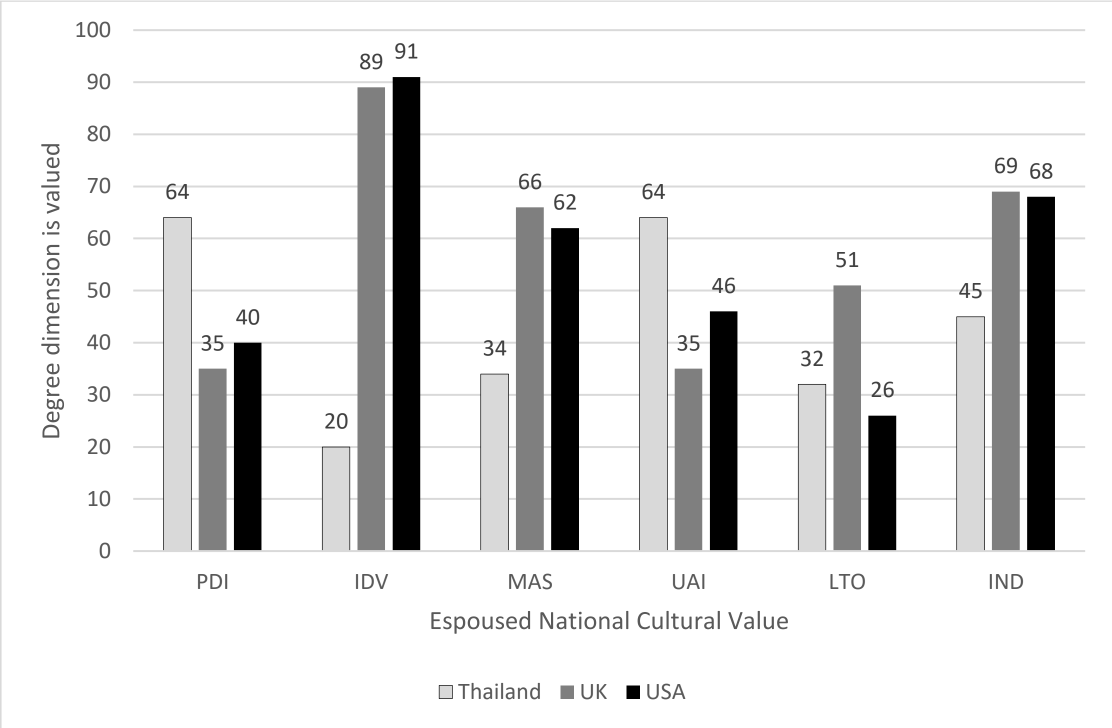
- Mesároš, P., Mačková, D., Spišáková, M., Mandičák, T., & Behúnová, A., M-learning tool for modeling the building site parameters in mixed reality environment. (Mesároš, Mačková, Spišáková, Mandičák, & Behúnová, 2016)
- Navarro, C. X., Molina, A. I., Redondo, M. A., & Juarez-Ramirez, R., Framework to Evaluate M-Learning Systems (Navarro, Molina, Redondo, & Juarez-Ramirez, 2016)
- Oyelere, S. S., & Suhonen, J., Design and Implementation of MobileEdu M-learning Application for Computing Education in Nigeria: A Design Research Approach. (Oyelere & Suhonen, 2016)
- Vrana, R., Facilitating mobile learning by use of open access information resources. (Vrana, 2016)
- Yela, L. P. A., Escobar, A. D. O., Anota, M. M. M., & Castillo, J. M., Design of a Mobile Learning Object Repository (ROAM)

Appendix B**: Hofstede Country Values Dimensions – Combined**



Appendix C: **World Values Survey Schwartz Values Indicators**

Table C.1
Schwartz Values Indicators – Thailand Demographics

Demographics		Wave			
		2005-2009		2010-2014	
Sex	Male	749	49%	610	52%
	Female	779	51%	556	48%
	Total	1528		1166	
Age	17-20	40	3%	26	2%
	21-25	128	8%	49	4%
	26-30	132	9%	89	7%
	31-35	154	10%	96	8%
	36-40	186	12%	161	13%
	41-45	189	12%	168	14%
	46-50	170	11%	185	15%
	51-55	123	8%	151	13%
	56-60	128	8%	153	13%
	51-65	75	5%	75	6%
	66-70	76	5%	28	2%
	71-88	122	8%	14	1%
	Total	1523		1195	
Size of town	2,000 and less	880	61.4%	646	55.5%
	2,000-5,000	244	17.0%	232	19.9%
	5,000-10,000	146	10.2%	125	10.7%
	10,000-20,000/10,000-25,000	52	3.6%	47	4.0%

	20,000-50,000	36	2.5%	77	6.6%
	50,000-100,000	37	2.6%	31	2.7%
	100,000-500,000	29	2.0%	2	0.2%
	500,000 and more	10	0.7%	3	0.3%
	Total	1434		1163	
Highest educational level attained	Inadequately completed elementary education	133	9.3%	44	3.8%
	Completed (compulsory) elementary education	671	46.8%	585	50.3%
	Incomplete secondary school	44	3.1%	42	3.6%
	Complete secondary school: technical/vocational	199	13.9%	125	10.7%
	Incomplete secondary: university-preparatory	23	1.6%	31	2.7%
	Complete secondary: university-preparatory	165	11.5%	117	10.1%
	Some university without degree	20	1.4%	13	1.1%
	University with degree/Higher education	178	12.4%	207	17.8%
	Total	1433		1164	

Table C.2

Schwartz Values Indicators – Thailand Means

	Wave	N	Mean	Std. Deviation	Std. Error Mean
Schwartz: It is important to this person to think up new ideas and be creative	2005-2009	1528	3.79	1.070	.027
	2010-2014	1194	4.09	1.229	.036
Schwartz: It is important to this person to be rich	2005-2009	1529	2.95	1.216	.031
	2010-2014	1192	3.42	1.409	.041
Schwartz: It is important to this person living in secure surroundings	2005-2009	1528	3.89	1.119	.029
	2010-2014	1189	4.50	1.266	.037
Schwartz: It is important to this person to have a good time	2005-2009	1526	3.64	1.093	.028
	2010-2014	1193	4.22	1.270	.037
Schwartz: It is important to this person to help the people nearby	2005-2009	1525	3.97	1.017	.026
	2010-2014	1193	4.21	1.232	.036
Schwartz: It is important to this person being very successful	2005-2009	1530	3.94	1.042	.027
	2010-2014	1194	3.97	1.341	.039
Schwartz: It is important to this person adventure and taking risks	2005-2009	1527	3.36	1.220	.031
	2010-2014	1194	3.29	1.524	.044
Schwartz: It is important to this person to always behave properly	2005-2009	1531	3.90	1.102	.028
	2010-2014	1188	4.08	1.343	.039
	2005-2009	1527	4.15	1.029	.026

Schwartz: It is important to this person looking after the environment	2010-2014	1191	4.40	1.313	.038
Schwartz: It is important to this person tradition	2005-2009	1532	4.43	1.021	.026
	2010-2014	1194	4.54	1.369	.040
Schwartz: It is important to this person to do something for the good of society	2005-2009	0[a]	.	.	.
	2010-2014	1194	4.29	1.210	.035

a. t cannot be computed because at least one of the groups is empty.

Table C.3

Schwartz Values Indicators – Thailand Independent Sample T-test

		Levene's Test		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
	Equal variances	F	Sig.	T	Df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
Schwartz: It is important to this person to think up new ideas and be creative	Assumed	10.029	0.002	-6.836	2720	0.000	-0.302	0.044	-0.388	-0.215
	not assumed			-6.721	2374.17	0.000	-0.302	0.045	-0.390	-0.214
Schwartz: It is important to this person to be rich	Assumed	56.220	0.000	-9.312	2719.00	0.000	-0.469	0.050	-0.568	-0.370
	not assumed			-9.145	2356.06	0.000	-0.469	0.051	-0.570	-0.369
Schwartz: It is important to this person living in secure surroundings	Assumed	28.065	0.000	-13.285	2715.00	0.000	-0.609	0.046	-0.699	-0.519
	not assumed			-13.081	2384.33	0.000	-0.609	0.047	-0.700	-0.518
Schwartz: It is important to this person to have a good time	Assumed	25.504	0.000	-12.720	2717.00	0.000	-0.577	0.045	-0.666	-0.488
	not assumed			-12.490	2355.53	0.000	-0.577	0.046	-0.668	-0.487
Schwartz: It is important to this person to help the people nearby	assumed	60.593	0.000	-5.676	2716.00	0.000	-0.245	0.043	-0.330	-0.160
	not assumed			-5.546	2292.00	0.000	-0.245	0.044	-0.332	-0.158
Schwartz: It is important to this person being very successful	assumed	107.653	0.000	-.762	2722.00	0.446	-0.035	0.046	-0.124	0.055
	not assumed			-.739	2201.29	0.460	-0.035	0.047	-0.127	0.058
Schwartz: It is important to this person adventure and taking risks	assumed	107.446	0.000	1.196	2719.00	0.232	0.063	0.053	-0.040	0.166
	not assumed			1.164	2247.08	0.245	0.063	0.054	-0.043	0.169
	assumed	49.142	0.000	-3.783	2717.00	0.000	-0.177	0.047	-0.269	-0.085

Schwartz: It is important to this person to always behave properly	not assumed			-3.691	2270.84	0.000	-0.177	0.048	-0.272	-0.083
Schwartz: It is important to this person looking after the environment	assumed	106.893	0.000	-5.395	2716.00	0.000	-0.242	0.045	-0.330	-0.154
	not assumed			-5.238	2207.28	0.000	-0.242	0.046	-0.333	-0.152
Schwartz: It is important to this person tradition	assumed	124.103	0.000	-2.373	2724.00	0.018	-0.109	0.046	-0.198	-0.019
	not assumed			-2.291	2138.26	0.022	-0.109	0.047	-0.202	-0.016

Table C.4

Schwartz Values Indicators – UK Demographics

Demographics		Wave 2005-2009	
Sex	Male	500	48%
	Female	541	52%
	Total	1041	
Age	15-20	86	8%
	21-25	78	7%
	26-30	81	8%
	31-35	113	11%
	36-40	114	11%
	41-45	98	9%
	46-50	69	7%
	51-55	83	8%
	56-60	80	8%
	51-65	62	6%
	66-70	50	5%
	71-94	129	12%
Total		1043	
Size of town	2,000 and less	4	0.4%
	2,000-5,000	16	1.5%
	5,000-10,000	26	2.5%
	10,000-20,000/10,000-25,000	58	5.6%
	20,000-50,000	258	24.8%

	50,000-100,000	137	13.2%
	100,000-500,000	385	37.0%
	500,000 and more	157	15.1%
Total		1041	
Highest educational level attained	Inadequately completed elementary education	2	0.2%
	Completed (compulsory) elementary education	29	2.9%
	Incomplete secondary school	66	6.6%
	Complete secondary school	453	45.4%
	Incomplete secondary: university-preparatory	22	2.2%
	Complete secondary: university-preparatory	132	13.2%
	Some university without degree	98	9.8%
	University with degree	196	19.6%
Total		998	

Table C.5

Schwartz Values Indicators – UK Group Statistics

	Wave	N	Mean	Std. Deviation	Std. Error Mean
Schwartz: It is important to this person to think up new ideas and be creative	2005-2009	1036	4.28	1.279	.040
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person to be rich	2005-2009	1036	2.46	1.161	.036
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person living in secure surroundings	2005-2009	1035	4.67	1.229	.038
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person to have a good time	2005-2009	1035	3.53	1.423	.044
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person to help the people nearby	2005-2009	1037	4.76	1.030	.032
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person being very successful	2005-2009	1038	3.38	1.456	.045
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person adventure and taking risks	2005-2009	1036	3.20	1.508	.047
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person to always behave properly	2005-2009	1031	4.44	1.367	.043
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person looking after the environment	2005-2009	1034	4.59	1.170	.036
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person tradition	2005-2009	1028	4.03	1.577	.049
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person to do something for the good of society	2005-2009	0[b]	.	.	.
	2010-2014	0[b]	.	.	.

a. Country/region = Great Britain b. t cannot be computed because at least one of the groups is empty.

Table C.6
Schwartz Values Indicators – USA Demographics

Demographics		Wave 2005-2009		2010-2014	
Sex	Male	603	48%	1083	48%
	Female	646	52%	1150	52%
	Total	1249		2233	
Age	18-20	48	4%	104	5%
	21-25	96	8%	191	9%
	26-30	144	12%	223	10%
	31-35	115	9%	166	7%
	36-40	110	9%	212	9%
	41-45	126	10%	194	9%
	46-50	111	9%	188	8%
	51-55	132	11%	233	10%
	56-60	98	8%	203	9%
	51-65	91	7%	181	8%
	66-70	54	4%	155	7%
	71-94	123	10%	183	8%
Total		1248		2233	
Size of town	2,000 and less	101	9%	226	6%
	2,000-5,000	94	8%	224	6%
	5,000-10,000	105	9%	234	6%
	10,000-20,000/10,000-25,000	162	14%	446	12%
	20,000-50,000	197	17%	658	17%

	50,000-100,000	139	12%	452	12%
	100,000-500,000	165	14%	686	18%
	500,000 and more	213	18%	887	23%
Total		1176		3813	
Highest educational level attained	Inadequately completed elementary education	0	0.0%	11	0.5%
	Completed (compulsory) elementary education	45	3.6%	33	1.5%
	Incomplete secondary school: vocational	137	11.0%	0	0.0%
	Complete secondary school: vocational	402	32.2%	0	0.0%
	Incomplete secondary: university-preparatory	252	20.2%	249	11.2%
	Complete secondary: university-preparatory	275	22.0%	683	30.7%
	Some university without degree	116	9.3%	441	19.8%
	University with degree/	22	1.8%	806	36.3%
Total		1249		2223	

Table C.7

Schwartz Values Indicators – USA Group Statistics [a]

	Wave	N	Mean	Std. Deviation	Std. Error Mean
Schwartz: It is important to this person to think up new ideas and be creative	2005-2009	1215	4.17	1.252	0.036
	2010-2014	2197	3.98	1.276	0.027
Schwartz: It is important to this person to be rich	2005-2009	1213	2.43	1.200	0.034
	2010-2014	2196	2.45	1.200	0.026
Schwartz: It is important to this person living in secure surroundings	2005-2009	1209	4.24	1.354	0.039
	2010-2014	2194	4.32	1.248	0.027
Schwartz: It is important to this person to have a good time	2005-2009	1211	3.23	1.313	0.038
	2010-2014	2190	3.01	1.329	0.028
Schwartz: It is important to this person to help the people nearby	2005-2009	1215	4.53	1.053	0.030
	2010-2014	0[b]	.	.	.
Schwartz: It is important to this person being very successful	2005-2009	1213	3.37	1.395	0.040
	2010-2014	2195	3.47	1.393	0.030
Schwartz: It is important to this	2005-2009	1212	2.96	1.368	0.039

person adventure and taking risks	2010-2014	2190	3.07	1.351	0.029
Schwartz: It is important to this person to always behave properly	2005-2009	1211	3.88	1.373	0.039
	2010-2014	2179	3.99	1.341	0.029
Schwartz: It is important to this person looking after the environment	2005-2009	1213	4.05	1.225	0.035
	2010-2014	2190	4.05	1.289	0.028
Schwartz: It is important to this person tradition	2005-2009	1216	4.12	1.382	0.040
	2010-2014	2194	3.97	1.406	0.030
Schwartz: It is important to this person to do something for the good of society	2005-2009	0[b]	.	.	.
	2010-2014	2182	4.26	1.160	0.025

a. Country/region = United States

b. t cannot be computed because at least one of the groups is empty.

Table C.8

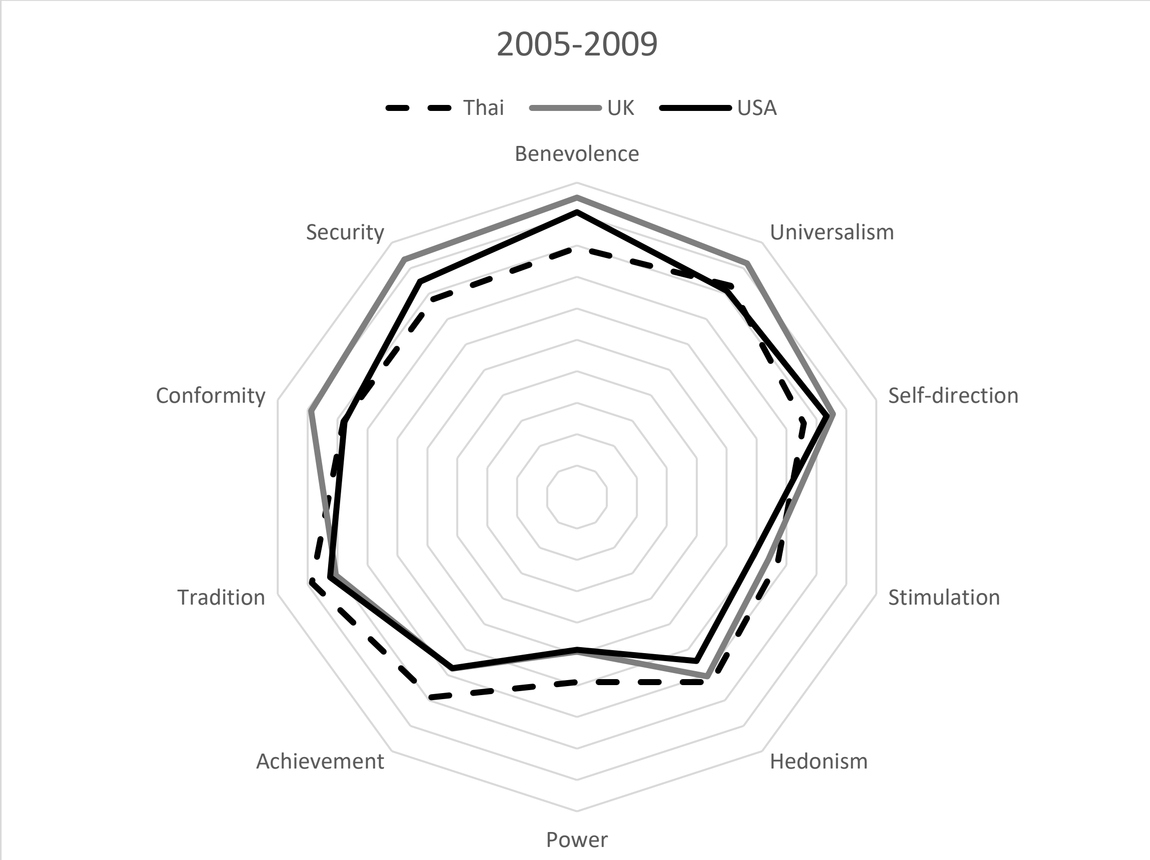
Schwartz Values Indicators – USA Independent Samples Test[a]

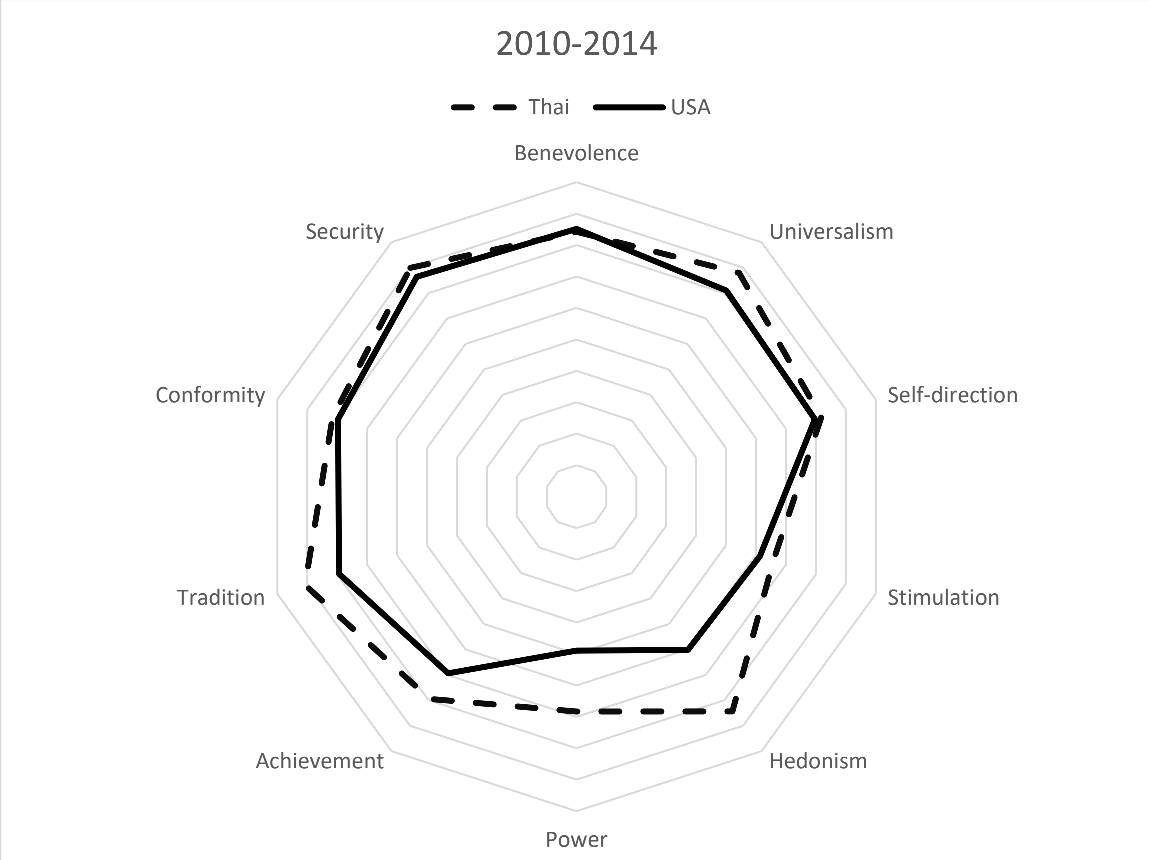
		Levene's Test		t-test for Equality of Means						
									95% Confidence	
		F	Sig.	T	Df	Sig. (2-tail)	Mean Diff.	Std. Error Diff.	Lower	Upper
Schwartz: It is important to this person to think up new ideas and be creative	assumed	0.199	0.656	4.103	3410.00	0.000	0.186	0.045	0.097	0.275
	not assumed			4.125	2545.25	0.000	0.186	0.045	0.098	0.274
Schwartz: It is important to this person to be rich	assumed	0.049	0.825	-0.482	3408.00	0.630	-0.021	0.043	-0.105	0.063
	not assumed			-0.482	2500.86	0.630	-0.021	0.043	-0.105	0.063
Schwartz: It is important to this person living in secure surroundings	assumed	7.251	0.007	-1.801	3401.00	0.072	-0.083	0.046	-0.173	0.007
	not assumed			-1.759	2321.77	0.079	-0.083	0.047	-0.176	0.010
Schwartz: It is important to this person to have a good time	assumed	4.683	0.031	4.536	3399.00	0.000	0.215	0.047	0.122	0.308
	not assumed			4.552	2522.85	0.000	0.215	0.047	0.122	0.308
Schwartz: It is important to this person being very successful	assumed	0.417	0.519	-2.120	3405.00	0.034	-0.106	0.050	-0.203	-0.008
	not assumed			-2.118	2494.64	0.034	-0.106	0.050	-0.204	-0.008
Schwartz: It is important to this person adventure and taking risks	assumed	1.992	0.158	-2.261	3401.00	0.024	-0.110	0.049	-0.205	-0.015
	not assumed			-2.253	2472.44	0.024	-0.110	0.049	-0.205	-0.014
Schwartz: It is important to this person to always behave properly	assumed	3.180	0.075	-2.123	3388.00	0.034	-0.103	0.048	-0.198	-0.008
	not assumed			-2.109	2450.01	0.035	-0.103	0.049	-0.199	-0.007
	assumed	5.141	0.023	-0.062	3401.00	0.951	-0.003	0.045	-0.092	0.086

Schwartz: It is important to this person looking after the environment	not assumed			-0.063	2609.91	0.950	-0.003	0.045	-0.090	0.085
Schwartz: It is important to this person tradition	assumed	0.054	0.817	3.085	3407.00	0.002	0.154	0.050	0.056	0.252
	not assumed			3.100	2543.19	0.002	0.154	0.050	0.057	0.252

a. Country/region = United States

Appendix D**: Schwartz Values Indicators Results from the World Values Survey**




2010-2014
Thai
USA
Benevolence
Universalism
Self-direction
Stimulation
Hedonism
Power
Achievement
Tradition
Conformity
Security

Appendix E: Cross Cultural Scale Items

Table E.1
Cross Cultural Scale Items

Origin	Item Identifier	Research regarding values and preferences	Item Identifier used in corporate study
	SA1	I notice and accord some degree of respect to a person based on their accent.	
	SA2	I notice and accord some degree of respect to a person based on their family background.	
	SA3	It is more important for a negotiating team to be comprised of:	
	SA3a	Members with project specific competencies, regardless of age and rank.	
	SA3b	Senior ranking members	
	SA4	The respect a person deserves is highly dependent on their family background.	SA2
	SA5	You are hiring a new employee and must choose between two candidates. You decide to hire your senior level associate's nephew who lacks job relevant experience but comes highly recommended rather than hiring the candidate with the most experience	SA3
	SA6	It is important that a manager be older than most of his subordinates.	SA4
	SA7	You are hiring a new employee and must choose between two candidates. You decide to hire the candidate from a very important family rather than hiring the candidate with the most experience.	SA5
	SA8	You are a manager and need to promote one of two similarly qualified individuals. You feel it most appropriate to promote the employee who is older and has been with the company longer over the employee with the better performance results last year.	SA6

Warner-Søderholm (2013)	HCC1	It is best to avoid showing disagreement openly in order to maintain a sense of harmony in meetings and discussions.	HCC1
Warner-Søderholm (2013)	HCC2	It is more important to maintain harmony and a positive tone than to speak clearly and honestly.	HCC2
	HCC3	It is often not possible to say "no" so how I say "yes" signals what I really mean.	HCC3
	HCC4	Communicating atmosphere and mood or feeling is more important than stating a point directly.	HCC4
Warner-Søderholm (2013)	HCC5	It is best to be honest and forthcoming in meetings and discussions even if that leads to a disagreement.	
Warner-Søderholm (2013)	HCC6	It is best to clearly state exactly what one is trying to communicate.	
Rothwell (2012)	HCC7	I prefer to be direct and forthright when I talk with people.	
	HCC8	I prefer to sense what other people are feeling rather than have it stated directly.	HCC5
Schnabel (2013)	HCC9	The way I address something depends on the person I am talking to.	
	HCC10	What is not said is just as important as the words that are said.	
	HCC11	In understanding what is being communicated, body language and nonverbal communication is more important than the actual words used.	
Rothwell (2012)	PD1	When standing in a queue, if someone of higher status comes later, it is appropriate to let that person go first in line.	
	PD2	I prefer my boss make important decisions for me.	
	PD2 – Uni	I prefer my adviser / professor make important decisions for me.	
Lind et al. (1997)	PD3	An organization is most successful if it is clear who is the leader and who is the follower.	

House et al. (2004)	PD4	Rank and position in the hierarchy should have special privileges.	PD3
House et al. (2004)	PD5	If followers trust their industry and company leaders wholeheartedly, the group will be most successful.	
Maznevski and DiStefano (1995)	PD6	The highest-ranking manager in a team should take the lead.	PD5
Earley and Erez (1997)	PD7	Once a decision of a top-level executive is made, people working for the company should not question it.	PD6
Hofstede and Minkov (2013b)	PD8	I am often afraid to contradict my boss.	
	PD8 – University	I am often afraid to contradict my professor.	
	PD9	It is not appropriate to question a company or industry leader's decisions.	PD7
Hofstede and Minkov (2013b))	PD10	It is important to be consulted by my boss in decisions involving my work.	
	PD10 – University	It is important to be consulted by my adviser / professor in decisions involving my work.	
House et al. (2004)	PD11	Company and industry leaders need to accept that their decisions will be questioned and challenged.	
O'Cass (2003)	LC1	Success is mostly good breaks.	
O'Cass (2003)	LC2	It isn’t wise to plan ahead.	
O'Cass (2003)	LC3	Life is a gamble.	
O'Cass (2003)	LC4	When things go right it’s good luck.	
O'Cass (2003)	LC5	What will be will be.	
O'Cass (2003)	LC6	I have little influence over things.	

O'Cass (2003)	LC7	What will happen will happen anyway.	
	LC8	In work and life:	LC5
	LC8a	My efforts determine the outcome	
	LC8b	Regardless of my efforts, things happen as they were destined to happen.	
Trompenaars and Hampden-Turner (1998)	LC9	When I achieve something, I generally feel it was due to:	LC6
	LC9a	Hard Work	
	LC9b	Good Luck	
Trompenaars and Hampden-Turner (1998)	LC10	Becoming a great success:	LC7
	LC10a	Is a matter of hard work; luck has little or nothing to do with it.	
	LC10b	Often depends on being in the right place at the right time.	
Trompenaars and Hampden-Turner (1998)	LC11	Getting the right job depends:	LC8
	LC11a	On a person's ability.	
	LC11b	Upon being in the right place at the right time.	
Ang et al. (2003)	AA1	I prefer to work for supervisors who expect employees to closely follow instructions and procedures.	
	AA1-U	I prefer professors who expect students to closely follow instructions and procedures.	
	AA2	I prefer to have a set structure for my work.	AA2

Ang et al. (2003)(Ang et al., 2003)	AA3	Rules and regulations are important because they inform employees what the organization expects of them.	
	AA3-U	Rules and regulations are important because they inform students what the university expects of them.	
	AA4	I prefer work that is highly structured.	AA4
	AA5	It is important to know and follow the one right way to do things.	AA5
Srite and Karahanna (2006)	AA6	Order and structure are very important in a work environment.	AA6
Ang et al. (2003)	AA7	I prefer work that has detailed standard operating procedures spelled out.	
	AA7-U	I prefer to work on assignments that have detailed well defined instructions written out	
	AA8	It is better to have job requirements and instructions spelled out in detail so that employees always know what they are expected to do.	AA8
	AA8-U	It is better to have assignment requirements and instructions spelled out in detail so that students always know what they are expected to do.	
	AA9	It is best to:	
	AA9a	Start working and address problems as they arise.	
	AA9b	Know all the facts before proceeding on a project.	
	AA10	It is better to	
	AA10a	Set specific deliverables but otherwise adjust the plans as the project progresses.	
	AA10b	Give adequate time to planning to avoid failure in the long run.	

Appendix F: Population Calculation as Percentage of Labor Force

Table F.1

US labor force breakdown by occupation group that would be in target population (U.S. Bureau of Labor Statistics, 2018)

Occupation (SOC code)	Employment(1)
Management Occupations (110000)	7280330
Business and Financial Operations Occupations (130000)	7472750
Computer Occupations (151100)	4094930
Computer and Information Analysts (151120)	687210
Database and Systems Administrators and Network Architects (151140)	646570
Computer Support Specialists (151150)	800010
Computer Occupations, All Other (151199)	315830
Engineers (172000)	1665220
Drafters, Engineering Technicians, and Mapping Technicians (173000)	674540
Life, Physical, and Social Science Technicians (194000)	359180
Postsecondary Teachers (251000)	1525170
Media and Communication Workers (273000)	581520
Sales Representatives, Services (413000)	1983790
Sales Representatives, Wholesale and Manufacturing (414010)	1718580
Sales Engineers (419031)	70820
Sales and Related Workers, All Other (419099)	93860
Office and Administrative Support Occupations (430000)	21965480
Total	51935790
Labor force (CIA, 2017)	160400000
Population of Study	32.38%

(1) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.

SOC code: Standard Occupational Classification code -- see http://www.bls.gov/soc/home.htm

Appendix G: **Initial Pilot Study**

Table G.1
Demographics from Initial Pilot Study

Demographic	Attribute	Frequency	Percent
Gender	Female	21	65.6%
	Male	11	34.4%
Age	20-29	9	28.1%
	30-39	13	40.6%
	40-49	7	21.9%
	50-59	2	6.3%
	Over 60	1	3.1%
Nationality	Chinese	3	9,4 %
	Indian	1	3.1 %
	Thai	13	40 .6%
	USA	8	25 %
	Mexican	1	3.1 %
	German	3	9.4%
	Hungarian	2	6.3 %
	Persian	1	3.1 %
Education	Secondary School	1	3.1%
	Associates	2	6.3%
	Bachelor’s	7	21.9%
	Master’s	19	59.5
	Doctoral	3	9,4%

Table G.2

Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Affective	0.107	0.571	0.207	0.447
Ascription	0.545	0.658	0.620	0.400
BI	0.842	0.874	0.906	0.765
Individualism	0.534	-0.256	0.069	0.224
Internal LC	0.452	0.240	0.029	0.153
LI	0.835	0.847	0.882	0.599
PEOU	0.780	0.847	0.842	0.581
PU	0.939	0.940	0.956	0.846
SN	0.832	0.900	0.882	0.657
Task	0.510	0.591	0.658	0.407
Universalism	0.835	0.868	0.871	0.533

Appendix H: Cross-Cultural Scale Review, Revise, Rank

Initial review by International Cross-Culturalists conducted between June and July 2016

Which scale items best measure	Respondent 1	2	3	4	5	6	7	8	9	10	11	12
Status Ascription												
You are a manager and need to promote one of two similarly qualified individuals. You feel it most appropriate to promote the employee who is older and has been with the company longer over the employee with the better performance results last year.	5	2	6	5	1	3	6	5	6	4	5	6
It is important that a manager be older than most of his subordinates	4	4	6	2	1	4	6	6	5	3	4	6
You are hiring a new employee and must choose between two candidates. You decide to hire the candidate from a very important family rather than hiring the employee with the most experience	5	3	6	6	1	2	6	4	4	2	6	6
The respect a person deserves is highly dependent on their family background.	4	3	6	6	1	1	6	4	5	1	6	6
It is important to strive for continuously improved performance (reverse)	5	6	4	1	6	4	1	5	3	6	1	6
You are hiring a new employee and must choose between two candidates. You decide to hire your senior level associate's nephew who lacks job relevant experience but comes highly recommended rather than hiring the employee with the most experience	5	1	6	6	1	1	6	6	2	5	4	3

It is more important for a negotiating team to be comprised of senior members rather than relatively young members with project specific competencies.	3	3	4	1	1	4	6	4	5	6	4	4
Older people should be respected more than younger people.	4	4	2	2	3	5	6	2	2	5	5	3
When I succeed, it is usually because of my abilities.	3	4	6	4	6	4	1	2	5	2	1	4
When hiring a new candidate, where he or she attended university is far more important than what he or she studied.	3	3	3	1	1	4	6	6	2	2	4	4
I like to demonstrate my abilities to others.	2	5	3	1	2	5	1	5	5	1	1	4
High vs. Low Context Communication												
What is not said is just as important as the words that are said.	6	5	5	4	6	5	6	5	6	6	4	6
The way I address something depends on the person I am talking to.	5	6	6	1	6	5	6	5	6	5	6	6
Body language and nonverbal communication is very important in understanding what is being communicated.	6	4	6	4	6	5	6	6	6	3	6	5
I prefer to sense what other people are feeling rather than have it stated directly	6	4	6	4	6	4	6	4	4	6	4	6
I prefer to be direct and forthright when I talk with people.	5	5	6	6	3	3	6	4	5	6	4	6
It is best to clearly state exactly what one is trying to communicate. (reverse)	5	5	6	6	3	5	4	1	6	6	4	6
It is best to be honest and forthcoming in meetings and discussions. (reverse)	4	5	6	6	3	5	6	1	6	6	3	3
It is more important to maintain harmony and a positive tone than to speak clearly and honestly.	5	3	6	6	3	3	6	1	5	2	5	6

Communicating atmosphere and mood or feeling is more important than stating a point directly	5	3	6	5	3	4	1	5	6	6	2	5
It is often not possible to say “no” so how I say “yes” signals what I really mean.	6	4	6	1	5	3	6	4	5	2	3	6
Atmosphere is more important that what is stated directly	5	2	6	2	6	4	1	5	5	6	2	4
It is best to avoid showing disagreement openly in a discussion in order to maintain a sense of harmony in meetings and discussions	4	3	6	2	3	4	6	1	6	2	5	4
When surfing the web, I prefer to see symbolic information in the form of pictures or drawings, instead of detailed information in text form.	3	5	2	5	6	3	1	6	3	6	3	2
When I use e-mail or a communication / messaging app, I prefer indirect expressions (e.g., emoticons) to direct expressions (e.g., text).]	3	2	2	3	5	2	3	4	3	5	3	3
When I am searching for information for work, symbolic iconic representation is more convenient than detailed textual information.	3	5	2	2	3	2	1	3	3	2	4	2
Power distance												
Company and industry leaders need to accept that their decisions will be questioned and challenged (reverse)	5	5	6	6	6	6	5	6	5	6	3	6
It is important to be consulted by my boss in decisions involving my work (reverse)	5	4	6	6	6	6	1	6	5	6	2	5
I am often afraid to contradict my boss	6	3	6	4	1	2	6	6	5	5	5	6
It is not appropriate to question a company or industry leader's decisions.	6	3	6	6	1	2	5	6	4	6	5	4

Once a decision of a top-level executive is made, people working for the company should not question it	5	4	6	3	1	1	6	6	5	6	4	6
The highest-ranking manager in a team should take a lead	5	3	6	2	1	4	6	5	4	6	5	4
Rank and position in the hierarchy should have special privileges	5	3	6	6	1	4	1	6	5	6	4	3
I prefer my boss make important decisions for me.	3	4	5	5	1	1	6	6	5	6	2	6
If followers trust their industry and company leaders wholeheartedly, the group will be most successful	3	3	6	2	6	5	5	6	5	2	4	2
An organization is most successful if it is clear who is the leader and who is the follower.	1	5	6	2	1	4	6	6	5	6	4	3
Employees should not express disagreements with their mangers	4	2	6	4	1	2	6	4	4	5	5	6
People at higher levels in the company should have a responsibility to make important decisions for people below them.	4	4	6	1	1	4	6	3	4	6	3	4
Employees who often question authority sometimes keep their managers from being effective	2	5	5	1	1	2	6	4	5	2	2	4
People at lower levels of an organization should have separate facilities such as eating areas, for higher level managers	5	2	6	1	1	1	1	5	5	1	4	6
When standing in a queue, if someone of higher status comes later, it is appropriate to let that person cut in line.	2	1	6	1	1	1	6	5	5	1	2	6
People at lower levels in the organization should not have much power in the organization	2	3	4	1	1	1	5	3	2	6	3	2

Locus of Control

What will happen will happen anyway	6	4	6	6	1	6	6	5	5	6	6	5
I have little influence over things	6	3	6	6	3	2	6	6	5	6	3	6
What will be will be	5	4	6	6	3	6	4	2	4	6	4	5
When things go right it's good luck	6	3	6	3	3	3	1	6	5	5	5	5
Life is a gamble	2	4	6	6	1	4	1	1	3	4	3	5
It isn't wise to plan ahead	4	2	4	6	3	4	1	2	4	1	3	4
Success is mostly good breaks	4	3	6	1	1	4	1	2	4	2	3	5
				Ambiguity Avoidance								
It is better to have job requirements and instructions spelled out in detail so that employees always know what they are expected to do.	5	4	6	6	5	2	6	5	6	6	5	6
I prefer work that has detailed standard operating procedures spelled out.	6	4	6	6	1	1	6	6	5	6	4	6
I prefer work that is highly structured.	5	4	6	3	1	1	6	3	5	6	5	6
Order and structure are very important in a work environment	5	4	6	2	3	1	6	3	4	6	5	6
It is important to know and follow the one right way to do things.	5	4	6	1	3	1	6	4	4	5	6	5
I prefer to have a set structure for my work	5	4	6	2	1	1	6	3	2	6	5	6
Rules and regulations are important because they inform employees what the organization expects of them.	4	5	6	1	5	1	4	3	6	2	5	4
I prefer to work for supervisors who expect employees to closely follow instructions and procedures.	5	3	6	5	1	1	1	2	6	6	4	4
Country of Residence	US	SG	CA	BR	CH / GR	UK	SG	UK	ZA	US	US	UK
Nationality	US	SG	US / BR	DE /BR	CH / DE	UK	CH	UK	US	JP	US	UK

Appendix I: Cross-Cultural Scale July - August 2016 Test

Table I.1

July – August 2016 Cross-Cultural Scale Questions to be tested

Identifie r	Question
SA1	I notice and accord some degree of respect a person based on their accent.
SA2	I notice and accord some degree of respect a person based on their family background.
SA3	It is more important for a negotiating team to be comprised of senior members rather than relatively young members with project specific competencies.
SA4	It is important to strive for continuously improved performance.
SA5	The respect a person deserves is highly dependent on their family background.
SA6	You are hiring a new employee and must choose between two candidates. You decide to hire your senior level associate's nephew who lacks job relevant experience but comes highly recommended rather than hiring the employee with the most experience.
SA7	It is important that a manager be older than most of his subordinates.
SA8	You are hiring a new employee and must choose between two candidates. You decide to hire the candidate from a very important family rather than hiring the employee with the most experience.
SA9	You are a manager and need to promote one of two similarly qualified individuals. You feel it most appropriate to promote the employee who is older and has been with the company longer over the employee with the better performance results last year.
HCC1	It is best to avoid showing disagreement openly in order to maintain a sense of harmony in meetings and discussions.
HCC2	It is more important to maintain harmony and a positive tone than to speak clearly and honestly.
HCC3	It is often not possible to say “no” so how I say “yes” signals what I really mean.
HCC4	Communicating atmosphere and mood or feeling is more important than stating a point directly.

HCC5R	It is best to be honest and forthcoming in meetings and discussions.
HCC6R	It is best to clearly state exactly what one is trying to communicate.
HCC7R	I prefer to be direct and forthright when I talk with people.
HCC8	I prefer to sense what other people are feeling rather than have it stated directly.
HCC9	The way I address something depends on the person I am talking to.
HCC10	What is not said is just as important as the words that are said.
HCC11	Body language and nonverbal communication is very important in understanding what is being communicated.
HCC12	When communicating about business matters, I prefer texting/email vs. phone/face-to-face conversations
PD1	When standing in a queue, if someone of higher status comes later, it is appropriate to let that person go first in line.
PD2	I prefer my boss make important decisions for me.
PD3	An organization is most successful if it is clear who is the leader and who is the follower.
PD4	Rank and position in the hierarchy should have special privileges.
PD5	If followers trust their industry and company leaders wholeheartedly, the group will be most successful.
PD6	The highest-ranking manager in a team should take the lead.
PD7	Once a decision of a top-level executive is made, people working for the company should not question it.
PF8	I am often afraid to contradict my boss.
PD9	It is not appropriate to question a company or industry leader's decisions.
PD10R	It is important to be consulted by my boss in decisions involving my work.
PD11R	Company and industry leaders need to accept that their decisions will be questioned and challenged.
LC1	Success is mostly good breaks.
LC2	It isn't wise to plan ahead.

LC3	Life is a gamble.
LC4	When things go right it's good luck.
LC5	What will be will be.
LC6	I have little influence over things.
LC7	What will happen will happen anyway.
LC8	Regardless of what I do, the outcome depends on God's will.
LC9	Regardless of my efforts, things happen as they were destined to happen.
LC10R	My efforts determine the outcome.
LC11	I can only change my circumstances to a certain extent.
LC12R	When something goes wrong it is my responsibility to make sure it gets fixed.
LC13	When I achieve something, I generally feel it was good luck.
LC14	Becoming a great success often depends on being in the right place at the right time.
LC15	Getting the right job depends mainly upon being in the right place at the right time.
AA1	I prefer to work for supervisors who expect employees to closely follow instructions and procedures.
AA2	I prefer to have a set structure for my work.
AA3	Rules and regulations are important because they inform employees what the organization expects of them.
AA4	I prefer work that is highly structured.
AA5	It is important to know and follow the one right way to do things.
AA6	Order and structure are very important in a work environment.
AA7	I prefer work that has detailed standard operating procedures spelled out.
AA8	It is better to have job requirements and instructions spelled out in detail so that employees always know what they are expected to do.
AA9	It is best to know all the facts before proceeding on a project.

AA10	It is better to give adequate time to planning to avoid failure in the long run.

Note: “R” indicates revers coded items

Appendix J: **Cross-Cultural Scale Development Results 10-11 July 2016**

Table J.1

Age

	Frequency	Percent
16-20	7	15.2
21-25	35	76.1
26-30	1	2.2
41-45	3	6.5

Note: total respondents = 46

Table J.2

Nationality

	Frequency	Percent	Valid Percent	Cumulative Percent
American	3	6.5	6.5	6.5
Thai	38	82.6	82.6	89.1
Chinese	2	4.3	4.3	93.5
Korean	2	4.3	4.3	97.8
Myanmar	1	2.2	2.2	100.0

Table J.3

Reliability Statistics: Cronbach's Alpha for Status Ascription

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SA1	21.93	35.929	.602	.789
SA2	22.00	34.800	.651	.783
SA3	22.22	37.285	.415	.812
SA4R	23.78	45.241	-.061	.843
SA5	22.41	34.603	.598	.789
SA6	23.11	33.610	.696	.776
SA7	22.70	36.261	.516	.799
SA8	23.39	34.643	.652	.782
SA9	22.63	35.971	.469	.806

Note: Cronbach's Alpha for all 9 items 0.818. Bolded items considered for deletion. “R” indicates reverse coded item

Table J.4

Reliability Statistics: Cronbach's Alpha for High Context Communication

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HCC1	35.11	22.055	.589	.581
HCC2	35.07	19.885	.760	.536
HCC3	34.89	25.699	.328	.636
HCC4	34.70	20.794	.700	.554
HCC5R	36.52	30.744	-.226	.704
HCC6R	36.61	29.621	-.091	.686
HCC7R	36.30	28.528	.020	.679
HCC8	34.59	23.981	.423	.617
HCC9	34.26	25.886	.276	.643
HCC10	34.50	29.856	-.124	.697
HCC11	34.07	25.929	.293	.641
HCC12	34.74	22.819	.407	.618

Note: Cronbach's Alpha for all 12 items 0.660. Bolded items considered for deletion. “R” indicates reverse coded item

Table J.5

Reliability Statistics: Cronbach's Alpha for Power Distance

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PD1	30.93	24.373	.362	.615
PD2	30.04	25.154	.482	.590
PD2	29.50	28.611	.242	.636
PD4	29.87	26.027	.400	.607
PD5	29.41	29.003	.188	.645
PD6	29.43	27.851	.341	.621
PD7	30.48	24.522	.451	.593
PF8	30.46	25.809	.471	.595
PD9	30.83	22.991	.695	.542
PD10R	31.26	31.886	-.096	.691
PD11R	31.48	32.966	-.189	.705

Note: Cronbach's Alpha for all 11 items 0.648. Bolded items considered for deletion. “R” indicates reverse coded item

Table J.6

Reliability Statistics: Cronbach's Alpha for Locus of Control

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
LC1	38.74	42.019	.322	.709
LC2	39.85	37.110	.594	.669
LC3	38.61	43.443	.278	.713
LC4	38.59	38.603	.545	.678
LC5	38.28	42.385	.392	.701
LC6	39.15	39.243	.553	.679
LC7	38.52	43.188	.286	.713
LC8	39.87	38.871	.406	.698
LC9	39.13	38.249	.590	.673
LC10R	40.70	49.639	-.182	.761
LC11	38.98	42.555	.305	.711
LC12R	40.72	49.985	-.237	.753
LC13	38.87	39.583	.468	.689

Note: Cronbach's Alpha for all 13 items 0.722. Bolded items considered for deletion. "R" indicates reverse coded item

Appendix K: **Cross-Cultural Scale Development Results 14 July – Aug. 28 2016**

Table K.1

Age

	Frequency	Percent
16-20	2	2.1
21-25	2	2.1
26-30	1	1.1
31-35	3	3.2
36-40	2	2.1
41-45	4	4.3
46-50	7	7.4
51-55	8	8.5
56-60	11	11.7
61-65	13	13.8
66-70	11	11.7
70+	30	31.9

Table K.2

Nationality

	Frequency	Percent
American	87	92.6
Canadian	1	1.1
Indian	1	1.1
Mexican	1	1.1
Argentinean	1	1.1
Cuban-American	1	1.1
Romanian	2	2.1

Note: all respondents were US residents

Table K.3

Reliability Statistics: Cronbach's Alpha for Status Ascription

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SA1	15.61	12.972	.312	.555
SA2	15.62	12.368	.355	.541
SA3	15.89	12.763	.344	.545
SA4R	16.99	15.451	.117	.598
SA5	17.04	14.084	.309	.559
SA6	16.84	14.136	.228	.578
SA7	16.37	12.838	.401	.529
SA8	17.23	15.299	.271	.576
SA9	16.06	13.458	.224	.584

Note: Cronbach's Alpha for all 9 items 0.593. Bolded items considered for deletion. “R” indicates reverse coded item

Table K.4

Reliability Statistics: Cronbach's Alpha for High Context Communication

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HCC1	28.94	21.544	.233	.583
HCC2	29.47	21.779	.302	.569
HCC3	28.69	18.947	.449	.527
HCC4	28.98	19.892	.423	.538
HCC5R	29.67	22.180	.334	.567
HCC6R	29.94	23.716	.221	.588
HCC7R	29.67	22.654	.310	.573
HCC8	28.85	20.537	.346	.557
HCC9	27.21	21.008	.355	.557
HCC10	27.12	23.137	.072	.620
HCC11	26.78	23.444	.188	.590
HCC12	28.73	23.531	-.006	.648

Note: Cronbach's Alpha for all 12 items 0.599. Bolded items considered for deletion. “R” indicates reverse coded item

Table K.5

Reliability Statistics: Cronbach's Alpha for Power Distance

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PD1	25.06	24.189	.401	.608
PD2	25.05	25.986	.279	.632
PD2	23.30	22.964	.460	.594
PD4	24.19	24.113	.295	.631
PD5	23.05	25.771	.193	.650
PD6	23.65	23.478	.413	.604
PD7	24.30	23.674	.389	.609
PF8	24.61	26.069	.217	.643
PD9	24.93	24.973	.486	.603
PD10R	24.73	29.724	-.122	.696
PD11R	25.11	25.386	.403	.614

Note: Cronbach's Alpha for all 11 items 0.650. Bolded items considered for deletion. “R” indicates reverse coded item

Table K.6

Reliability Statistics: Cronbach's Alpha for Locus of Control

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
LC1	32.28	62.181	.564	.807
LC2	33.13	69.446	.207	.828
LC3	31.84	63.533	.374	.821
LC4	32.66	64.098	.621	.807
LC5	32.21	58.621	.675	.797
LC6	32.63	64.086	.499	.812
LC7	32.44	61.453	.607	.804
LC8	32.28	59.342	.486	.814
LC9	32.45	59.325	.628	.801
LC10R	32.68	69.704	.200	.828
LC11	31.23	65.515	.322	.824
LC12R	32.40	71.233	.059	.836
LC13	32.78	65.143	.626	.809
LC14	31.35	66.381	.336	.822
LC15	31.54	64.294	.513	.811

Note: Cronbach's Alpha for all 15 items 0.825. Bolded items considered for deletion. “R” indicates reverse coded item

Table K.7

Reliability Statistics: Cronbach's Alpha for Ambiguity Avoidance

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AA1	31.29	35.454	.616	.859
AA2	31.23	34.031	.693	.853
AA3	30.24	38.316	.540	.866
AA4	31.53	34.467	.637	.858
AA5	31.66	33.861	.606	.862
AA6	30.62	36.131	.669	.856
AA7	31.14	33.088	.774	.846
AA8	30.68	35.123	.631	.858
AA9	30.23	36.482	.541	.865
AA10	29.86	41.884	.188	.883

Note: Cronbach's Alpha for all 10 items 0.873. Bolded items considered for deletion. “R” indicates reverse coded item

Appendix L: Cross-Cultural Scale Development Results 20 September 2016

Table L.1

Language

	Frequency	Percent
English	69	21.9
Thai	246	78.1

N=315

Table L.2

Age

	Frequency	Percent
16-20	139	44.1
21-25	155	49.2
26-30	13	4.1
31-35	3	1.0
36-40	4	1.3
41-45	1	.3

Table L.3

Reliability Statistics: Cronbach's Alpha for Status Ascription

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SA1	16.12	29.351	.364	.786
SA2	16.60	26.973	.529	.759
SA3C	17.25	27.359	.487	.766
SA5	17.55	27.426	.609	.747
SA6	17.67	27.833	.577	.752
SA7	17.44	27.979	.534	.758
SA8	17.80	29.203	.505	.764
SA9	17.08	29.529	.377	.783

Note: Cronbach's Alpha for all 8 items: Combined 0.788, English language:.809, and Thai language .778. “C” indicates bipolar survey scale item

Table L.4

Reliability Statistics: Cronbach's Alpha for High Context Communication

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HCC1	19.75	14.375	.365	.577
HCC2	19.50	15.066	.275	.608
HCC3	19.18	15.163	.332	.589
HCC4	19.21	13.860	.443	.551
HCC8	19.29	14.399	.347	.584
HCC10	18.71	16.023	.205	.628
HCC11	18.74	15.007	.403	.569

Note: Cronbach's Alpha for all 8 items: Combined 0.624, English language 0.724, and Thai language 0.597. “C” indicates bipolar survey scale item

Table L.5

Reliability Statistics: Cronbach's Alpha for Power Distance

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PD1	23.00	24.296	.458	.663
PD2	22.32	24.583	.430	.669
PD3	21.34	27.048	.238	.705
PD4	22.19	24.739	.439	.668
PD5	20.96	27.775	.200	.710
PD6	21.73	24.886	.442	.667
PD7	22.37	24.310	.464	.662
PF8	22.02	26.162	.289	.697
PD9	22.61	25.284	.447	.667

Note: Cronbach's Alpha for all 8 items: Combined 0.705, English language 0.710, and Thai language 0.693. "C" indicates bipolar survey scale item

Table L.6

Reliability Statistics: Cronbach's Alpha for Locus of Control

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
LC1	26.40	52.974	.565	.815
LC2	27.44	55.649	.456	.824
LC3	26.22	51.203	.581	.813
LC4	26.85	51.151	.682	.805
LC5	25.44	54.935	.390	.831
LC6	26.23	57.304	.330	.834
LC7	25.37	55.407	.351	.835
LC9C	26.89	52.160	.586	.813
LC13C	26.97	52.483	.669	.808
LC14C	26.24	52.682	.505	.820
LC15C	26.47	52.836	.512	.820

Note: Cronbach's Alpha for all 11 items: Combined 0.834, , English language 0.785, and Thai language 0.845. "C" indicates bipolar survey scale item

Table L.7

Reliability Statistics: Cronbach's Alpha for Ambiguity Avoidance

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AA1	32.07	30.170	.212	.718
AA2	30.71	28.889	.413	.684
AA3	31.21	28.321	.424	.681
AA4	30.70	28.089	.499	.671
AA5	31.66	27.245	.428	.680
AA6	30.71	29.217	.457	.680
AA7	30.70	28.300	.470	.675
AA8	30.51	29.550	.398	.688
AA9C	30.87	28.986	.272	.710
AA10C	31.48	28.435	.270	.713

Note: Cronbach's Alpha for all 10 items: Combined: 0.712, English language 0.752, and Thai language 0.711. "C" indicates bipolar survey scale item

Table L.8

Test for Normality: All items non-normally distributed

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
SA1	.248	315	.000	.868	315	.000
SA2	.176	315	.000	.906	315	.000
SA3C	.219	315	.000	.855	315	.000
SA5	.237	315	.000	.839	315	.000
SA6	.253	315	.000	.806	315	.000
SA7	.203	315	.000	.859	315	.000
SA8	.279	315	.000	.783	315	.000
SA9	.167	315	.000	.899	315	.000
HCC1	.205	315	.000	.905	315	.000
HCC2	.179	315	.000	.913	315	.000

HCC3	.204	315	.000	.907	315	.000
HCC4	.181	315	.000	.914	315	.000
HCC8	.175	315	.000	.912	315	.000
HCC10	.222	315	.000	.877	315	.000
HCC11	.226	315	.000	.887	315	.000
PD1	.355	315	.000	.709	315	.000
PD2	.194	315	.000	.894	315	.000
PD3	.205	315	.000	.901	315	.000
PD4	.179	315	.000	.889	315	.000
PD5	.245	315	.000	.856	315	.000
PD6	.187	315	.000	.909	315	.000
PD7	.198	315	.000	.891	315	.000
PF8	.161	315	.000	.910	315	.000
PD9	.227	315	.000	.869	315	.000
LC1	.198	315	.000	.907	315	.000
LC2	.384	315	.000	.646	315	.000
LC3	.146	315	.000	.904	315	.000
LC4	.229	315	.000	.855	315	.000
LC5	.184	315	.000	.871	315	.000
LC6	.204	315	.000	.909	315	.000
LC7	.218	315	.000	.853	315	.000
LC9C	.221	315	.000	.839	315	.000
LC13C	.212	315	.000	.849	315	.000
LC14C	.174	315	.000	.899	315	.000
LC15C	.161	315	.000	.893	315	.000
AA1	.187	315	.000	.888	315	.000
AA2	.218	315	.000	.865	315	.000
AA3	.190	315	.000	.906	315	.000
AA4	.219	315	.000	.866	315	.000
AA5	.164	315	.000	.908	315	.000
AA6	.234	315	.000	.867	315	.000

AA7	.223	315	.000	.869	315	.000
AA8	.227	315	.000	.844	315	.000
AA9C	.199	315	.000	.862	315	.000
AA10C	.138	315	.000	.892	315	.000

a. Lilliefors Significance Correction. “C” indicates bipolar survey scale item

Table L.9

Factor Analysis: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.832
Bartlett's Test of Sphericity	Approx. Chi-Square	4768.226
	Df	990
	Sig.	.000

Table L.10

Factor Analysis: Rotated Factor Matrix

	Factor				
	1	2	3	4	5
LC13C	.694				
LC4	.671				
LC14C	.658				
LC3	.619				
LC1	.586				
LC15C	.584				
LC9C	.549				
PD1		.539			
PD2		.523			
PD6		.464			
PD4		.455			
PD9		.451			
PD7		.370			
PF8		.278			

AA4	.728		
AA7	.655		
AA6	.582		
AA2	.570		
AA8	.566		
AA3	.419		
SA2		.580	
SA6		.538	
SA5		.530	
SA8		.522	
SA1		.456	
SA7		.416	
SA3C		.363	
SA9		.322	
HCC1			.572
HCC2			.562
HCC3			.450
HCC4			.409
HCC11			.191

Extraction Method: Maximum Likelihood.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Appendix M: **Cross-Cultural Scale Back Translation**

Table M.1

Back Translation from Thai to English

	English	Thai
SA1	I observe and pay respect to anyone because of their accent.	ฉันสังเกตและให้ความเคารพแก่บุคคลใดๆเนื่องจากสำเนียงการพูดของบุคคลนั้น
SA2	I observe and pay respect to anyone because of their family background.	ฉันสังเกตและให้ความเคารพแก่บุคคลใดๆเนื่องจากภูมิหลังทางครอบครัวของบุคคลนั้น
SA3	The important factors of negotiation team are….	สิ่งที่สำคัญสำหรับทีมงานเจรจาจะต้องประกอบด้วย...
SA3a	The team members are specialists, no matter how old they are or how high their position are	สมาชิกทีมมีความสามารถเฉพาะด้านโดยไม่ว่าจะมีอายุเท่าไหร่และตำแหน่งทางการงานสูงแค่ไหน
SA3b	Senior position members	สมาชิกผู้มีตำแหน่งอาวุโส
SA4	Individuals should deserve respectful regard on their family background	ความเคารพที่แต่ละบุคคลจะได้รับ ควรขึ้นอยู่กับภูมิหลังครอบครัวของบุคคลนั้น
SA5	You are hiring new member and need to decide between two persons. You decided to select a niece/nephew of a senior colleague instead of an experienced one even he/she doesn't have any experience in related field, because you are asked to select him/her.	คุณกำลังรับสมัครพนักงานใหม่และจำเป็นต้องเลือกระหว่างผู้สมัครสองคน คุณตัดสินใจเลือกที่จะรับหลานของผู้ร่วมงานอาวุโสของคุณเข้าทำงานโดยที่เขาไม่มีประสบการณ์ในการทำงานที่เกี่ยวข้อง มีเพียงการฝากฝังให้เลือกเขา ในขณะที่ผู้สมัครอีกคนมีประสบการณ์ในการทำงานมากกว่า
SA6	It is mandatory that managers need to be older than the their subordinate.	เป็นสิ่งที่สำคัญที่ผู้จัดการจะต้องมีอายุที่มากกว่าผู้อยู่ใต้บังคับบัญชาของเขา
SA7	You are hiring new member and need to decide between two persons. You decided to select a person who are from a well-known family instead of a more experienced one.	คุณกำลังรับสมัครพนักงานใหม่และจำเป็นต้องเลือกระหว่างผู้สมัครสองคน คุณเลือกที่จะรับผู้สมัครซึ่งมาจากครอบครัวที่โด่งดัง ในขณะที่ผู้สมัครอีกคนมีประสบการณ์ในการทำงานมากกว่า

SA8	You are a manager and deciding to promote an employee from two of employees with equivalent qualifications. You think it is appropriate to promote the one who are older and working with the company longer more than promote one that has a better performance in the previous year.	คุณเป็นผู้จัดการและต้องเลื่อนตำแหน่งให้พนักงานหนึ่งในสองคนที่มีคุณสมบัติคล้างคลึงกัน คุณรู้สึกว่าเป็นสิ่งที่สมควรในการเลื่อนตำแหน่งให้พนักงานที่มีอายุมากกว่าและทำงานกับบริษัทเป็นระยะเวลายาวนาน มากกว่าการเลื่อนตำแหน่งให้พนักงานอีกคนที่มีผลงานดีเด่นกว่าในระหว่างปีที่ผ่านมา
HCC1	in order to keep the harmonious climate in meetings or discussions should avoid openly disagreement	เพื่อรักษาบรรยากาศความปรองดองในระหว่างการประชุมหรือการพูดคุยกัน ควรหลีกเลี่ยงที่จะแสดงความเห็นต่างอย่างเปิดเผย
HCC2	keeping the harmonious climate is important than clearing statement and frankly speaking	การรักษาความสงบและความปรองดองเป็นสิ่งที่สำคัญกว่าการพูดอย่างชัดเจนและซื่อสัตย์ตรงไปตรงมา
HCC3	Oftenly we can't deny, so answer 'yes' / accepting is to send signal what we mean.	บ่อยครั้งที่เราปฏิเสธไม่ได้ ดังนั้นการที่เราตอบรับคือการส่งสัญญานว่าเราหมายความว่าอย่างไร
HCC4	discussion climate and feeling more important than talking straight to the point	บรรยากาศในการสื่อสารและอารมณ์ความรู้สึก มีความสำคัญกว่าการพูดให้ตรงประเด็น
HCC5	We should talk sincerely and directly in meetings or discussions even it may cause conflict.	เราควรพูดด้วยความจริงใจและไม่อ้อมค้อมในที่ประชุมหรือเมื่อพูดคุยกัน ถึงแม้จะทำให้เกิดความขัดแย้งขึ้น
HCC6	You should talk directly to the point when communicating to other	เราควรพูดให้ตรงประเด็นเสมอเมื่อต้องการสื่อสารกับผู้อื่น
HCC7	I like to frankly talk when talking to other	ฉันชอบที่จะพูดอย่างตรงไปตรงมาในการพูดคุยกับผู้อื่น
HCC8	I like to predict that other feel by myself than they directly telling me what they feel.	ฉันชอบที่จะเดาสิ่งที่ผู้อื่นรู้สึกเองมากกว่าที่ให้เขาบอกโดยตรง
HCC9	My way of speaking depends on who I talk to	วิธีการพูดของฉัน ขึ้นอยู่กับว่าฉันพูดกับใครด้วย
HCC10	What kept in mind are equally important with what speaked out	สิ่งที่ไม่ได้พูดออกมามีความสำคัญพอๆกับคำพูด
HCC11	To understand what other communicate, body language is more important than the words they say	ความเข้าใจถึงสิ่งที่ผู้พูดต้องการจะสื่อสาร ภาษากายเป็นสิ่งที่สำคัญยิ่งกว่าคำพูดที่ได้พูดออกมา
PD1	Standing in line, it is appropriate to let people who have higher status to cut the line.	ในการยืนรอคิว หากมีผู้มาทีหลังที่มีสถานะสูงกว่าเรา เป็นการเหมาะสมที่จะให้ผู้นั้นได้ลัดคิวเราได้

PD2	I like to have my supervisor decides important issues for me.	ฉันชอบที่จะให้หัวหน้าเป็นคนตัดสินใจในเรื่องสำคัญๆให้ฉัน
PD2 – University	I like to have my advisor decides important issues for me.	ฉันชอบที่จะให้อาจารย์ที่ปรึกษาเป็นคนตัดสินใจในเรื่องสำคัญๆให้ฉัน
PD3	Organization can be success only when everyone know who is the leader and who is the follower.	องค์กรจะประสบความสำเร็จได้ก็ต่อเมื่อทุกคนรู้ว่าใครคือผู้นำและใครคือผู้ตามอย่างชัดเจน
PD4	People in executive level in company should have privileges.	คนดำรงตำแหน่งสูงในบริษัทควรมีสิทธิพิเศษเหนือคนอื่น
PD5	If the followers have high trust in their leader, the team will be success.	ถ้าผู้ตามมีความไว้วางใจในตัวของหัวหน้าบริษัทสูง ทีมนั้นจะประสบความสำเร็จ
PD6	The highest position leader in the team should always be team leader.	หัวหน้าที่มีตำแหน่งสูงสุดในทีมควรจะเป็นผู้นำทีมเสมอ
PD7	Whenever executive decided anything, employees should not doubt outcomes from the decision.	เมื่อมีการตัดสินใจจากผู้บริหารระดับสูงแล้ว พนักงานไม่ควรที่จะตั้งคำถามในผลลัพธ์จากการตัดสินใจที่เกิดขึ้น
PD8	I am usually afraid to debate with my supervisor.	ฉันมักจะกลัวที่จะโต้แย้งกับหัวหน้าของฉัน
PD8 – University	I am usually afraid to debate with my professor/teacher.	ฉันมักจะกลัวที่จะโต้แย้งกับอาจารย์ของฉัน
PD9	It is inappropriate to doubt decisions of supervisor.	การตั้งคำถามการตัดสินใจของหัวหน้าถือเป็นสิ่งที่ไม่เหมาะสม
PD10	We should consult our supervisor before deciding anything related to work.	เราควรได้รับคำปรึกษาจากหัวหน้าของเราในการตัดสินใจเรื่องงานเสมอ
PD10 – University	We should consult our professor/teacher before deciding anything related to study.	เราควรได้รับคำปรึกษาจากอาจารย์ของเราในการตัดสินใจเรื่องการเรียนเสมอ
PD11	Leader should accept questions or challenges from what they decided.	ผู้นำจะต้องยอมรับว่าสิ่งที่ตนตัดสินใจอาจจะถูกผู้อื่นตั้งคำถามและท้าทายได้
LC1	Most of success come from luck.	ความสำเร็จส่วนใหญ่เป็นเพราะโชค
LC2	Planing ahead is not wise.	การวางแผนส่วงหน้าถือว่าเป็นสิ่งที่ไม่ฉลาด
LC3	Life is a gamble.	ชีวิตคือการเสี่ยงโชค

LC4	If everything went on plan, it is all because of luck	เมื่อทุกอย่างเป็นไปตามแผน มันเป็นเพราะโชคล้วนๆ
LC5	What ever will be will be	อะไรจะเป็นไปก็ต้องเป็นไป
LC6	I have less influence on things around me	ฉันมีอิทธิพลน้อยต่อสิ่งรอบข้าง
LC7	What ever will be will be	อะไรจะเกิดย่อมเกิดอยู่แล้ว
LC8	In working and life routine	ในการทำงานและชีวิตประจำวัน...
LC8a	My effort determine my success	ความพยายามของฉันจะเป็นตัวกำหนดผลสำเร็จ
LC8b	Things usually occur with the destiny nothing is related to my efforts.	สิ่งต่างๆมักจะเกิดขึ้นตามชะตากรรมของมันโดยไม่มีความเกี่ยวข้องอะไรกับความพยายามของฉัน
LC9	When I succeed in anything, I think it is because	เมื่อฉันทำอะไรสักอย่างสำเร็จ ฉันคิดว่าเป็นเพราะ...
LC9a	me diligent in work.	ความขยันในการทำงาน
LC9b	Destiny	โชคชะตา
LC10	The greatest success is	การประสบความสำเร็จที่ยิ่งใหญ่นั้น...
LC10a	depend on hard working, nothing related to destiny.	เกี่ยวกับความขยันทำงานหนักและไม่เกี่ยวอะไรกับโชคชะตา
LC10b	depend on time and the right moment	ขึ้นอยู่กับช่วงเวลาและจังหวะชีวิตที่ดี
LC11	Get a better job depend on	การได้งานที่ดีขึ้นอยู่กับ
LC11a	ability in doing such things	ความสามารถในการทำสิ่งต่างๆ
LC11b	depend on time and the right moment	อยู่ในช่วงเวลาและจังหวะชีวิตที่ดี
AA1	I like to work with supervisor who expect subordinate to strictly follow their demands and processes	ฉันชอบทำงานกับหัวหน้าที่ชอบคาดหวังให้ลูกน้องทำตามคำสั่งและกระบวนการของหัวหน้าอย่างเคร่งครัด
AA1 – University	I like to have my professor/teacher expect students strictly follow his/her instructions.	ฉันชอบอาจารย์ที่ชอบคาดหวังให้นักเรียนทำตามคำสั่งของอาจารย์อย่างเคร่งครัด
AA2	I like to have an outline.	ฉันชอบให้งานมีโครงสร้างแน่นอน
AA3	Rules and regulations is important because it makes employees to know the expectations from the company	ข้อบังคับและกฎระเบียบเป็นสิ่งสำคัญเพราะทำให้พนักงานทราบว่าบริษัทคาดหวังอะไรจากตัวพนักงานบ้าง

AA3 – University	Rules is important because it makes students to know the expectations from the university	ข้อบังคับเป็นสิ่งสำคัญเพราะทำให้นักศึกษาทราบว่ามหาวิทยาลัยคาดหวังอะไรจากตัวนักศึกษาบ้าง
AA4	I like job with regulations and patterns	ฉันชอบงานที่มีระเบียบแบบแผน
AA5	There should be only one right way and one right pattern in doing work.	การทำงานควรมีวิธีและแบบแผนที่ถูกต้องทางเดียว
AA6	Regulations and patterns are very important in working environment.	ระเบียบและแบบแผนเป็นสิ่งที่สำคัญมากในสถานที่ทำงาน
AA7	I like job with a standard working process.	ฉันชอบงานที่บอกวิธีการดำเนินงานเป็นมาตรฐานอย่างละเอียด
AA7-University	I like to do work with detailed instructions	ฉันชอบทำงานที่มีวิธีการทำงานบอกอย่างละเอียด
AA8	it is good if company telling employees in detail how to do the work so the employees know what they should do and why the company expects from them	จะเป็นสิ่งที่ดีหากวิธีการดำเนินงานอย่างละเอียดให้กับพนักงาน พวกเขาจะได้รู้ว่าตนควรทำอะไรและบริษัทคาดหวังให้พนักงานทำอะไร
AA8-University	it is good if professor/teacher telling student in detail how to do the work so the students know what they should do and why the professor/teacher expects from them	จะเป็นสิ่งที่ดีถ้าหากอาจารย์ได้บอกวิธีการทำงานอย่างละเอียดให้กับนักศึกษา พวกเขาจะได้รู้ว่าตนควรทำอะไรและอาจารย์คาดหวังอะไรจากตัวนักศึกษา
AA9	It is best if	จะเป็นสิ่งที่ดีที่สุดถ้า
AA9a	immediately start the work and fix problem along the way.	ได้เริ่มทำงานเลยและแก้ไขปัญหาระหว่างการดำเนินงาน
AA9b	knowing every fact before starting to work.	ได้รู้ข้อมูลจริงทั้งหมดก่อนจะเริ่มดำเนินงาน
AA10	It is better if	จะดีกว่าถ้า...
AA10a	set achievable target in the beginning and fix in detail along the process.	ตั้งเป้าหมายที่สามารถทำได้ตั้งแต่แรกและปรับเปลี่ยนรายละเอียดต่างๆได้ระหว่างที่กำลังดำเนินงาน
AA10b	spend enough time to plan to avoid failure in the long term.	ให้เวลาเพียงพอในการวางแผนเพื่อหลีกเลี่ยงความล้มเหลวในระยะยาว

Appendix N: **Qualitative Questions**

Background

1. Country
2. Department
3. Work Experience
4. Field of Study
5. Company? Size, Scope

What type of training do you do?

Do you use computer assisted training?

Do you use mobile delivery for any part of those training initiatives?

What is considered mobile learning at the corporate level, for example is it learning in a responsive format or special applications that utilize the contextual nature of the mobile device?

What should it be able to do..ie cross platform, native app….? *(note to self: Web App suggested for interaction with LMS. HTML4 for cross platform incl desktop – still? HTML5 still best only for mobile?)*

How is it managed? *Examples*

1. *LMS,*
2. *mobile application management (MAM) – (example - Apperian EASE, Appaloose, AppCentral, PartnerPedia)*
3. *Mobile Device Management (MDM) – (example - Mobile Iron)*

What are best practices for implementation at the corporate level? *(example: Stand alone or part of blended learning approach?)*

Appendix O: **Culture Scale Test of Normality and Descriptive**

Table O.1

Tests of Normality on Cross-Cultural Scale Items

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
SA1	.239	310	.000	.877	310	.000
SA2	.178	310	.000	.903	310	.000
SA3	.181	310	.000	.884	310	.000
SA4	.211	310	.000	.884	310	.000
SA5	.228	310	.000	.843	310	.000
SA6	.184	310	.000	.906	310	.000
SA7	.217	310	.000	.854	310	.000
SA8	.172	310	.000	.908	310	.000
HCC1	.188	310	.000	.912	310	.000
HCC2	.175	310	.000	.913	310	.000
HCC3	.167	310	.000	.914	310	.000
HCC4	.187	310	.000	.909	310	.000
HCC8	.204	310	.000	.902	310	.000
HCC9	.268	310	.000	.787	310	.000
HCC10	.245	310	.000	.832	310	.000
HCC11	.237	310	.000	.878	310	.000
PDI1	.288	310	.000	.791	310	.000
PDI2	.173	310	.000	.908	310	.000

PDI3	.228	310	.000	.897	310	.000
PDI4	.185	310	.000	.905	310	.000
PDI5	.231	310	.000	.872	310	.000
PDI6	.207	310	.000	.906	310	.000
PDI7	.216	310	.000	.889	310	.000
PDI8	.164	310	.000	.912	310	.000
PDI9	.211	310	.000	.877	310	.000
LC1	.175	310	.000	.913	310	.000
LC2	.332	310	.000	.712	310	.000
LC3	.186	310	.000	.914	310	.000
LC4	.238	310	.000	.859	310	.000
LC5	.187	310	.000	.892	310	.000
LC6	.193	310	.000	.911	310	.000
LC7	.174	310	.000	.891	310	.000
LC8	.205	310	.000	.860	310	.000
LC9	.226	310	.000	.856	310	.000
LC10	.184	310	.000	.907	310	.000
LC11	.186	310	.000	.899	310	.000
AA1	.190	310	.000	.910	310	.000
AA2	.246	310	.000	.849	310	.000
AA3	.233	310	.000	.888	310	.000
AA4	.225	310	.000	.879	310	.000
AA5	.236	310	.000	.882	310	.000

AA6	.272	310	.000	.849	310	.000
AA7	.245	310	.000	.849	310	.000
AA8	.221	310	.000	.840	310	.000
AA9	.218	310	.000	.856	310	.000
AA10	.181	310	.000	.889	310	.000

a. Lilliefors Significance Correction

Table O.2

Descriptives for Cross-Cultural Scale Items

Variable	Measurement	Statistic	Std. Error
SA1	Mean	3.530	0.070
	Median	4.000	
	Skewness	-0.589	0.138
	Kurtosis	-0.619	0.276
SA2	Mean	3.200	0.073
	Median	3.000	
	Skewness	-0.237	0.138
	Kurtosis	-0.974	0.276
SA3	Mean	2.540	0.074
	Median	2.000	
	Skewness	0.365	0.138
	Kurtosis	-1.002	0.276
SA4	Mean	2.460	0.070
	Median	2.000	
	Variance	1.511	
	Skewness	0.463	0.138
	Kurtosis	-0.812	0.276
SA5	Mean	2.200	0.069
	Median	2.000	
	Skewness	0.659	0.138
	Kurtosis	-0.692	0.276
SA6	Mean	2.630	0.064
	Median	3.000	
	Skewness	0.157	0.138
	Kurtosis	-0.734	0.276
SA7	Mean	2.210	0.067
	Median	2.000	
	Skewness	0.678	0.138
	Kurtosis	-0.528	0.276
SA8	Mean	2.750	0.068
	Median	3.000	
	Skewness	0.067	0.138
	Kurtosis	-0.909	0.276

HCC1	Mean	2.880	0.064
	Median	3.000	
	Skewness	0.092	0.138
	Kurtosis	-0.828	0.276
HCC2	Mean	3.070	0.066
	Median	3.000	
	Skewness	-0.007	0.138
	Kurtosis	-0.910	0.276
HCC3	Mean	2.950	0.066
	Median	3.000	
	Skewness	-0.056	0.138
	Kurtosis	-0.858	0.276
HCC4	Mean	3.310	0.060
	Median	3.000	
	Skewness	-0.253	0.138
	Kurtosis	-0.469	0.276
HCC8	Mean	3.440	0.060
	Median	4.000	
	Skewness	-0.369	0.138
	Kurtosis	-0.381	0.276
HCC9	Mean	4.250	0.047
	Median	4.000	
	Skewness	-1.070	0.138
	Kurtosis	1.052	0.276
HCC10	Mean	4.060	0.050
	Median	4.000	
	Skewness	-0.800	0.138
	Kurtosis	0.276	0.276
HCC11	Mean	3.700	0.055
	Median	4.000	
	Skewness	-0.549	0.138
	Kurtosis	0.111	0.276
PDI1	Mean	2.140	0.075

	Median	2.000	
	Skewness	0.766	0.138
	Kurtosis	-0.806	0.276
PDI2	Mean	2.680	0.066
	Median	3.000	
	Skewness	0.194	0.138
	Kurtosis	-0.713	0.276
PDI3	Mean	3.500	0.057
	Median	4.000	
	Skewness	-0.313	0.138
	Kurtosis	-0.553	0.276
PDI4	Mean	2.890	0.068
	Median	3.000	
	Skewness	-0.095	0.138
	Kurtosis	-1.004	0.276
PDI5	Mean	3.830	0.053
	Median	4.000	
	Skewness	-0.443	0.138
	Kurtosis	-0.437	0.276
PDI6	Mean	3.350	0.060
	Median	3.000	
	Skewness	-0.294	0.138
	Kurtosis	-0.504	0.276
PDI7	Mean	2.450	0.067
	Median	2.000	
	Skewness	0.495	0.138
	Kurtosis	-0.629	0.276
PDI8	Mean	2.900	0.067
	Median	3.000	
	Skewness	-0.038	0.138
	Kurtosis	-0.909	0.276
PDI9	Mean	2.380	0.069
	Median	2.000	
	Skewness	0.533	0.138

	Kurtosis	-0.717	0.276
LC1	Mean	2.780	0.064
	Median	3.000	
	Skewness	0.098	0.138
	Kurtosis	-0.793	0.276
LC2	Mean	1.790	0.065
	Median	1.000	
	Skewness	1.400	0.138
	Kurtosis	0.917	0.276
LC3	Mean	3.010	0.066
	Median	3.000	
	Skewness	-0.062	0.138
	Kurtosis	-0.693	0.276
LC4	Mean	2.250	0.067
	Median	2.000	
	Skewness	0.717	0.138
	Kurtosis	-0.390	0.276
LC5	Mean	3.560	0.065
	Median	4.000	
	Skewness	-0.434	0.138
	Kurtosis	-0.577	0.276
LC6	Mean	2.840	0.059
	Median	3.000	
	Skewness	0.137	0.138
	Kurtosis	-0.421	0.276
LC7	Mean	3.510	0.068
	Median	4.000	
	Skewness	-0.411	0.138
	Kurtosis	-0.669	0.276
LC8	Mean	2.270	0.068
	Median	2.000	
	Skewness	0.603	0.138
	Kurtosis	-0.681	0.276
LC9	Mean	2.170	0.064

	Median	2.000	
	Skewness	0.727	0.138
	Kurtosis	-0.298	0.276
LC10	Mean	2.840	0.068
	Median	3.000	
	Skewness	0.118	0.138
	Kurtosis	-0.729	0.276
LC11	Mean	2.610	0.067
	Median	3.000	
	Skewness	0.237	0.138
	Kurtosis	-0.689	0.276
AA1	Mean	2.720	0.066
	Median	3.000	
	Skewness	0.222	0.138
	Kurtosis	-0.808	0.276
AA2	Mean	3.950	0.053
	Median	4.000	
	Skewness	-0.778	0.138
	Kurtosis	0.349	0.276
AA3	Mean	3.470	0.057
	Median	4.000	
	Skewness	-0.533	0.138
	Kurtosis	0.016	0.276
AA4	Mean	3.750	0.057
	Median	4.000	
	Skewness	-0.516	0.138
	Kurtosis	-0.334	0.276
AA5	Mean	3.700	0.057
	Median	4.000	
	Skewness	-0.523	0.138
	Kurtosis	-0.199	0.276
AA6	Mean	3.930	0.046
	Median	4.000	
	Skewness	-0.512	0.138
	Kurtosis	0.072	0.276

AA7	Mean	3.970	0.050
	Median	4.000	
	Skewness	-0.663	0.138
	Kurtosis	0.253	0.276
AA8	Mean	4.050	0.049
	Median	4.000	
	Skewness	-0.564	0.138
	Kurtosis	-0.277	0.276
AA9	Mean	3.680	0.072
	Median	4.000	
	Skewness	-0.686	0.138
	Kurtosis	-0.571	0.276
AA10	Mean	3.060	0.078
	Median	3.000	
	Skewness	-0.162	0.138
	Kurtosis	-1.206	0.276

Appendix P: **Culture Scale -Mann-Whitney U**

Table P.1

Descriptive Statistics for Entire Sample

	N	Mean	Std. Deviation	Minimum	Maximum
AA	307	3.9342	.70514	1.40	5.00
HCC	307	3.1381	.79505	1.00	5.00
LC	307	2.6425	.82956	1.00	5.00
SA	307	2.4671	.90593	1.00	5.00
PD	307	2.9186	.77915	1.20	5.00
Thai	307	.80	.397	0	1

Table P.2

Mean Rank and Sum of Ranks for Thai / Other Data Groupings

		N	Mean Rank	Sum of Ranks
AA	Not Thai	60	121.94	7316.50
	Thai	247	161.79	39961.50
HCC	Not Thai	60	136.97	8218.00
	Thai	247	158.14	39060.00
LC	Not Thai	60	143.13	8588.00
	Thai	247	156.64	38690.00
SA	Not Thai	60	140.68	8440.50
	Thai	247	157.24	38837.50
PD	Not Thai	60	159.33	9559.50
	Thai	247	152.71	37718.50
	Total	307		

Table P.3

Mann-Whitney U Test Statistics[a] for Thai / Other Data Groupings

	AA	HCC	LC	SA	PD
Mann-Whitney U	5486.500	6388.000	6758.000	6610.500	7090.500
Wilcoxon W	7316.500	8218.000	8588.000	8440.500	37718.500
Z	-3.131	-1.663	-1.062	-1.300	-.520
Asymp. Sig. (2-tailed)	0.002	0.096	0.288	0.194	0.603

a. Grouping Variable: Thai

Table P.4

Percentiles for Thai / Other Data Groupings

Thai	Percentiles	AA	HCC	LC	PD	SA
Not Thai	25	3.20	2.40	2.00	2.40	1.80
	50	3.70	3.00	2.50	3.00	2.30
	75	4.20	3.55	3.00	3.40	2.80
Thai	25	3.40	2.60	2.00	2.40	1.80
	50	4.00	3.20	2.75	2.80	2.40
	75	4.60	3.80	3.25	3.40	3.20

The sample for each group is Thai (n=247) and Other (n=60)

Table P.5

Descriptive Statistics for Entire Sample (Asian)

	Mean	Std. Deviation	Min.	Max.	Percentiles		
					25th	50^{th} (Median)	75th
AA	3.9342	0.70514	1.40	5.00	3.40	4.00	4.40
HCC	3.1381	0.79505	1.00	5.00	2.60	3.20	3.60
LC	2.6425	0.82956	1.00	5.00	2.00	2.75	3.00
SA	2.4671	0.90593	1.00	5.00	1.80	2.40	3.20
PD	2.9186	0.77915	1.20	5.00	2.40	3.00	3.40
Asian	0.92	0.274	0	1	1.00	1.00	1.00

Table P.6

Mean Rank and Sum of Ranks for Asian / Other Data Groupings

Value	Group	N	Mean Rank	Sum of Ranks
AA	Not Asian	25	112.78	2819.50
	Asian	282	157.65	44458.50
HCC	Not Asian	25	95.08	2377.00
	Asian	282	159.22	44901.00
LC	Not Asian	25	125.80	3145.00
	Asian	282	156.50	44133.00
SA	Not Asian	25	102.74	2568.50
	Asian	282	158.54	44709.50
PD	Not Asian	25	128.60	3215.00
	Asian	282	156.25	44063.00

Table P.7

Mann-Whitney U Test Statistics[a] for Asian / Other Data Groupings

	AA	HCC	LC	SA	PD
Mann-Whitney U	2494.5	2052.0	2820.0	2243.5	2890.0
Wilcoxon W	2819.5	2377.0	3145.0	2568.5	3215.0
Z	-2.432	-3.474	-1.665	-3.021	-1.498
Asymp. Sig. (2-tailed)	0.015	0.001	0.096	0.003	0.134

a. Grouping Variable: Asian

Table P.8

Percentiles for Asian / Other Data Groupings

	Percentiles	AA	HCC	LC	PD	SA
Non-Asian	25	3.00	1.90	1.88	2.20	1.40
	50	3.60	2.40	2.25	2.60	1.80
	75	4.20	3.20	2.88	3.30	2.60
Asian	25	3.40	2.60	2.00	2.40	1.80
	50	4.00	3.20	2.75	3.00	2.40
	75	4.40	3.80	3.00	3.40	3.20

The sample for each group is Asian (n=282) and Other (n=25)

Appendix Q: Corporate Test of Normal Distribution

1. TAM / LI

Table Q.1

Tests of Normality for TAM / LI Scale Items

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PEOU1	0.321	411	0.000	0.779	411	0.000
PEOU2	0.268	411	0.000	0.880	411	0.000
PEOU3	0.295	411	0.000	0.816	411	0.000
PEOU4	0.282	411	0.000	0.853	411	0.000
PU1	0.241	411	0.000	0.880	411	0.000
PU2	0.264	411	0.000	0.878	411	0.000
PU3	0.257	411	0.000	0.872	411	0.000
PU4	0.271	411	0.000	0.862	411	0.000
SN1	0.220	411	0.000	0.887	411	0.000
SN2	0.237	411	0.000	0.891	411	0.000
SN3	0.258	411	0.000	0.865	411	0.000
SN4	0.268	411	0.000	0.829	411	0.000
BI1	0.259	411	0.000	0.843	411	0.000
BI2	0.279	411	0.000	0.838	411	0.000
A1	0.264	411	0.000	0.845	411	0.000
A2	0.264	411	0.000	0.839	411	0.000

A3	0.250	411	0.000	0.855	411	0.000
LI1	0.288	411	0.000	0.838	411	0.000
LI2	0.280	411	0.000	0.830	411	0.000
LI3	0.275	411	0.000	0.866	411	0.000
LI4	0.284	411	0.000	0.854	411	0.000
LI5	0.273	411	0.000	0.857	411	0.000

a. Lilliefors Significance Correction

2. Cross Cultural Items

Table Q.2

Tests of Normality for Cross-Cultural Scale Items

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AA4	0.254	411	0.000	0.882	411	0.000
AA6	0.302	411	0.000	0.841	411	0.000
AA8	0.296	411	0.000	0.850	411	0.000
AA2	0.298	411	0.000	0.848	411	0.000
AA5	0.262	411	0.000	0.881	411	0.000
HCC1	0.205	411	0.000	0.904	411	0.000
HCC2	0.222	411	0.000	0.902	411	0.000
HCC3	0.169	411	0.000	0.910	411	0.000

HCC4	0.186	411	0.000	0.912	411	0.000
HCC5	0.192	411	0.000	0.907	411	0.000
SA3	0.218	411	0.000	0.844	411	0.000
SA5	0.236	411	0.000	0.819	411	0.000
SA4	0.194	411	0.000	0.893	411	0.000
SA2	0.202	411	0.000	0.864	411	0.000
SA6	0.192	411	0.000	0.907	411	0.000
LC5	0.239	411	0.000	0.869	411	0.000
LC6	0.283	411	0.000	0.751	411	0.000
LC7	0.209	411	0.000	0.878	411	0.000
LC8	0.232	411	0.000	0.860	411	0.000
PDI6	0.183	411	0.000	0.910	411	0.000
PDI7	0.228	411	0.000	0.895	411	0.000
PDI3	0.181	411	0.000	0.912	411	0.000
PDI5	0.226	411	0.000	0.902	411	0.000

a. Lilliefors Significance Correction

Table Q.3

Corporate Study Descriptives

Variable	Measurement	Statistic	Std. Error
AA4	Mean	3.600	0.045
	Median	4.000	
	Skewness	-0.409	0.120
	Kurtosis	-0.154	0.240
AA6	Mean	3.850	0.040
	Median	4.000	
	Skewness	-0.657	0.120
	Kurtosis	0.580	0.240
AA8	Mean	3.800	0.044
	Median	4.000	
	Skewness	-0.734	0.120
	Kurtosis	0.492	0.240
AA2	Mean	3.780	0.046
	Median	4.000	
	Skewness	-0.830	0.120
	Kurtosis	0.604	0.240
AA5	Mean	3.540	0.049
	Median	4.000	
	Skewness	-0.566	0.120
	Kurtosis	-0.052	0.240
HCC1	Mean	3.090	0.052
	Median	3.000	
	Skewness	-0.213	0.120
	Kurtosis	-0.712	0.240
HCC2	Mean	2.840	0.057
	Median	3.000	
	Skewness	0.223	0.120
	Kurtosis	-0.924	0.240
HCC3	Mean	2.890	0.056
	Median	3.000	
	Skewness	-0.073	0.120
	Kurtosis	-0.874	0.240

HCC4	Mean	3.070	0.054
	Median	3.000	
	Skewness	-0.083	0.120
	Kurtosis	-0.770	0.240
HCC5	Mean	3.000	0.055
	Median	3.000	
	Skewness	-0.183	0.120
	Kurtosis	-0.823	0.240
SA3	Mean	2.260	0.062
	Median	2.000	
	Skewness	0.638	0.120
	Kurtosis	-0.789	0.240
SA5	Mean	2.180	0.063
	Median	2.000	
	Skewness	0.769	0.120
	Kurtosis	-0.660	0.240
SA4	Mean	2.530	0.059
	Median	2.000	
	Skewness	0.267	0.120
	Kurtosis	-0.985	0.240
SA2	Mean	2.480	0.065
	Median	2.000	
	Skewness	0.298	0.120
	Kurtosis	-1.221	0.240
SA6	Mean	2.710	0.059
	Median	3.000	
	Skewness	0.184	0.120
	Kurtosis	-0.932	0.240
LC5	Mean	2.470	0.061
	Median	2.000	
	Skewness	0.403	0.120
	Kurtosis	-1.057	0.240
LC6	Mean	1.820	0.052
	Median	2.000	
	Skewness	1.256	0.120

	Kurtosis	0.684	0.240
LC7	Mean	2.500	0.061
	Median	2.000	
	Skewness	0.309	0.120
	Kurtosis	-1.109	0.240
LC8	Mean	2.350	0.061
	Median	2.000	
	Skewness	0.541	0.120
	Kurtosis	-0.888	0.240
PDI6	Mean	2.770	0.056
	Median	3.000	
	Skewness	0.086	0.120
	Kurtosis	-0.882	0.240
PDI7	Mean	2.640	0.059
	Median	2.000	
	Skewness	0.294	0.120
	Kurtosis	-0.968	0.240
PDI3	Mean	2.910	0.055
	Median	3.000	
	Skewness	-0.098	0.120
	Kurtosis	-0.771	0.240
PDI5	Mean	3.370	0.054
	Median	4.000	
	Skewness	-0.380	0.120
	Kurtosis	-0.546	0.240

3. Compressed Variables

Table Q.4

Tests of Normality for Scale Items after being Compressed

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PEOU	0.130	411	0.000	0.946	411	0.000
PU	0.153	411	0.000	0.941	411	0.000
SN	0.103	411	0.000	0.966	411	0.000
BI	0.209	411	0.000	0.901	411	0.000
A	0.160	411	0.000	0.922	411	0.000
LI	0.105	411	0.000	0.971	411	0.000
AA	0.115	411	0.000	0.971	411	0.000
HCC	0.067	411	0.000	0.986	411	0.000
LC	0.087	411	0.000	0.958	411	0.000
PD	0.071	411	0.000	0.985	411	0.000
SA	0.122	411	0.000	0.944	411	0.000

a. Lilliefors Significance Correction

Table Q.5

Skewness and Kurtosis of Compressed Scales

			Statistic	Std. Error
PEOU	Mean		3.854	0.035
	95% Confidence Interval for Mean	3.786		
		3.922		
	5% Trimmed Mean		3.891	
	Median		4.000	
	Variance		0.494	
	Std. Deviation		0.703	

	Minimum		1.000	
	Maximum		5.000	
	Range		4.000	
	Interquartile Range		0.750	
	Skewness		-0.758	0.120
	Kurtosis		1.336	0.240
PU	Mean		3.707	0.044
	95% Confidence Interval for Mean	3.620		
		3.795		
	5% Trimmed Mean		3.756	
	Median		4.000	
	Variance		0.810	
	Std. Deviation		0.900	
	Minimum		1.000	
	Maximum		5.000	
	Range		4.000	
	Interquartile Range		1.250	
	Skewness		-0.722	0.120
	Kurtosis		0.364	0.240
SN	Mean		3.761	0.037
	95% Confidence Interval for Mean	3.689		
		3.833		
	5% Trimmed Mean		3.787	
	Median		3.750	
	Variance		0.555	
	Std. Deviation		0.745	
	Minimum		1.250	
	Maximum		5.000	
	Range		3.750	
	Interquartile Range		1.000	
	Skewness		-0.391	0.120
	Kurtosis		0.122	0.240
BI	Mean		3.978	0.040

	95% Confidence Interval for Mean	3.900		
		4.056		
	5% Trimmed Mean		4.031	
	Median		4.000	
	Variance		0.642	
	Std. Deviation		0.801	
	Minimum		1.000	
	Maximum		5.000	
	Range		4.000	
	Interquartile Range		1.000	
	Skewness		-0.686	0.120
	Kurtosis		0.489	0.240
A	Mean		3.959	0.040
	95% Confidence Interval for Mean	3.879		
		4.038		
	5% Trimmed Mean		4.014	
	Median		4.000	
	Variance		0.668	
	Std. Deviation		0.817	
	Minimum		1.000	
	Maximum		5.000	
	Range		4.000	
	Interquartile Range		1.000	
	Skewness		-0.732	0.120
	Kurtosis		0.472	0.240
LI	Mean		3.856	0.030
	95% Confidence Interval for Mean	3.796		
		3.915		
	5% Trimmed Mean		3.872	
	Median		3.800	
	Variance		0.379	
	Std. Deviation		0.615	
	Minimum		1.600	
	Maximum		5.000	
	Range		3.400	

	Interquartile Range		0.600	
	Skewness		-0.387	0.120
	Kurtosis		0.458	0.240
AA	Mean		3.711	0.035
	95% Confidence Interval for Mean	3.643		
		3.779		
	5% Trimmed Mean		3.735	
	Median		3.800	
	Variance		0.490	
	Std. Deviation		0.700	
	Minimum		1.400	
	Maximum		5.000	
	Range		3.600	
	Interquartile Range		0.800	
	Skewness		-0.528	0.120
	Kurtosis		0.294	0.240
HCC	Mean		3.010	0.042
	95% Confidence Interval for Mean	2.928		
		3.092		
	5% Trimmed Mean		3.018	
	Median		3.000	
	Variance		0.717	
	Std. Deviation		0.847	
	Minimum		1.000	
	Maximum		5.000	
	Range		4.000	
	Interquartile Range		1.250	
	Skewness		-0.132	0.120
	Kurtosis		-0.379	0.240
LC	Mean		2.285	0.043
	95% Confidence Interval for Mean	2.200		
		2.371		
	5% Trimmed Mean		2.257	

	Median		2.250	
	Variance		0.772	
	Std. Deviation		0.879	
	Minimum		1.000	
	Maximum		4.750	
	Range		3.750	
	Interquartile Range		1.250	
	Skewness		0.239	0.120
	Kurtosis		-0.740	0.240
PD	Mean		2.923	0.043
	95% Confidence Interval for Mean	2.837		
		3.008		
	5% Trimmed Mean		2.921	
	Median		3.000	
	Variance		0.775	
	Std. Deviation		0.880	
	Minimum		1.000	
	Maximum		5.000	
	Range		4.000	
	Interquartile Range		1.250	
	Skewness		0.035	0.120
	Kurtosis		-0.438	0.240
SA	Mean		2.432	0.051
	95% Confidence Interval for Mean	2.332		
		2.532		
	5% Trimmed Mean		2.389	
	Median		2.200	
	Variance		1.067	
	Std. Deviation		1.033	
	Minimum		1.000	
	Maximum		5.000	
	Range		4.000	
	Interquartile Range		1.600	
	Skewness		0.535	0.120

Kurtosis	-0.664	0.240

Appendix R: **Corporate Homogeneity of Variance**

Table R.1
Test of Homogeneity of Variances on Thai / Other Data Grouping

	Levene's test	df1	df2	Sig.
PEOU	5.146	1	409	0.024
PU	0.909	1	409	0.341
SN	0.339	1	409	0.560
BI	0.018	1	409	0.893
A	0.160	1	409	0.690
LI	0.081	1	409	0.776
AA	14.237	1	409	0.000
HCC	2.824	1	409	0.094
LC	1.532	1	409	0.216
PD	2.854	1	409	0.092
SA	22.135	1	409	0.000

Table R.2

Test of Homogeneity of Variances on USA / Other Data Grouping

	Levene's test	df1	df2	Sig.
PEOU	1.324	1	409	0.250
PU	0.621	1	409	0.431
SN	0.058	1	409	0.810
BI	0.412	1	409	0.521
A	0.313	1	409	0.576
LI	0.407	1	409	0.524
AA	6.943	1	409	0.009
HCC	3.402	1	409	0.066
LC	4.551	1	409	0.034
PD	0.570	1	409	0.451
SA	4.666	1	409	0.031

Table R.3

Test of Homogeneity of Variances on UK / Other Data Grouping

	Levene's test	df1	df2	Sig.
PEOU	0.175	1	409	0.676
PU	0.450	1	409	0.503
SN	0.658	1	409	0.418
BI	0.517	1	409	0.472
A	0.995	1	409	0.319
LI	0.963	1	409	0.327
AA	0.271	1	409	0.603
HCC	0.706	1	409	0.401
LC	2.239	1	409	0.135
PD	0.026	1	409	0.873
SA	2.293	1	409	0.131

Appendix S: Corp. Mann-Whitney U test

Table S.1
Descriptive Statistics for Entire Sample

	N	Mean	Std. Deviation	Min.	Max.	Percentiles		
						25th	50th (Median)	75th
PEOU	411	3.8540	0.70255	1.00	5.00	3.500	4.000	4.250
PU	411	3.7074	0.90021	1.00	5.00	3.000	4.000	4.250
SN	411	3.7609	0.74523	1.25	5.00	3.250	3.750	4.250
BI	411	3.9781	0.80138	1.00	5.00	3.500	4.000	4.500
A	411	3.9586	0.81727	1.00	5.00	3.667	4.000	4.667
LI	411	3.8555	0.61528	1.60	5.00	3.600	3.800	4.200
AA	411	3.7109	0.70035	1.40	5.00	3.400	3.800	4.200
HCC	411	3.0103	0.84665	1.00	5.00	2.500	3.000	3.750
LC	411	2.2853	0.87876	1.00	4.75	1.750	2.250	3.000
PD	411	2.9227	0.88015	1.00	5.00	2.250	3.000	3.500
SA	411	2.4321	1.03299	1.00	5.00	1.600	2.200	3.200

Table S.2

Mean Rank and Sum of Ranks for Thai / Other Data Groups

	Thai	N	Mean Rank	Sum of Ranks
PEOU	Other	333	213.04	70941.00
	Thai	78	175.96	13725.00
PU	Other	333	212.54	70777.00
	Thai	78	178.06	13889.00
SN	Other	333	211.93	70573.50
	Thai	78	180.67	14092.50
BI	Other	333	212.08	70623.50
	Thai	78	180.03	14042.50
A	Other	333	208.03	69273.00
	Thai	78	197.35	15393.00
LI	Other	333	212.78	70856.50
	Thai	78	177.04	13809.50
AA	Other	333	194.53	64777.50
	Thai	78	254.98	19888.50
HCC	Other	333	209.31	69699.50
	Thai	78	191.88	14966.50
LC	Other	333	203.41	67735.00
	Thai	78	217.06	16931.00
PD	Other	333	215.18	71656.50
	Thai	78	166.79	13009.50
SA	Other	333	206.17	68654.00
	Thai	78	205.28	16012.00

Table S.3

Descriptives for Thai / Other Data Groups

Descriptive			Statistics	Std. Error
PEOU	Non-Thai	Mean	3.91	0.03623
		Median	4.00	
		Interquartile Range	0.75	
	Thai	Mean	3.63	0.09324
		Median	3.75	
		Interquartile Range	0.88	
AA	Non-Thai	Mean	3.65	0.03974
		Median	3.80	
		Interquartile Range	0.80	
	Thai	Mean	3.99	0.05629
		Median	4.00	
		Interquartile Range	0.60	
SA	Non-Thai	Mean	2.45	0.05936
		Median	2.20	
		Interquartile Range	1.80	
	Thai	Mean	2.34	0.0886
		Median	2.20	
		Interquartile Range	1.00	

Table S.4

Test Statistics[a] for Thai / Other Data Groups

	PEOU	PU	SN	BI	A	LI	AA	HCC	LC	PD	SA
Mann-Whitney U	10644.0	10808.0	11011.5	10961.5	12312.0	10728.5	9166.50	11885.5	12124.0	9928.50	12931.0
Wilcoxon W	13725.0	13889.0	14092.5	14042.5	15393.0	13809.5	64777.5	14966.5	67735.0	13009.5	16012.0
Z	-2.504	-2.325	-2.108	-2.219	-0.726	-2.409	-4.066	-1.171	-0.918	-3.251	-0.059
Asymp. Sig. (2-tailed)	0.012	0.020	0.035	0.026	0.468	0.016	0.000	0.242	0.359	0.001	0.953

a. Grouping Variable: Thai

Table S.5

Mean Rank and Sum of Ranks for USA / Other Data Groups

	Group	N	Mean Rank	Sum of Ranks
PEOU	Other	178	195.83	34857.00
	USA	233	213.77	49809.00
PU	Other	178	199.89	35581.00
	USA	233	210.67	49085.00
SN	Other	178	198.15	35270.50
	USA	233	212.00	49395.50
BI	Other	178	198.58	35347.50
	USA	233	211.67	49318.50
A	Other	178	201.95	35947.50
	USA	233	209.09	48718.50
LI	Other	178	192.48	34261.00
	USA	233	216.33	50405.00
AA	Other	178	219.76	39116.50
	USA	233	195.49	45549.50
HCC	Other	178	219.75	39115.00
	USA	233	195.50	45551.00
LC	Other	178	227.06	40416.00
	USA	233	189.91	44250.00
PD	Other	178	198.87	35398.00
	USA	233	211.45	49268.00
SA	Other	178	215.67	38388.50
	USA	233	198.62	46277.50

Table S.6

Descriptives for USA / Other Data Groups

Descriptive			Statistic	Std. Error
AA	Non-USA	Mean	3.796	0.047
		Median	3.800	
		Interquartile Range	0.800	
	USA	Mean	3.646	0.049
		Median	3.800	
		Interquartile Range	0.800	
LC	Non-USA	Mean	2.441	0.061
		Median	2.250	
		Interquartile Range	1.000	
	USA	Mean	2.166	0.059
		Median	2.000	
		Interquartile Range	1.750	
SA	Non-USA	Mean	2.485	0.073
		Median	2.400	
		Interquartile Range	1.400	
	USA	Mean	2.391	0.071
		Median	2.200	
		Interquartile Range	1.800	

Table S.7

Test Statistics for USA / Other Data Groups

	PEOU	PU	SN	BI	A	LI	AA	HCC	LC	PD	SA
Mann-Whitney U	18926.0	19650.0	19339.5	19416.5	20016.5	18330.0	18288.5	18290.0	16989.0	19467.0	19016.5
Wilcoxon W	34857.0	35581.0	35270.5	35347.5	35947.5	34261.0	45549.5	45551.0	44250.0	35398.0	46277.5
Z	-1.532	-0.918	-1.180	-1.145	-0.613	-2.031	-2.062	-2.059	-3.156	-1.068	-1.445
Asymp. Sig. (2-tailed)	0.126	0.359	0.238	0.252	0.540	0.042	0.039	0.040	0.002	0.285	0.148

a. Grouping Variable: USA

Table S.8

Mean Rank and Sum of Ranks for UK / Other Data Groups

	Group	N	Mean Rank	Sum of Ranks
PEOU	Other	311	204.29	63534.00
	UK	100	211.32	21132.00
PU	Other	311	202.49	62974.00
	UK	100	216.92	21692.00
SN	Other	311	204.14	63488.00
	UK	100	211.78	21178.00
BI	Other	311	203.73	63361.00
	UK	100	213.05	21305.00
A	Other	311	206.15	64111.50
	UK	100	205.55	20554.50
LI	Other	311	206.48	64214.50
	UK	100	204.52	20451.50
AA	Other	311	210.41	65438.00
	UK	100	192.28	19228.00
HCC	Other	311	194.59	60517.50
	UK	100	241.49	24148.50
LC	Other	311	196.72	61181.00
	UK	100	234.85	23485.00
PD	Other	311	200.25	62277.50
	UK	100	223.89	22388.50
SA	Other	311	200.29	62289.50
	UK	100	223.77	22376.50

Table S.9

Test Statistics for UK / Other Data Groups

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
PEOU	15018	63534	-0.52	0.603
PU	14458	62974	-1.065	0.287
SN	14972	63488	-0.564	0.573
BI	14845	63361	-0.706	0.48
A	15504.5	20554.5	-0.045	0.964
LI	15401.5	20451.5	-0.145	0.885
AA	14178	19228	-1.334	0.182
HCC	12001.5	60517.5	-3.448	0.001
LC	12665	61181	-2.805	0.005
PD	13761.5	62277.5	-1.737	0.082
SA	13773.5	62289.5	-1.723	0.085

a. Grouping Variable: UK

Table S.10

Mean Rank for UK / UK Groups

	Nationality	N	Mean Rank	Sum of Ranks
PEOU	American	233	167.58	39047.00
	British	100	165.64	16564.00
PU	American	233	165.41	38539.50
	British	100	170.72	17071.50
SN	American	233	166.97	38903.50

	British	100	167.08	16707.50
A	American	233	167.85	39109.00
	British	100	165.02	16502.00
BI	American	233	166.63	38825.50
	British	100	167.86	16785.50
\LI	American	233	169.98	39606.50
	British	100	160.05	16004.50

Table S.11

Test Statistics for UK / UK Groups

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
PEOU	11514	16564	-0.171	0.865
PU	11278.5	38539.5	-0.465	0.642
SN	11642.5	38903.5	-0.009	0.993
A	11452	16502	-0.249	0.803
BI	11564.5	38825.5	-0.11	0.913
LI	10954.5	16004.5	-0.87	0.385

Note: Grouping Variable: Nationality

Appendix T: **Kruskal-Wallis Test**

Table T.1
Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
PEOU	2.607	2	408	.075
PU	.477	2	408	.621
SN	.395	2	408	.674
BI	.355	2	408	.702
A	.514	2	408	.599
LI	.483	2	408	.617
AA	7.968	2	408	.000
HCC	2.443	2	408	.088
LC	2.565	2	408	.078
PD	1.668	2	408	.190
SA	10.818	2	408	.000

Table T.2

Nationality Ranks Mean Ranks

Latent Variable	Country	N	Mean Rank
	American	233	213.77
PEOU	British	100	211.32
	Thai	78	175.96
	American	233	210.67
PU	British	100	216.92
	Thai	78	178.06
	American	233	212.00
SN	British	100	211.78
	Thai	78	180.67
	American	233	211.67
BI	British	100	213.05
	Thai	78	180.03
	American	233	209.09
A	British	100	205.55
	Thai	78	197.35
	American	233	216.33
LI	British	100	204.52
	Thai	78	177.04
	American	233	195.49
AA	British	100	192.28
	Thai	78	254.98
	American	233	195.50
HCC	British	100	241.49
	Thai	78	191.88
LC	American	233	189.91
	British	100	234.85

	Thai	78	217.06
	American	233	211.45
PD	British	100	223.89
	Thai	78	166.79
	American	233	198.62
SA	British	100	223.77
	Thai	78	205.28

Table T.3

Test Statistics

			PEOU	PU	SN	BI	A	LI	AA	HCC	LC	PD	SA
Chi-Square			6.300	5.605	4.444	4.935	0.591	6.504	16.581	11.943	10.949	11.341	3.154
Df			2	2	2	2	2	2	2	2	2	2	2
Asymp. Sig.			0.043	0.061	0.108	0.085	0.744	0.039	0.000	0.003	0.004	0.003	0.207
Monte Carlo Sig.	Sig.		0.044	0.061	0.110	0.081	0.740	0.036	0.000	0.003	0.004	0.003	0.206
	95% Confidence Interval	Lower Bound	0.040	0.056	0.104	0.076	0.732	0.032	0.000	0.002	0.003	0.002	0.198
		Upper Bound	0.048	0.065	0.116	0.086	0.749	0.039	0.000	0.004	0.005	0.005	0.214

a. Kruskal Wallis Test

b. Grouping Variable: Nationality

c. Based on 10000 sampled tables with starting seed 2034056225.

Appendix U: **Pilot Study - Normal Distribution**

Table U.1
Pilot Study Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Item	Statistic	df	Sig.	Statistic	df	Sig.
PEOU1	0.308	239	0.000	0.813	239	0.000
PEOU2	0.259	239	0.000	0.857	239	0.000
PEOU3	0.275	239	0.000	0.839	239	0.000
PEOU4	0.273	239	0.000	0.846	239	0.000
PU1	0.290	239	0.000	0.829	239	0.000
PU2	0.290	239	0.000	0.831	239	0.000
PU3	0.271	239	0.000	0.840	239	0.000
PU4	0.252	239	0.000	0.827	239	0.000
SN1	0.226	239	0.000	0.864	239	0.000
SN2	0.242	239	0.000	0.852	239	0.000
SN3	0.250	239	0.000	0.849	239	0.000
SN4	0.223	239	0.000	0.842	239	0.000
B1	0.238	239	0.000	0.865	239	0.000
B2	0.249	239	0.000	0.854	239	0.000
A1	0.275	239	0.000	0.842	239	0.000
A2	0.261	239	0.000	0.852	239	0.000
A3	0.241	239	0.000	0.845	239	0.000
LI1	0.294	239	0.000	0.822	239	0.000

LI2	0.309	239	0.000	0.804	239	0.000
LI3	0.298	239	0.000	0.834	239	0.000
LI4	0.258	239	0.000	0.862	239	0.000
LI5	0.302	239	0.000	0.846	239	0.000
SA4	0.232	239	0.000	0.879	239	0.000
SA5	0.172	239	0.000	0.881	239	0.000
SA6	0.168	239	0.000	0.912	239	0.000
SA7	0.193	239	0.000	0.889	239	0.000
SA8	0.170	239	0.000	0.915	239	0.000
HCC4	0.240	239	0.000	0.878	239	0.000
HCC8	0.268	239	0.000	0.871	239	0.000
HCC10	0.273	239	0.000	0.847	239	0.000
HCC11	0.211	239	0.000	0.878	239	0.000
PDI1	0.234	239	0.000	0.846	239	0.000
PDI3	0.230	239	0.000	0.896	239	0.000
PDI4	0.189	239	0.000	0.906	239	0.000
PDI5	0.242	239	0.000	0.862	239	0.000
PDI6	0.219	239	0.000	0.900	239	0.000
PDI7	0.205	239	0.000	0.897	239	0.000
PDI9	0.188	239	0.000	0.878	239	0.000
LC8	0.192	239	0.000	0.876	239	0.000
LC9	0.213	239	0.000	0.851	239	0.000
LC10	0.163	239	0.000	0.898	239	0.000

LC11	0.168	239	0.000	0.898	239	0.000
AA3	0.198	239	0.000	0.906	239	0.000
AA5	0.204	239	0.000	0.874	239	0.000
AA6	0.226	239	0.000	0.843	239	0.000
AA8	0.243	239	0.000	0.861	239	0.000
AA11	0.219	239	0.000	0.881	239	0.000

a. Lilliefors Significance Correction

Table U.2
Pilot Study Descriptives

Variable	Measurement	Statistic	Std. Error
PEOU1	Mean	3.830	0.044
	Skewness	-0.114	0.157
	Kurtosis	-0.147	0.314
PEOU2	Mean	3.560	0.054
	Skewness	-0.014	0.157
	Kurtosis	0.032	0.314
PEOU3	Mean	3.870	0.048
	Skewness	-0.161	0.157
	Kurtosis	-0.373	0.314
PEOU4	Mean	3.730	0.049
	Skewness	-0.215	0.157
	Kurtosis	0.107	0.314
PU1	Mean	3.750	0.048
	Skewness	-0.394	0.157
	Kurtosis	0.794	0.314
PU2	Mean	3.790	0.047
	Skewness	-0.261	0.157
	Kurtosis	0.333	0.314
PU3	Mean	3.780	0.049

	Skewness	-0.339	0.157
	Kurtosis	0.507	0.314
PU4	Mean	3.930	0.047
	Skewness	-0.027	0.157
	Kurtosis	-0.797	0.314
SN1	Mean	3.590	0.055
	Skewness	-0.351	0.157
	Kurtosis	0.469	0.314
SN2	Mean	3.620	0.051
	Skewness	-0.075	0.157
	Kurtosis	0.114	0.314
SN3	Mean	3.840	0.052
	Skewness	-0.340	0.157
	Kurtosis	0.225	0.314
SN4	Mean	3.650	0.054
	Skewness	-0.340	0.157
	Kurtosis	0.719	0.314
B1	Mean	3.690	0.057
	Skewness	-0.469	0.157
	Kurtosis	0.459	0.314
B2	Mean	3.830	0.051
	Skewness	-0.153	0.157
	Kurtosis	-0.556	0.314
A1	Mean	3.940	0.050
	Skewness	-0.389	0.157
	Kurtosis	-0.192	0.314
A2	Mean	3.900	0.052
	Skewness	-0.404	0.157
	Kurtosis	0.012	0.314
A3	Mean	3.900	0.051
	Skewness	-0.237	0.157
	Kurtosis	-0.236	0.314
LI1	Mean	3.990	0.046
	Skewness	-0.392	0.157

	Kurtosis	0.080	0.314
LI2	Mean	4.010	0.046
	Skewness	-0.650	0.157
	Kurtosis	1.227	0.314
LI3	Mean	3.860	0.048
	Skewness	-0.338	0.157
	Kurtosis	-0.024	0.314
LI4	Mean	3.720	0.052
	Skewness	-0.241	0.157
	Kurtosis	-0.111	0.314
LI5	Mean	3.780	0.052
	Skewness	-0.527	0.157
	Kurtosis	0.275	0.314
SA4	Mean	3.360	0.085
	Skewness	-0.486	0.157
	Kurtosis	-0.871	0.314
SA5	Mean	2.580	0.083
	Skewness	0.199	0.157
	Kurtosis	-1.206	0.314
SA6	Mean	2.870	0.076
	Skewness	0.009	0.157
	Kurtosis	-0.920	0.314
SA7	Mean	2.480	0.079
	Skewness	0.374	0.157
	Kurtosis	-0.897	0.314
SA8	Mean	3.030	0.074
	Skewness	-0.108	0.157
	Kurtosis	-0.783	0.314
HCC4	Mean	3.660	0.063
	Skewness	-0.596	0.157
	Kurtosis	0.209	0.314

HCC8	Mean	3.640	0.058
	Skewness	-0.569	0.157
	Kurtosis	0.305	0.314
HCC10	Mean	3.920	0.053
	Skewness	-0.610	0.157
	Kurtosis	0.500	0.314
HCC11	Mean	3.690	0.058
	Skewness	-0.198	0.157
	Kurtosis	-0.366	0.314
PDI1	Mean	2.430	0.087
	Skewness	0.318	0.157
	Kurtosis	-1.283	0.314
PDI3	Mean	3.440	0.069
	Skewness	-0.475	0.157
	Kurtosis	-0.300	0.314
PDI4	Mean	2.940	0.075
	Skewness	-0.140	0.157
	Kurtosis	-0.928	0.314
PDI5	Mean	3.870	0.063
	Skewness	-0.675	0.157
	Kurtosis	0.049	0.314
PDI6	Mean	3.410	0.069
	Skewness	-0.426	0.157
	Kurtosis	-0.348	0.314
PDI7	Mean	2.680	0.081
	Skewness	0.231	0.157
	Kurtosis	-1.062	0.314

PDI9	Mean	2.490	0.082
	Skewness	0.347	0.157
	Kurtosis	-1.070	0.314
LC8	Mean	2.490	0.084
	Skewness	0.379	0.157
	Kurtosis	-1.062	0.314
LC9	Mean	2.210	0.077
	Skewness	0.662	0.157
	Kurtosis	-0.588	0.314
LC10	Mean	2.660	0.082
	Skewness	0.286	0.157
	Kurtosis	-0.896	0.314
LC11	Mean	2.590	0.078
	Skewness	0.244	0.157
	Kurtosis	-0.846	0.314
AA3	Mean	3.270	0.068
	Skewness	-0.217	0.157
	Kurtosis	-0.328	0.314
AA5	Mean	3.640	0.062
	Skewness	-0.373	0.157
	Kurtosis	0.045	0.314
AA6	Mean	3.900	0.051
	Skewness	-0.070	0.157
	Kurtosis	-0.845	0.314
AA8	Mean	3.900	0.056
	Skewness	-0.465	0.157
	Kurtosis	-0.253	0.314
AA11	Mean	3.460	0.062
	Skewness	-0.311	0.157
	Kurtosis	0.171	0.314

Appendix V**: Pilot Study PLS-SEM**

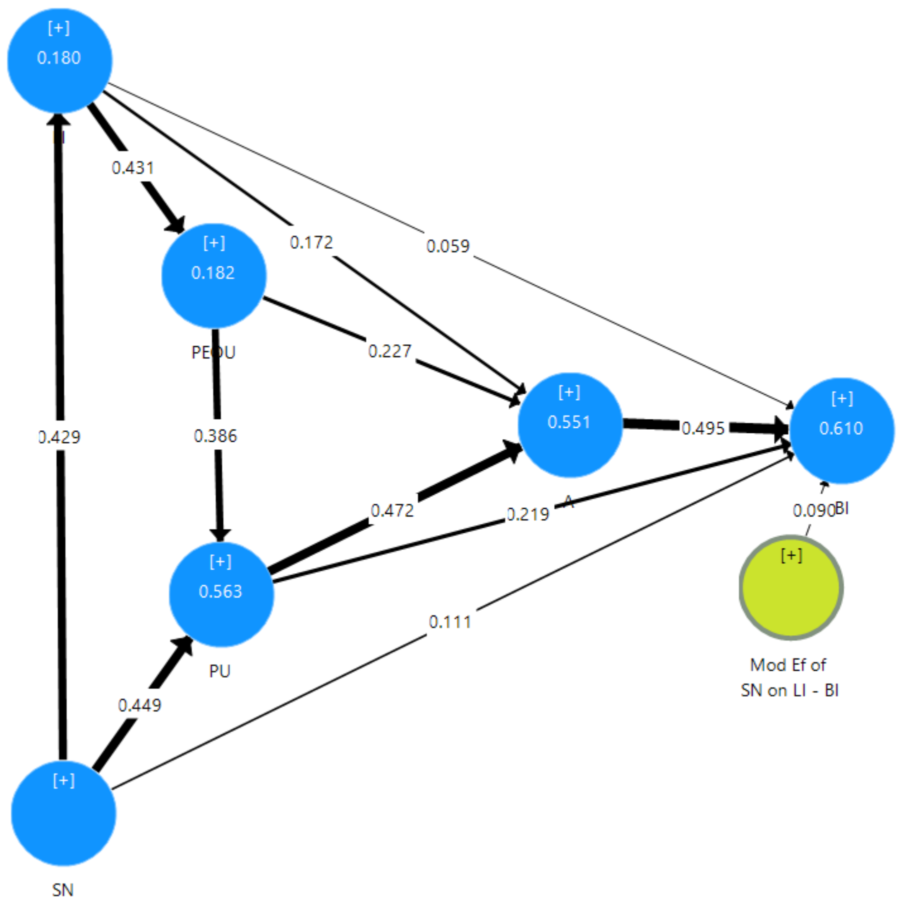


Figure 53 Pilot Study Revised SEM Model

Table V.1
Pilot Study Revised Model Quality Criteria

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
A	0.869	0.871	0.92	0.793
BI	0.741	0.746	0.885	0.794
LI	0.808	0.812	0.867	0.565
Mod Ef of SN on LI – BI	1.000	1.000	1.000	1.000
PEOU	0.740	0.740	0.853	0.66
PU	0.849	0.852	0.898	0.689
SN	0.806	0.813	0.873	0.632

Table V.2
Pilot Study Revised Model Bootstrapping: Assessment of Significance

Variable Relationship	Original Sample (O)	Sample Mean (M)	(STDEV)	T Statistics (|O/STDEV|)	P Values
A -> BI	0.495	0.504	0.088	5.629	0
LI -> A	0.172	0.175	0.058	2.965	0.003
LI -> BI	0.059	0.06	0.056	1.053	0.293
LI -> PEOU	0.431	0.436	0.068	6.343	0
Mod Ef of SN on LI – BI	0.090	0.088	0.033	2.723	0.007
PEOU -> A	0.227	0.230	0.074	3.051	0.002
PEOU -> PU	0.386	0.374	0.077	4.991	0
PU -> A	0.472	0.468	0.076	6.175	0
PU -> BI	0.219	0.213	0.066	3.299	0.001

SN -> BI	0.111	0.107	0.098	1.137	0.256
SN -> LI	0.429	0.436	0.065	6.642	0
SN -> PU	0.449	0.459	0.077	5.862	0

Table V.3

Pilot Study Revised Model R Squared

Endogenous Variable	R Square	R Square Adjusted
A	0.557	0.551
BI	0.619	0.61
LI	0.184	0.18
PEOU	0.186	0.182
PU	0.567	0.563

Table V.4

Pilot Study Revised Model f Squared

Latent Variable	A	BI	LI	PEOU	PU	SN
A		0.255				
BI						
LI	0.051	0.006		0.228		
Mod Ef of SN LI – BI		0.039				
PEOU	0.062				0.21	
PU	0.259	0.052				
SN		0.014	0.225		0.285	

Table V.5

Pilot Study Revised Model Path Coefficient

	A	BI	LI	PEOU	PU	SN
A		0.495				
BI						
LI	0.172	0.059		0.431		
Mod Ef of SN on LI - BI		0.09				
PEOU	0.227				0.386	
PU	0.472	0.219				
SN		0.111	0.429		0.449	

Appendix W: **Corporate Internal Reliability and Convergent Validity**

In Thailand, although both the Cronbach’s alpha and Composite reliability are above 0.7, the AVE for AA is a little low at 0.474. HCC is a bit more problematic as at 0.674, the Cronbach’s alpha is a little low, while both the Composite Reliability (0.341) and AVE (0.220) are very low. With regards to PDI, the Cronbach’s alpha is good but both the composite reliability (0.383) and the AVE (0.245) are very low. Finally, with regards to SA, while both the Cronbach’s alpha and Composite reliability are above 0.7, the AVE is a little low at 0.418.

Table W.1
Construct Reliability and Validity – Thailand

Latent Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
A	0.884	0.928	0.811
AA	0.716	0.807	0.474
BI	0.840	0.926	0.862
HCC	0.674	0.341	0.220
LC	0.799	0.843	0.582
LI	0.815	0.864	0.562
PDI	0.714	0.383	0.245
PEOU	0.860	0.905	0.704
PU	0.944	0.96	0.856
SA	0.747	0.749	0.418
SN	0.738	0.829	0.549

Table W.2

Construct Reliability and Validity – UK

Latent Variable	Cronbach's Alpha	Composite Reliability	AVE
A	0.904	0.940	0.839
AA	0.864	0.901	0.646
BI	0.892	0.949	0.903
HCC	0.767	0.827	0.553
LC	0.594	0.729	0.413
LI	0.754	0.833	0.503
PDI	0.798	0.852	0.590
PEOU	0.801	0.868	0.631
PU	0.925	0.947	0.816
SA	0.922	0.837	0.532
SN	0.839	0.892	0.674

Table W.3

Construct Reliability and Validity – USA

Latent Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
A	0.863	0.917	0.785
AA	0.827	0.861	0.556
BI	0.791	0.905	0.827
HCC	0.790	0.851	0.595
LC	0.733	0.828	0.548
LI	0.821	0.875	0.582
PDI	0.779	0.844	0.577
PEOU	0.739	0.835	0.567
PU	0.909	0.936	0.786
SA	0.897	0.921	0.700
SN	0.791	0.864	0.614

Appendix X: Corporate Indicator reliability

Table X.1
Cross-Loadings Thailand

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A1	0.893	0.214	0.757	0.258	-0.155	0.527	-0.254	0.517	0.472	-0.071	0.343
A2	0.916	0.169	0.590	0.121	-0.075	0.574	-0.062	0.500	0.439	-0.169	0.252
A3	0.893	0.255	0.611	0.184	-0.042	0.486	-0.048	0.500	0.409	-0.200	0.432
AA2	0.031	0.335	0.043	-0.007	0.019	-0.010	0.091	0.078	0.174	0.032	0.162
AA4	0.180	0.772	0.206	-0.077	-0.258	0.079	0.127	0.114	0.020	-0.063	0.149
AA5	0.111	0.586	0.267	0.301	-0.219	0.157	0.045	0.057	-0.002	0.079	0.233
AA6	0.219	0.869	0.303	0.068	-0.219	0.239	0.218	0.086	0.184	-0.043	0.238
AA8	0.187	0.752	0.244	0.122	-0.230	0.237	0.105	-0.020	0.086	-0.033	0.175
Activist	-0.028	-0.015	-0.014	0.108	0.118	0.070	0.186	0.055	-0.047	0.231	-0.035
Age	0.241	0.095	0.319	-0.051	-0.180	0.091	-0.082	0.021	-0.018	-0.099	0.185
BI1	0.699	0.348	0.934	0.200	-0.185	0.492	-0.235	0.431	0.457	-0.116	0.507
BI2	0.653	0.262	0.923	0.262	-0.199	0.560	-0.142	0.375	0.354	-0.134	0.469
Education	0.113	-0.243	0.096	-0.019	0.152	0.051	-0.134	0.328	0.237	0.094	-0.016
Gender	-0.287	-0.008	-0.216	-0.181	-0.026	-0.202	0.059	-0.193	-0.146	-0.186	-0.210
HCC1	0.031	0.026	-0.013	0.016	0.400	0.018	0.244	0.164	0.174	0.377	0.095
HCC3	0.015	-0.194	-0.108	-0.059	0.370	-0.038	-0.069	0.178	0.153	0.514	-0.027
HCC4	0.160	0.111	0.115	0.571	0.285	0.192	-0.092	0.080	0.160	0.396	0.163
HCC5	0.148	-0.127	0.126	0.743	0.190	0.208	0.181	0.132	0.199	0.344	0.112
LC5	-0.098	-0.251	-0.214	0.057	0.867	-0.011	0.042	0.111	0.078	0.331	-0.159
LC6	-0.031	-0.147	-0.058	0.053	0.562	0.049	0.175	-0.021	0.143	0.520	-0.079
LC7	-0.094	-0.274	-0.178	0.075	0.894	-0.175	0.052	0.097	0.104	0.261	-0.063
LC8	-0.053	-0.190	-0.089	0.015	0.678	-0.034	0.097	0.037	0.090	0.499	-0.201
LI * LC	-0.280	0.077	-0.154	-0.096	0.039	-0.391	0.091	0.003	0.003	0.011	-0.016
LI * LC	-0.280	0.077	-0.154	-0.096	0.039	-0.391	0.091	0.003	0.003	0.011	-0.016

LI * SA	-0.350	-0.177	-0.253	-0.236	0.015	-0.516	0.092	-0.093	-0.076	0.066	-0.110
LI1	0.623	0.239	0.555	0.220	-0.101	0.810	-0.154	0.360	0.402	-0.120	0.323
LI2	0.547	0.201	0.484	0.256	-0.020	0.880	-0.143	0.347	0.362	0.069	0.333
LI3	0.226	0.092	0.246	0.117	-0.018	0.694	-0.164	0.104	0.005	0.257	0.107
LI4	0.272	0.094	0.299	0.321	-0.040	0.646	-0.018	0.174	0.118	0.003	0.198
LI5	0.326	0.182	0.398	0.280	-0.183	0.693	-0.190	0.212	0.067	0.172	0.123
Occ. Seniority	0.048	-0.047	0.204	-0.076	0.087	-0.061	-0.008	0.047	-0.105	-0.084	-0.009
PDI3	0.082	-0.044	0.041	0.056	0.424	0.111	-0.122	0.226	0.179	0.482	0.072
PDI5	-0.072	0.139	-0.119	0.135	0.072	-0.161	0.870	-0.049	0.037	0.090	0.025
PDI6	0.045	-0.059	-0.011	-0.095	0.523	0.034	0.220	0.143	0.167	0.422	-0.051
PDI7	-0.074	0.069	-0.171	0.002	0.499	0.031	0.400	-0.126	-0.167	0.512	-0.056
PEOU * AA	-0.041	-0.262	-0.108	-0.038	0.285	-0.120	0.056	0.166	0.238	0.058	-0.088
PEOU1	0.428	0.217	0.393	0.151	0.015	0.302	-0.124	0.804	0.503	-0.064	0.500
PEOU2	0.527	0.007	0.395	-0.121	0.028	0.223	-0.180	0.814	0.382	0.037	0.334
PEOU3	0.497	0.051	0.313	0.094	0.155	0.345	-0.210	0.887	0.489	0.118	0.393
PEOU4	0.439	-0.004	0.370	-0.050	0.144	0.313	-0.218	0.850	0.467	0.067	0.352
PU * HCC	-0.246	-0.108	-0.254	-0.124	0.036	-0.282	0.064	0.016	-0.251	-0.049	-0.159
PU1	0.388	0.096	0.394	0.190	0.105	0.268	-0.167	0.543	0.894	0.102	0.485
PU2	0.431	0.119	0.363	0.112	0.133	0.329	-0.039	0.460	0.924	-0.009	0.338
PU3	0.455	0.111	0.401	0.104	0.090	0.240	-0.139	0.507	0.942	-0.081	0.414
PU4	0.529	0.117	0.456	0.141	0.090	0.336	-0.170	0.520	0.939	0.067	0.404
Pragmatist	-0.216	-0.080	-0.073	-0.097	-0.030	-0.132	-0.001	-0.053	-0.124	0.056	-0.111
SA2	0.030	-0.095	0.109	0.126	0.352	0.034	0.108	0.063	0.282	0.285	0.104
SA3	-0.133	-0.087	-0.120	0.108	0.341	0.044	0.051	0.035	0.060	0.893	-0.028
SA4	-0.036	0.183	-0.065	0.230	0.359	0.107	0.184	0.094	0.109	0.523	-0.149
SA5	-0.147	-0.041	-0.088	0.178	0.397	0.046	0.060	0.045	0.021	0.909	-0.012

SA6	0.007	0.001	0.076	0.085	0.226	0.082	-0.007	0.004	0.094	0.334	-0.038
SN * PDI	-0.134	-0.036	-0.262	-0.224	-0.260	-0.155	0.015	-0.064	-0.130	-0.128	-0.318
SN * PDI	-0.134	-0.036	-0.262	-0.224	-0.260	-0.155	0.015	-0.064	-0.130	-0.128	-0.318
SN1	0.138	0.170	0.253	0.128	-0.045	0.175	0.074	0.278	0.239	0.077	0.740
SN2	0.239	0.242	0.373	0.136	-0.210	0.164	0.044	0.265	0.333	-0.044	0.798
SN3	0.358	0.145	0.440	0.161	0.007	0.339	-0.063	0.446	0.490	-0.024	0.692
SN4	0.320	0.229	0.431	0.183	-0.229	0.203	-0.130	0.335	0.136	-0.153	0.729
Theorist	-0.050	-0.111	-0.078	-0.158	0.156	0.007	-0.175	0.054	0.029	-0.106	-0.059
OrgA	0.195	0.117	0.144	0.331	-0.116	0.285	-0.064	-0.029	0.033	-0.002	0.097
OrgD	-0.101	-0.355	-0.008	-0.098	0.242	0.009	-0.061	-0.065	-0.029	0.055	-0.039
OrgC	-0.059	0.136	0.025	-0.109	-0.012	-0.009	0.018	-0.036	-0.082	0.024	-0.021

Table X.2

Cross-Loadings UK

Item	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A1	0.904	0.428	0.825	0.170	-0.338	0.576	0.238	0.704	0.736	-0.111	0.739
A2	0.928	0.388	0.762	0.102	-0.278	0.459	0.125	0.669	0.663	-0.129	0.702
A3	0.916	0.341	0.734	0.140	-0.304	0.483	0.194	0.642	0.690	-0.125	0.699
AA2	0.429	0.863	0.391	0.386	-0.010	0.361	0.362	0.375	0.374	0.123	0.515
AA4	0.320	0.806	0.291	0.363	0.051	0.297	0.440	0.372	0.311	0.190	0.412
AA5	0.226	0.759	0.170	0.421	0.061	0.218	0.509	0.165	0.277	0.155	0.306
AA6	0.318	0.797	0.254	0.401	-0.107	0.330	0.304	0.415	0.257	0.123	0.416
AA8	0.352	0.789	0.265	0.389	0.067	0.229	0.392	0.381	0.357	0.118	0.405
Activist	0.036	0.160	-0.073	0.141	0.122	0.137	0.249	0.135	0.074	0.281	0.032
Age	-0.006	-0.061	0.033	-0.104	-0.147	-0.092	-0.234	-0.119	-0.097	-0.196	-0.077
BI1	0.802	0.329	0.949	0.174	-0.293	0.554	0.182	0.703	0.642	-0.101	0.670
BI2	0.807	0.346	0.951	0.109	-0.338	0.545	0.159	0.646	0.647	-0.114	0.697
Education	0.092	0.031	0.081	0.019	-0.081	0.064	-0.003	0.043	0.061	-0.012	0.138
Gender	0.044	0.100	0.068	-0.044	0.084	0.107	-0.062	0.044	-0.016	-0.142	-0.018
HCC1	0.075	0.372	0.083	0.712	0.249	0.066	0.552	0.135	0.074	0.297	0.151
HCC3	0.005	0.340	0.013	0.512	0.184	0.070	0.392	0.081	0.123	0.441	0.234
HCC4	0.176	0.465	0.170	0.902	0.153	0.245	0.501	0.144	0.304	0.338	0.269
HCC5	0.075	0.256	0.070	0.794	0.152	0.068	0.411	0.051	0.080	0.328	0.168
LC5	-0.288	0.104	-0.297	0.159	0.725	-0.159	0.332	-0.167	-0.013	0.257	-0.123
LC6	-0.301	-0.163	-0.270	0.142	0.796	-0.211	0.157	-0.287	-0.111	0.252	-0.132
LC7	-0.050	0.157	-0.112	0.148	0.479	-0.119	0.129	-0.072	-0.001	0.146	-0.021
LC8	-0.042	0.159	-0.011	0.171	0.512	-0.154	0.168	-0.019	0.038	0.304	0.085
LI * LC	0.111	0.094	0.144	0.043	0.077	0.146	0.009	0.107	0.056	0.055	0.055
LI * LC	0.111	0.094	0.144	0.043	0.077	0.146	0.009	0.107	0.056	0.055	0.055
LI * SA	0.058	0.065	-0.031	0.208	0.055	-0.038	0.169	0.047	0.010	0.221	0.020

LI1	0.444	0.256	0.430	0.123	-0.179	0.751	0.304	0.421	0.397	0.070	0.433
LI2	0.470	0.329	0.489	0.133	-0.249	0.822	0.282	0.373	0.430	-0.003	0.461
LI3	0.182	0.289	0.138	0.334	-0.073	0.556	0.362	0.173	0.164	0.109	0.246
LI4	0.289	0.042	0.325	-0.020	-0.169	0.667	0.074	0.347	0.230	-0.075	0.360
LI5	0.470	0.346	0.528	0.180	-0.171	0.721	0.218	0.458	0.476	-0.050	0.534
Occ. Senior	0.204	0.099	0.212	-0.046	-0.065	0.221	0.040	0.232	0.106	-0.007	0.225
PDI3	0.066	0.364	0.048	0.447	0.337	0.167	0.739	0.090	0.283	0.556	0.329
PDI5	0.236	0.485	0.209	0.471	0.134	0.386	0.824	0.25	0.309	0.241	0.317
PDI6	0.130	0.279	0.136	0.447	0.251	0.156	0.764	0.227	0.337	0.619	0.211
PDI7	0.101	0.261	0.071	0.507	0.379	0.186	0.742	0.174	0.316	0.622	0.228
PEOU * AA	-0.333	0.064	-0.292	0.177	0.189	-0.045	0.238	-0.347	-0.218	0.152	-0.237
PEOU1	0.676	0.396	0.606	0.102	-0.270	0.439	0.160	0.862	0.542	-0.060	0.605
PEOU2	0.263	0.312	0.298	0.109	-0.024	0.233	0.296	0.523	0.169	0.216	0.270
PEOU3	0.680	0.349	0.674	0.161	-0.243	0.548	0.294	0.893	0.529	0.017	0.606
PEOU4	0.593	0.362	0.588	0.102	-0.233	0.375	0.150	0.842	0.468	-0.017	0.556
PU * HCC	-0.135	0.115	-0.178	0.225	-0.027	0.038	0.129	-0.039	-0.204	0.238	-0.108
PU1	0.665	0.391	0.596	0.244	-0.051	0.445	0.314	0.528	0.896	0.024	0.714
PU2	0.690	0.380	0.617	0.219	-0.077	0.564	0.403	0.523	0.884	0.054	0.719
PU3	0.676	0.334	0.569	0.130	-0.060	0.429	0.341	0.468	0.905	0.062	0.709
PU4	0.719	0.335	0.664	0.258	-0.053	0.414	0.379	0.554	0.927	0.126	0.740
Pragmatist	-0.035	-0.052	0.013	-0.152	-0.112	-0.128	-0.183	-0.036	-0.050	-0.193	-0.059
SA2	-0.093	0.284	-0.095	0.521	0.338	0.073	0.676	-0.003	0.135	0.911	0.084
SA3	0.000	0.252	-0.018	0.530	0.324	0.087	0.612	0.052	0.212	0.749	0.128
SA4	-0.022	0.257	0.004	0.554	0.360	0.088	0.611	0.091	0.197	0.698	0.141
SA5	-0.065	0.279	-0.094	0.524	0.362	0.010	0.633	0.031	0.188	0.845	0.161
SA6	0.070	0.381	0.010	0.565	0.220	0.129	0.568	0.035	0.272	0.258	0.194
SN * PDI	-0.013	0.067	-0.019	0.102	-0.182	0.083	0.023	0.214	-0.146	0.098	-0.103
SN * PDI	-0.013	0.067	-0.019	0.102	-0.182	0.083	0.023	0.214	-0.146	0.098	-0.103

SN1	0.530	0.465	0.493	0.249	0.046	0.498	0.353	0.501	0.648	0.176	0.847
SN2	0.627	0.493	0.531	0.341	0.012	0.452	0.408	0.553	0.719	0.186	0.840
SN3	0.633	0.491	0.573	0.243	-0.171	0.431	0.285	0.457	0.597	-0.086	0.782
SN4	0.749	0.293	0.739	0.066	-0.293	0.565	0.150	0.662	0.653	-0.074	0.813
Theorist	-0.081	0.065	-0.127	0.142	0.123	0.010	0.230	-0.120	0.005	0.111	0.012
OrgCultA	-0.029	-0.054	-0.080	-0.153	-0.002	-0.060	0.010	0.045	-0.050	-0.050	-0.099
OrgCultD	-0.063	0.019	0.015	0.004	0.041	0.150	0.034	0.055	-0.011	0.088	0.067
OrgCultC	0.077	0.056	0.047	0.184	-0.042	0.038	0.065	-0.030	0.038	-0.110	-0.004

Table X.3
Cross-Loadings USA

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A1	0.888	0.218	0.679	0.046	-0.205	0.479	0.034	0.505	0.667	-0.075	0.628
A2	0.899	0.189	0.648	0.009	-0.265	0.443	-0.002	0.474	0.608	-0.112	0.581
A3	0.871	0.173	0.599	0.040	-0.251	0.459	0.025	0.497	0.577	-0.117	0.546
AA2	0.024	0.611	-0.044	0.254	-0.014	-0.014	0.352	0.057	0.080	0.233	0.051
AA4	0.074	0.736	-0.017	0.311	0.001	0.065	0.414	0.176	0.172	0.324	0.124
AA5	0.108	0.678	0.050	0.395	0.015	0.158	0.496	0.207	0.127	0.377	0.097
AA6	0.226	0.858	0.113	0.146	-0.104	0.204	0.238	0.254	0.225	0.141	0.191
AA8	0.203	0.819	0.116	0.129	-0.126	0.228	0.267	0.264	0.221	0.113	0.241
Activist	0.189	0.059	0.156	-0.051	-0.144	0.144	0.080	0.154	0.280	-0.006	0.179
Age	0.062	-0.058	0.084	-0.130	0.003	0.079	-0.085	-0.066	-0.093	-0.142	0.014
BI1	0.667	0.083	0.913	0.040	-0.228	0.495	0.022	0.374	0.539	-0.104	0.670
BI2	0.653	0.105	0.906	0.067	-0.156	0.473	-0.001	0.410	0.482	-0.092	0.615
Education	-0.040	-0.166	0.030	-0.038	-0.037	-0.057	-0.205	-0.104	-0.184	-0.131	-0.010
Gender	0.037	-0.058	0.139	-0.199	-0.011	0.069	-0.137	0.001	0.098	-0.254	0.061
HCC1	0.051	0.167	0.010	0.557	0.283	0.138	0.439	0.148	0.145	0.429	0.087
HCC3	0.038	0.281	0.036	0.773	0.172	0.068	0.474	0.005	0.130	0.533	0.083
HCC4	0.031	0.231	0.066	0.909	0.199	0.114	0.467	0.151	0.167	0.561	0.083
HCC5	0.014	0.145	0.040	0.803	0.204	0.019	0.371	0.093	0.123	0.533	0.011
LC5	-0.236	-0.040	-0.152	0.270	0.818	-0.220	0.150	-0.157	-0.128	0.381	-0.190
LC6	-0.118	-0.062	-0.129	0.200	0.642	-0.052	0.141	-0.047	-0.070	0.289	-0.073
LC7	-0.219	-0.103	-0.222	0.106	0.799	-0.097	0.089	-0.133	-0.230	0.307	-0.221
LC8	-0.199	-0.088	-0.105	0.137	0.687	-0.083	0.118	-0.109	-0.183	0.357	-0.117
LI * LC	0.055	-0.005	0.042	-0.001	0.063	0.072	-0.018	0.026	0.012	0.014	0.060
LI * LC	0.055	-0.005	0.042	-0.001	0.063	0.072	-0.018	0.026	0.012	0.014	0.060
LI * SA	-0.005	0.143	-0.056	0.176	0.014	-0.130	0.068	-0.005	-0.018	0.200	0.025

LI1	0.408	0.180	0.345	0.038	-0.179	0.758	0.109	0.423	0.350	-0.062	0.405
LI2	0.412	0.208	0.371	0.041	-0.177	0.786	0.157	0.352	0.364	0.001	0.457
LI3	0.460	0.200	0.452	0.147	-0.071	0.749	0.225	0.351	0.409	0.094	0.445
LI4	0.350	0.118	0.410	0.094	-0.149	0.741	0.131	0.360	0.344	0.017	0.370
LI5	0.346	0.152	0.449	0.044	-0.083	0.781	0.187	0.438	0.392	0.043	0.393
OccSenior	0.042	-0.061	0.047	-0.040	-0.114	0.008	0.023	0.061	-0.036	-0.076	0.009
PDI3	0.030	0.210	0.007	0.419	0.140	0.178	0.780	0.108	0.039	0.485	0.144
PDI5	0.061	0.394	0.097	0.366	0.068	0.183	0.791	0.194	0.124	0.377	0.132
PDI6	-0.032	0.341	-0.074	0.488	0.168	0.165	0.828	0.121	0.117	0.569	0.033
PDI7	-0.087	0.329	-0.104	0.452	0.258	0.030	0.625	0.058	0.080	0.585	-0.066
PEOU * AA	-0.092	0.040	-0.043	0.048	-0.040	-0.035	0.113	-0.074	-0.038	0.147	-0.019
PEOU1	0.505	0.202	0.335	0.090	-0.176	0.408	0.020	0.788	0.485	-0.021	0.393
PEOU2	0.155	0.152	0.247	0.175	0.047	0.278	0.183	0.495	0.215	0.115	0.275
PEOU3	0.444	0.294	0.339	0.045	-0.135	0.476	0.148	0.861	0.457	0.011	0.423
PEOU4	0.470	0.225	0.372	0.115	-0.146	0.342	0.225	0.814	0.522	0.075	0.430
PU * HCC	-0.201	0.068	-0.069	0.088	0.005	0.032	0.160	-0.016	-0.299	0.136	0.016
PU1	0.586	0.218	0.480	0.082	-0.204	0.482	0.105	0.581	0.865	0.003	0.563
PU2	0.600	0.223	0.497	0.153	-0.150	0.386	0.100	0.446	0.889	0.112	0.534
PU3	0.613	0.211	0.485	0.178	-0.192	0.400	0.084	0.517	0.897	0.060	0.491
PU4	0.674	0.223	0.528	0.208	-0.203	0.460	0.125	0.515	0.894	0.002	0.548
Pragmatist	-0.146	-0.030	-0.141	0.016	0.113	-0.072	-0.052	0.015	-0.111	0.048	-0.102
SA2	-0.051	0.230	-0.037	0.598	0.342	0.005	0.569	0.073	0.153	0.781	0.077
SA3	-0.043	0.196	-0.053	0.627	0.293	0.034	0.530	0.094	0.104	0.822	-0.002
SA4	-0.111	0.175	-0.099	0.478	0.403	0.027	0.509	0.055	0.010	0.862	-0.037
SA5	-0.110	0.222	-0.147	0.598	0.372	-0.019	0.518	0.010	0.032	0.879	-0.074
SA6	-0.108	0.234	-0.067	0.528	0.410	0.062	0.468	0.004	0.005	0.836	-0.044
SN * PDI	0.089	0.074	0.166	0.127	0.052	0.030	0.165	-0.033	0.001	0.138	0.141

SN * PDI	0.089	0.074	0.166	0.127	0.052	0.030	0.165	-0.033	0.001	0.138	0.141
SN1	0.442	0.131	0.479	0.105	-0.109	0.364	0.200	0.305	0.455	0.094	0.761
SN2	0.487	0.143	0.488	0.151	-0.107	0.361	0.174	0.359	0.580	0.139	0.788
SN3	0.559	0.248	0.591	0.043	-0.270	0.446	0.043	0.451	0.441	-0.137	0.808
SN4	0.572	0.177	0.640	-0.038	-0.191	0.518	-0.005	0.466	0.420	-0.180	0.777
Theorist	-0.051	0.017	-0.077	0.136	0.073	-0.033	0.099	-0.091	-0.087	0.164	-0.060
OrgCultA	-0.137	0.016	-0.105	-0.014	0.039	-0.029	0.004	-0.083	-0.047	0.069	-0.061
OrgCultD	0.113	0.021	0.084	0.029	0.027	0.050	0.014	0.064	0.075	0.010	0.027
OrgCultC	0.041	0.027	0.049	-0.051	0.048	0.027	-0.001	0.033	-0.064	0.043	0.000

Appendix Y: **Corporate Discriminant validity**

Table Y.1

Fornell-Larcker Criterion Thailand

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A	0.901										
AA	0.236	0.689									
BI	0.729	0.330	0.928								
HCC	0.211	0.105	0.247	0.469							
LC	-0.103	-0.295	-0.206	0.069	0.763						
LI	0.588	0.234	0.565	0.315	-0.099	0.750					
PDI	-0.140	0.180	-0.205	0.100	0.071	-0.181	0.495				
PEOU	0.562	0.081	0.435	0.026	0.105	0.355	-0.219	0.839			
PU	0.490	0.119	0.438	0.149	0.112	0.317	-0.142	0.550	0.925		
SA	-0.160	-0.032	-0.134	0.171	0.402	0.057	0.073	0.049	0.023	0.647	
SN	0.380	0.261	0.526	0.209	-0.147	0.320	-0.035	0.471	0.445	-0.052	0.741

Table Y.2

Fornell-Larcker Criterion UK

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A	0.916										
AA	0.423	0.804									
BI	0.847	0.355	0.950								
HCC	0.151	0.482	0.149	0.744							
LC	-0.336	0.011	-0.332	0.218	0.642						
LI	0.555	0.364	0.579	0.192	-0.249	0.709					
PDI	0.204	0.485	0.179	0.600	0.307	0.337	0.768				
PEOU	0.735	0.438	0.71	0.147	-0.27	0.523	0.261	0.794			
PU	0.762	0.398	0.678	0.236	-0.067	0.512	0.398	0.574	0.903		
SA	-0.133	0.172	-0.113	0.404	0.347	0.003	0.568	0.010	0.075	0.729	
SN	0.780	0.523	0.719	0.266	-0.132	0.597	0.358	0.669	0.798	0.057	0.821

Table Y.3

Fornell-Larcker Criterion USA

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA	SN
A	0.886										
AA	0.219	0.746									
BI	0.726	0.104	0.909								
HCC	0.036	0.261	0.058	0.771							
LC	-0.270	-0.095	-0.212	0.241	0.740						
LI	0.519	0.226	0.533	0.096	-0.171	0.763					
PDI	0.022	0.400	0.012	0.534	0.163	0.214	0.760				
PEOU	0.555	0.294	0.431	0.123	-0.162	0.504	0.175	0.753			
PU	0.698	0.247	0.562	0.176	-0.212	0.488	0.117	0.581	0.887		
SA	-0.113	0.250	-0.108	0.652	0.447	0.026	0.603	0.043	0.049	0.837	
SN	0.662	0.225	0.707	0.078	-0.220	0.544	0.124	0.510	0.603	-0.037	0.784

Table Y.4

Heterotrait-Monotrait ratio (HTMT) Thailand

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA
AA	0.267									
BI	0.840	0.400								
HCC	0.171	0.281	0.170							
LC	0.101	0.355	0.208	0.659						
LI	0.619	0.288	0.635	0.289	0.184					
PDI	0.119	0.173	0.157	0.626	0.763	0.222				
PEOU	0.646	0.199	0.515	0.255	0.136	0.377	0.237			
PU	0.532	0.185	0.488	0.304	0.153	0.295	0.232	0.608		
SA	0.146	0.224	0.164	0.816	0.725	0.21	0.838	0.161	0.219	
SN	0.436	0.397	0.634	0.266	0.272	0.341	0.173	0.556	0.48	0.222

Table Y.5

Heterotrait-Monotrait ratio (HTMT) UK

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA
AA	0.461									
BI	0.940	0.388								
HCC	0.137	0.581	0.133							
LC	0.350	0.302	0.369	0.387						
LI	0.630	0.433	0.656	0.241	0.340					
PDI	0.197	0.546	0.174	0.780	0.495	0.393				
PEOU	0.820	0.525	0.809	0.187	0.297	0.621	0.327			
PU	0.831	0.439	0.745	0.223	0.123	0.573	0.459	0.626		
SA	0.070	0.382	0.064	0.767	0.490	0.196	0.901	0.122	0.248	
SN	0.887	0.608	0.822	0.348	0.242	0.716	0.428	0.776	0.904	0.248

Table Y.6

Heterotrait-Monotrait ratio (HTMT) USA

	A	AA	BI	HCC	LC	LI	PDI	PEOU	PU	SA
AA	0.195									
BI	0.876	0.109								
HCC	0.065	0.402	0.063							
LC	0.327	0.142	0.267	0.361						
LI	0.615	0.222	0.659	0.145	0.198					
PDI	0.085	0.592	0.116	0.742	0.280	0.230				
PEOU	0.657	0.315	0.564	0.198	0.230	0.645	0.222			
PU	0.785	0.247	0.661	0.211	0.250	0.562	0.141	0.683		
SA	0.115	0.363	0.115	0.803	0.536	0.084	0.796	0.114	0.102	
SN	0.793	0.225	0.886	0.146	0.266	0.667	0.216	0.657	0.712	0.210

Appendix Z: **Corporate VIF**

Max outer VIF: 3.359 / Max inner VIF for non-control variable: 2.564. All VIFs are all well below the suggested upper limit of 5 (Hair Jr et al., 2013).

Table Z.1
Outer VIFs for Combined Corporate Level Data

Item	VIF	Item	VIF
Org. Culture A	1	Occ. Seniority	1
Org. Culture B	1	PDI3	1.459
Org. Culture C	1	PDI5	1.273
Org. Culture D	1	PDI6	2.244
A1	2.25	PDI7	1.884
A2	2.715	PEOU * AA	1
A3	2.358	PEOU1	1.771
AA2	1.676	PEOU2	1.308
AA4	2.025	PEOU3	2.192
AA5	1.559	PEOU4	1.813
AA6	1.718	PU * HCC	1
AA8	1.573	PU1	2.588
Activist	1	PU2	2.992
Age	1	PU3	3.359
BI1	1.972	PU4	3.261
BI2	1.972	Pragmatist	1
Education	1	SA2	2.032
Gender	1	SA3	2.644
HCC1	1.447	SA4	2.098
HCC2	1.807	SA5	2.948
HCC3	1.613	SA6	1.721
HCC4	1.844	SN * PDI	1

HCC5	1.592	SN * PDI	1
LC5	1.368	SN1	2.097
LC6	1.301	SN2	2.159
LC7	1.436	SN3	1.496
LC8	1.409	SN4	1.542
LI * LC	1	Theorist	1
LI * LC	1		
LI * SA	1		
LI1	1.726		
LI2	1.918		
LI3	1.493		
LI4	1.505		
LI5	1.597		

Table Z.2

Inner VIFs for Combined Corporate Level Data

Variable	A	BI	LI	PEOU	PU
A		2.564			
AA	1.16				
AA mod PEOU-A	1.057				
Activist		1.749			
Age		1.157			
BI					
Education		1.222			
Gender		1.116			
HCC		1.326			
HCC mod PU-BI		1.258			
LC		1.286	1.139	1.04	

LC mod LI-BI		1.083			
LC mod LI-PEOU				1.009	
LI	1.438	1.598		1.031	
Occ. Seniority		1.144			
Org A		1.246			
Org B		1.134			
Org C		1.204			
Org D		1.139			
PDI		1.497	1.148		
PDI mod SN-BI		1.151			
PDI mod SN-LI			1.013		
PEOU	1.671				1.418
PU	1.619	2.365			
Pragmatist		1.745			
SA	1.147				
SA mod LI-A	1.128				
SN		2.124	1.092		1.418
Theorist		1.707			

1. Thailand

Max outer VIF: 5.557 / Max inner VIF: 2.066 (VIFs for PU2 and PU3 fall above 5)

Table Z.3

Outer VIFs for Thai Corporate Level Data

	VIF		VIF
OrgCulture1A	2.943	LI * LC	1
OrgCulture1B	3.106	LI * LC	1
OrgCulture1C	1.79	LI * SA	1
OrgCulture1D	2.244	LI1	2.009
OrgCulture2A	2.753	LI2	2.465
OrgCulture2B	2.73	LI3	1.802
OrgCulture2C	1.74	LI4	1.523
OrgCulture2D	1.914	LI5	1.757
OrgCulture3A	3.207	Occ. Seniority	1
OrgCulture3B	5.094	PDI3	1.509
OrgCulture3C	3.22	PDI5	1.089
OrgCulture3D	2.47	PDI6	2.008
OrgCulture4A	2.891	PDI7	1.677
OrgCulture4B	4.909	PEOU * AA	1
OrgCulture4C	2.68	PEOU1	2.145
OrgCulture4D	3.001	PEOU2	2.24
A1	2.252	PEOU3	2.76
A2	2.977	PEOU4	2.438
A3	2.548	PU * HCC	1

AA2	1.116	PU1	3.152
AA4	1.547	PU2	4.959
AA5	1.297	PU3	5.312
AA6	1.935	PU4	4.718
AA8	1.482	Pragmatist	1
Activist	1	Reflectors	1
Age	1	SA2	1.24
BI1	2.102	SA3	1.821
BI2	2.102	SA4	1.328
Education	1	SA5	2.053
Gender	1	SA6	1.237
HCC1	1.58	SN * PDI	1
HCC2	1.826	SN * PDI	1
HCC3	1.63	SN1	3.037
HCC4	1.587	SN2	3.073
HCC5	1.188	SN3	1.145
LC5	1.778	SN4	1.422
LC6	1.64	Theorist	1
LC7	1.753		
LC8	1.747		

Table Z.4

Inner VIFs for Thai Corporate Level Data

	A	BI	LI	PEOU	PU
A		2.497			
AA	1.2				
AA mod PEOU-A	1.087				
BI					
HCC		1.532			
HCC mod PU-BI		1.444			
LC		1.336	1.164	1.064	
LC mod LI-BI		1.125			
LC mod LI-PEOU				1.051	
LI	1.459	1.586		1.02	
PDI		1.595	1.21		
PDI mod SN-BI		1.274			
PDI mod SN-LI			1.021		
PEOU	1.71				1.442
PU	1.643	2.364			
SA	1.19				
SA mod LI-A	1.17				
SN		2.243	1.095		1.442

2. UK

Max outer VIF: 6.177 / Max inner VIF: 3.985

In the case of the UK, the outer VIF for SA5 fall above 5 and thus would be considered to correlate with other predictors.

Table Z.5

Outer VIFs for UK Corporate Level Data

	VIF		VIF
A1	2.51	PDI3	1.724
A2	3.518	PDI5	1.303
A3	3.213	PDI6	2.611
AA2	2.236	PDI7	2.653
AA4	2.023	PEOU1	2.212
AA5	1.879	PEOU2	1.316
AA6	1.917	PEOU3	2.356
AA8	1.782	PEOU4	2.017
BI1	2.881	PU1	3.066
BI2	2.881	PU2	2.736
HCC1	1.757	PU3	3.523
HCC2	1.585	PU4	4.127
HCC3	1.424	SA2	3.863
HCC4	1.658	SA3	4.667
HCC5	1.919	SA4	2.756
LC5	1.153	SA5	6.177
LC6	1.192	SA6	1.809
LC7	1.326	SN1	2.537
LC8	1.406	SN2	2.453
LI1	1.564	SN3	1.679
LI2	1.806	SN4	1.711
LI3	1.274		
LI4	1.375		
LI5	1.345		

Table Z.6

Inner VIFs for UK Corporate Level Data

	A	BI	LI	PEOU	PU
A		3.985			
AA	1.447				
AA mod PEOU-A	1.345				
BI					
HCC		1.573			
HCC mod PU-BI			1.343		
LC		1.665	1.273	1.093	
LC mod LI-BI			1.184		
LC mod LI-PEOU					1.108
LI	1.635	1.863		1.09	
PDI		2.107	1.472		
PDI mod SN-BI			1.302		
PDI mod SN-LI				1.038	
PEOU	2.116				1.84
PU	1.769	3.857			
SA	1.042				
SA mod LI-A	1.092				
SN		3.96	1.297		1.84

3. USA

Max outer VIF: 3.094 / Max inner VIF: 2.72 and All VIFs are all well below the suggested upper limit of 5.

Table Z.7

Outer VIFs for USA Corporate Level Data

	VIF		VIF
A1	2.209	PDI3	1.454
A2	2.507	PDI5	1.443
A3	2.178	PDI6	2.315
AA2	1.756	PDI7	1.88
AA4	2.209	PEOU1	1.568
AA5	1.588	PEOU2	1.206
AA6	1.731	PEOU3	1.986
AA8	1.588	PEOU4	1.699
BI1	1.785	PU1	2.425
BI2	1.785	PU2	2.913
HCC1	1.474	PU3	3.094
HCC2	2.157	PU4	2.899
HCC3	1.783	SA2	2.252
HCC4	2.208	SA3	2.76
HCC5	1.838	SA4	2.378
LC5	1.561	SA5	2.891
LC6	1.499	SA6	2.058
LC7	1.583	SN1	1.935
LC8	1.462	SN2	2.01
LI1	1.857	SN3	1.871
LI2	1.978	SN4	1.72

LI3	1.566
LI4	1.644
LI5	1.761

Table Z.8
Inner VIFs for USA Corporate Level Data

	A	BI	LI	PEOU	PU
A		2.720			
AA	1.254				
AA mod PEOU-A	1.098				
BI					
HCC		1.744			
HCC mod PU-BI			1.756		
LC		1.282	1.12	1.061	
LC mod LI-BI			1.142		
LC mod LI-PEOU					1.066
LI	1.535	1.726		1.040	
PDI		1.665	1.126		
PDI mod SN-BI			1.476		
PDI mod SN-LI				1.090	
PEOU	1.799				1.397
PU	1.699	2.638			
SA	1.188				
SA mod LI-A	1.165				
SN		2.315	1.096		1.397

Appendix AA: **Correlation PU3**

Table AA.1

PU3 Correlations for Thai Data Group

PU3	PEOU 1	PEOU 2	PEOU 3	PEOU 4	PU1	PU2	PU3	PU4	BI1
Pearson Correlation	.436**	.372**	.450**	.440**	.797**	.860**	1	.832**	.434**
Sig. (2-tailed)	.000	.001	.000	.000	.000	.000		.000	.000

PU3	BI2	A1	A2	A3	LI1	LI2	LI3	LI4	LI5
Pearson Correlation	.306**	.448**	.393**	.384**	.362**	.284*	-.047	.058	.000
Sig. (2-tailed)	.006	.000	.000	.001	.001	.012	.680	.616	.999

PU3	SN1	SN2	SN3	SN4	AA2	AA4	AA5	AA6	AA8
Pearson Correlation	0.159	.316**	.478**	.138	.138	.024	-.038	.195	.072
Sig. (2-tailed)	0.164	.005	.000	.228	.228	.833	.741	.087	.530

PU3	LC5	LC6	LC7	LC8	SA2	SA3	SA4	SA5	SA6
Pearson Correlation	0.072	0.119	0.078	0.067	.272*	-.039	.117	-.078	.107
Sig. (2-tailed)	0.533	0.299	0.496	0.56	.016	.734	.309	.499	.353

PU3	PDI3	PDI5	PDI6	PDI7	HCC1	HCC2	HCC3	HCC4	HCC5
Pearson Correlation	.134	.035	.116	-.206	.105	-.024	.118	.131	.130
Sig. (2-tailed)	.244	.764	.311	.071	.358	.832	.303	.253	.256

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). N = 78 Thai

Appendix BB: **Correlation SA5**

Table BB.1

SA5 Correlations for UK Data Group

SA5	PEOU 1	PEOU 2	PEOU 3	PEOU 4	PU1	PU2	PU3	PU4	BI1
Pearson Correlation	-0.007	.203*	0.007	0.009	0.152	0.137	0.191	.200*	-0.119
Sig. (2-tailed)	.946	.043	.946	.933	.132	.173	.057	.046	.239

SA5	BI2	A1	A2	A3	LI1	LI2	LI3	LI4	LI5
Pearson Correlation	-0.060	-0.038	-0.069	-0.073	0.022	0.049	0.160	-0.065	-0.064
Sig. (2-tailed)	.554	.710	.496	.469	.828	.631	.112	.519	.525

SA5	SN1	SN2	SN3	SN4	AA2	AA4	AA5	AA6	AA8
Pearson Correlation	.289**	.307**	-0.005	-0.041	.223*	.267**	.267**	.215*	0.174
Sig. (2-tailed)	.004	.002	.963	.685	.026	.007	.007	.032	.083

SA5	LC5	LC6	LC7	LC8	SA2	SA3	SA4	SA5	SA6
Pearson Correlation	.308**	.242*	0.141	.277**	.842**	.865**	.734**	1	.626**
Sig. (2-tailed)	.002	.015	.161	.005	.000	.000	.000		.000

SA5	PDI3	PDI5	PDI6	PDI7	HCC1	HCC2	HCC3	HCC4	HCC5
Pearson Correlation	.677**	.298**	.650**	.617**	.421**	.630**	.479**	.407**	.478**
Sig. (2-tailed)	.000	.003	.000	.000	.000	.000	.000	.000	.000

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). N = 100 UK

Appendix CC: **Corporate Significance and Relevance**

1. Thailand

2.57A -> BI (0.538), LI -> A (0.342), LI -> PEOU (0.434), Occ. Seniority -> BI (0.342), PEOU -> A (0.336), PEOU -> PU (0.438), and SN -> LI (0.279)

1.96Activist -> BI (0.216), Pragmatist -> BI (0.192), PU -> A (0.202), and SN -> PU (0.239)

1.65LC -> BI (0.118) and PU -> BI (0.166)

Table CC.1

Path Coefficients - Thailand

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
A -> BI	0.538	0.513	0.101	5.312	0
AA -> A	0.063	0.086	0.09	0.701	0.483
AA mod PEOU-A -> A	-0.054	-0.046	0.126	0.433	0.665
Activist -> BI	0.216	0.191	0.097	2.235	0.026
Age -> BI	0.036	0.029	0.118	0.305	0.761
Education -> BI	-0.132	-0.084	0.121	1.096	0.273
Gender -> BI	0.136	0.13	0.114	1.194	0.233
HCC -> BI	0.113	0.049	0.119	0.953	0.341
HCC mod PU-> BI	-0.026	-0.005	0.106	0.249	0.804
LC -> BI	-0.234	-0.139	0.121	1.934	0.053
LC -> LI	-0.067	-0.082	0.166	0.403	0.687

LC -> PEOU	0.142	0.108	0.136	1.04	0.298
LC mod LI -> BI	0.031	0.044	0.087	0.362	0.717
LC mod LI -> PEOU	0.138	0.13	0.132	1.043	0.297
LI -> A	0.342	0.291	0.115	2.966	0.003
LI -> BI	0.118	0.146	0.105	1.121	0.263
LI -> PEOU	0.434	0.44	0.128	3.391	0.001
Occ. Seniority -> BI	0.342	0.297	0.121	2.823	0.005
Org A -> BI	-0.037	-0.019	0.083	0.442	0.659
Org C -> BI	0.104	0.095	0.076	1.359	0.174
Org D -> BI	0.122	0.091	0.081	1.508	0.132
PDI -> BI	-0.127	-0.091	0.147	0.868	0.385
PDI -> LI	-0.165	0.028	0.276	0.598	0.55
PDI mod SN-> BI	-0.167	-0.008	0.158	1.057	0.291
PDI mod SN-> LI	-0.077	-0.024	0.132	0.589	0.556
PEOU -> A	0.336	0.354	0.109	3.084	0.002
PEOU -> PU	0.438	0.434	0.126	3.463	0.001
PU -> A	0.202	0.204	0.097	2.09	0.037
PU -> BI	0.166	0.147	0.092	1.805	0.071
Pragmatist -> BI	0.192	0.144	0.094	2.031	0.043
SA -> A	-0.188	-0.144	0.153	1.232	0.218
SA mod LI -> A	-0.107	-0.099	0.17	0.63	0.529
SN -> BI	0.151	0.211	0.114	1.333	0.183

SN -> LI	0.279	0.307	0.103	2.719	0.007
SN -> PU	0.239	0.25	0.114	2.106	0.035
Theorist -> BI	0.016	0.004	0.134	0.123	0.902

2. UK

2.57A -> BI (0.596), Activist -> BI (-0.229), LC -> LI (-0.240), LI -> PEOU (0.477), PEOU -> A (0.343), PU -> A (0.477), SN -> LI (0.490), SN -> PU (0.749), and Theorist -> BI (-0.248)

1.96PDI -> LI (0.234)

1.65AA mod PEOU-A -> A (-0.070), Pragmatist -> BI (-0.156), and SA -> A (-0.190)

Table CC.2
Path Coefficients - UK

UK	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
A -> BI	0.596	0.588	0.11	5.420	0
AA -> A	0.078	0.089	0.069	1.134	0.257
AA mod PEOU-> A	-0.070	-0.074	0.041	1.702	0.089
Activist -> BI	-0.299	-0.289	0.085	3.525	0
Age -> BI	0.082	0.078	0.067	1.22	0.223
Education -> BI	0.015	0.006	0.058	0.25	0.803
Gender -> BI	0.081	0.067	0.061	1.319	0.187
HCC -> BI	0.042	0.055	0.089	0.475	0.635

HCC mod PU-BI -> BI	-0.073	-0.07	0.096	0.766	0.444
LC -> BI	-0.078	-0.071	0.065	1.199	0.231
LC -> LI	-0.240	-0.228	0.093	2.573	0.01
LC -> PEOU	-0.155	-0.184	0.1	1.539	0.124
LC mod LI-BI -> BI	0.038	0.031	0.053	0.718	0.473
LC mod LI-PEOU -> PEOU	0.049	0.047	0.095	0.51	0.61
LI -> A	0.102	0.107	0.073	1.403	0.161
LI -> BI	0.111	0.127	0.076	1.454	0.146
LI -> PEOU	0.477	0.48	0.091	5.269	0
Occ. Seniority -> BI	0.059	0.054	0.055	1.071	0.284
Org A -> BI	-0.041	-0.044	0.077	0.537	0.591
Org C -> BI	-0.048	-0.044	0.067	0.723	0.47
Org D -> BI	0.055	0.057	0.072	0.762	0.446
PDI -> BI	0.106	0.084	0.095	1.112	0.266
PDI -> LI	0.234	0.225	0.096	2.436	0.015
PDI mod SN-BI -> BI	0.029	0.024	0.086	0.333	0.739
PDI mod SN-LI -> LI	0.079	0.087	0.083	0.948	0.343
PEOU -> A	0.343	0.312	0.084	4.075	0
PEOU -> PU	0.073	0.095	0.127	0.575	0.565
PU -> A	0.477	0.5	0.072	6.578	0
PU -> BI	0.076	0.086	0.12	0.632	0.528

Pragmatist -> BI	-0.156	-0.148	0.088	1.775	0.076
SA -> A	-0.19	-0.178	0.098	1.943	0.052
SA mod LI-A -> A	0.076	0.065	0.064	1.188	0.235
SN -> BI	0.049	0.022	0.125	0.393	0.694
SN -> LI	0.49	0.5	0.098	4.978	0
SN -> PU	0.749	0.73	0.105	7.105	0
Theorist -> BI	-0.248	-0.249	0.082	3.031	0.003

3. USA

2.57A -> BI (0.382), Gender -> BI (0.113), LI -> A (0.195), LI -> PEOU (0.491), PEOU -> PU (0.370), PU -> A (0.514), SA -> A (-0.166), SN -> BI (0.362), SN -> LI (0.513), and SN -> PU (0.414)

1.96LI -> BI (0.143), PDI -> LI (0.175), PDI mod SN-BI -> BI (0.107), and PEOU -> A (0.151)

1.65Pragmatist -> BI (-0.093)

Table CC.3

Path Coefficients - USA

USA	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
A -> BI	0.382	0.389	0.071	5.396	0
AA -> A	0.037	0.045	0.045	0.832	0.406
AA mod PEOU -> A	-0.041	-0.04	0.041	0.99	0.322
Activist -> BI	-0.068	-0.071	0.054	1.244	0.214
Age -> BI	0.033	0.034	0.042	0.776	0.438

Education -> BI	0.032	0.035	0.043	0.738	0.461
Gender -> BI	0.113	0.107	0.042	2.693	0.007
HCC -> BI	0.082	0.055	0.088	0.933	0.351
HCC mod PUI -> BI	-0.042	-0.023	0.069	0.607	0.544
LC -> BI	-0.005	0	0.048	0.104	0.917
LC -> LI	-0.083	-0.095	0.059	1.414	0.158
LC -> PEOU	-0.078	-0.085	0.06	1.308	0.191
LC mod LI -> BI	-0.017	-0.014	0.038	0.446	0.655
LC mod LI -> PEOU	-0.005	-0.008	0.066	0.072	0.943
LI -> A	0.195	0.2	0.065	2.998	0.003
LI -> BI	0.143	0.137	0.059	2.451	0.014
LI -> PEOU	0.491	0.491	0.062	7.915	0
Occ. Seniority -> BI	0.039	0.036	0.045	0.875	0.382
Org A -> BI	-0.013	-0.007	0.045	0.29	0.772
Org C -> BI	0.02	0.021	0.035	0.591	0.555
Org D -> BI	0.023	0.024	0.043	0.536	0.592
PDI -> BI	-0.096	-0.074	0.07	1.379	0.168
PDI -> LI	0.175	0.174	0.074	2.379	0.018
PDI mod SN -> BI	0.107	0.091	0.054	1.966	0.05
PDI mod SN -> LI	-0.06	-0.049	0.061	0.989	0.323
PEOU -> A	0.151	0.149	0.067	2.272	0.023
PEOU -> PU	0.37	0.37	0.063	5.906	0

PU -> A	0.514	0.503	0.081	6.368	0
PU -> BI	-0.01	0.004	0.074	0.133	0.894
Pragmatist -> BI	-0.093	-0.096	0.049	1.879	0.061
SA -> A	-0.166	-0.168	0.053	3.130	0.002
SA mod LI-> A	0.062	0.058	0.038	1.648	0.1
SN -> BI	0.362	0.349	0.072	5.004	0
SN -> LI	0.513	0.512	0.057	9.065	0
SN -> PU	0.414	0.417	0.065	6.389	0
Theorist -> BI	-0.061	-0.056	0.049	1.230	0.219

Appendix DD: **Corporate R2**

1. Thailand

Approximately 61.6% of the variance in BI could be accounted for by A, HCC, LC, LI, PDI, PU, and SN while 50% of the variance in A can be accounted for by AA, LI, PEOU, PU, and SA. Approximately 31.4% of the variance in PU can be accounted for by PEOU and SN, while at the weak end only 13.1% of the variance in LI can be accounted for by LC, PDI, and SN and 11.9% of the variance in PEOU can be accounted for by LC, LI and SA.

Table DD.1
R squared for Thai Corporate Level Data

	R Square	R Square Adjusted
A	0.571	0.528
BI	0.778	0.7
LI	0.138	0.091

PEOU	0.17	0.136
PU	0.347	0.33

2. UK

In the UK data group, the R2 and R2 adjusted are all much larger then in Thai data group. Approximately 72.5% of the variance in BI could be accounted for by A, HCC, LC, LI, PDI, PU, and SN while 72% of the variance in A can be accounted for by AA, LI, PEOU, PU, and SA. Furthermore, approximately 63.9% of the variance in PU can be accounted for by PEOU and SN, while 41.1% of the variance in LI can be accounted for by LC, PDI, and SN and 29.9% of the variance in PEOU can be accounted for by LC, LI and SA.

Table DD.2
R squared for UK Corporate Level Data

	R Square	R Square Adjusted
A	0.762	0.744
BI	0.8	0.75
LI	0.438	0.414
PEOU	0.297	0.275
PU	0.64	0.632

3. USA

In the USA data group, the R2 and R2 adjusted fall between those of the UK data group and the Thai data group. Approximately 63.7% of the variance in BI could be accounted for by A, HCC, LC, LI, PDI, PU, and SN while 57.4% of the variance in A can be accounted for by AA, LI, PEOU, PU, and SA. Furthermore, approximately 47.89% of the variance in PU can be accounted for by PEOU and SN, while 33.4% of the variance in LI can be accounted for by LC, PDI, and SN and 26.7% of the variance in PEOU can be accounted for by LC, LI and SA.

Table DD.3

R squared for USA Corporate Level Data

	R Square	R Square Adjusted
A	0.575	0.561
BI	0.664	0.632
LI	0.329	0.317
PEOU	0.26	0.25
PU	0.465	0.46

Appendix EE: Corporate Assessment of Effect Sizes of f^2

1. Thailand

Large Effect: the only predictor variable with a value above 0.35 is A with regards to its impact on BI

Medium Effect: the predictor variables with values above 0.15 but below 0.35 are LC imoact on BI (0.160), LI impact on A (0.159), LI impact on PEOU (0.191), Occupational Seniority on BI (0.213), PEOU impact on A (0.171), and PEOU impact on PU (0.228)

Small effect: the predictor variables with values above 0.02 but below 0.15 are Learning Style – Activist impact on BI (0.102), Education on BI (0.04), Gender on BI (0.055), HCC on BI (0.04), LC on PEOU, the moderating effect of LC on LI-PEOU on PEOU (0.029), LI impact on BI (0.03), Organization C on BI (0.037), Organization D on BI (0.055), PDI on BI (0.062), PDI on LI (0.031), moderating effect of PDI on the relationship SN-BI impact on BI (0.092), PU on A (0.06), PU on BI (0.057), Pragmatist impact on BI (0.076), SA on A (0.081), SN on BI (0.059), SN on LI (0.076) and SN on PU (0.068).

Table EE.1

f^2 – Thai data group

	A	BI	LI	PEOU	PU
A		0.561			
AA	0.008				
AA mod PEOU-A	0.009				
Activist		0.102			
Age		0.002			
Education		0.04			
Gender		0.055			
HCC		0.04			
HCC mod PU-BI		0.003			
LC		0.16	0.005	0.024	
LC mod LI-BI		0.004			
LC mod LI-PEOU				0.029	
LI	0.159	0.03		0.191	
Occ. Seniority		0.213			
Org A		0.004			
Org C		0.037			
Org D		0.055			
PDI		0.062	0.031		

PDI mod SN-BI		0.092			
PDI mod SN-LI			0.006		
PEOU	0.171				0.228
PU	0.06	0.057			
Pragmatist		0.076			
SA	0.081				
SA mod LI-A	0.015				
SN		0.059	0.076		0.068
Theorist		0.001			

2. UK

Table EE.2

f squared for UK Corporate Level Data

	A	BI	LI	PEOU	PU
A		0.424			
AA	0.018				
AA mod PEOU-A	0.022				
Activist		0.184			
Age		0.024			
BI					
Education		0.001			
Gender		0.025			

HCC		0.005			
HCC mod PU-BI		0.019			
LC		0.018	0.081	0.031	
LC mod LI-BI		0.006			
LC mod LI-PEOU				0.003	
LI	0.028	0.03		0.295	
Occ. Seniority		0.013			
Org A		0.006			
Org C		0.009			
Org D		0.011			
PDI		0.022	0.071		
PDI mod SN-BI		0.004			
PDI mod SN-LI			0.012		
PEOU	0.241				0.008
PU	0.553	0.007			
Pragmatist		0.053			
SA	0.136				
SA mod LI-A	0.024				
SN		0.003	0.333		0.86
Theorist		0.121			

Large Effect: the predictor variables with a value above 0.35 is PU with regards to its impact on A (0.553), A impact on BI (0.424), and SN – PU (0.868)

Medium Effect: the predictor variables with values above 0.15 but below 0.35 are Activist -> BI (0.184), LI -> PEOU (0.295), PEOU impact on A (0.241), and SN-> LI (0.333)

Small effect: the predictor variables with values above 0.02 but below 0.15 are AA mod PEOU-A impact on A (0.022), Age -> BI (0.024), Gender ->BI (0.025), LC->BI (0.081), LC->PEOU (0.031), LI->A (0.028), LI->BI (0.03), PDI->BI (0.022), PDI->LI(0.071), Pragmatist->BI (0.053), SA->A (0.136), SA mod LI-A ->BI, Theorist ->BI (0.121),

3. USA

Large Effect: the predictor variables with a value above 0.35 are PU impact on A (0.377) and SN impact on LI (0.385).

Medium Effect: the predictor variables with values above 0.15 but below 0.35 are A impact on BI (0.152), LI -> PEOU (0.314), PEOU->PU (0.190), SN->BI(0.174) and SN->PU (0.237)

Small effect: the predictor variables with values above 0.02 but below 0.15 are Gender ->BI (0.033), LI->A (0.06), LI->BI (0.036), PD->LI (0.042), PD mod SN-BI -> BI (0.03), and SA->A (0.058)

Table EE.3

f squared for USA Corporate Level Data

	A	BI	LI	PEOU	PU
A		0.152			
AA	0.003				
AA mod PEOU-A	0.004				
Activist		0.008			
Age		0.003			
BI					
Education		0.002			
Gender		0.033			
HCC		0.012			
HCC mod PU-BI		0.004			
LC		0	0.009	0.008	
LC mod LI-BI		0.001			
LC mod LI-PEOU				0	
LI	0.06	0.036		0.314	
Occ. Seniority		0.004			
Org A		0			
Org C		0.001			
Org D		0.001			
PDI		0.017	0.042		
PDI mod SN-BI		0.03			
PDI mod SN-LI			0.006		

PEOU	0.031			0.19
PU	0.377	0		
Pragmatist		0.015		
SA	0.058			
SA mod LI-A	0.009			
SN		0.174	0.357	0.237
Theorist		0.007		

Appendix FF: **Corporate Predictive relevance q2**

1. Thailand

Table FF.1
Q^2 Thailand

	SSO	SSE	Q² (=1-SSE/SSO)
A	234	155.699	0.335
AA	390	390	
AA mod PEOU-A	78	78	
Activist	78	78	
Age	78	78	
BI	156	95.327	0.389
Education	78	78	
Gender	78	78	
HCC	312	312	
HCC mod PU-BI	78	78	
LC	312	312	

LC mod LI-BI	78	78		
LC mod LI-PEOU	78	78		
LI	390	389.413		0.002
Oc. Seniority	78	78		
Org A	78	78		
Org C	78	78		
Org D	78	78		
PDI	312	312		
PDI mod SN-BI	78	78		
PDI mod SN-LI	78	78		
PEOU	312	295.486		0.053
PU	312	240.551		0.229
Pragmatist	78	78		
SA	390	390		
SA mod LI-A	78	78		
SN	312	312		
Theorist	78	78		

q2 Thai data group

Large predictive relevance: none of the predictor variables had a value above 0.35.

Medium predictive relevance: the predictor variable with values above 0.15 but below 0.35 is A-BI

Small predictive relevance: the predictor variables with values above 0.02 but below 0.15 are AA-A, Activist (LS) – BI, HCC-BI, LC-BI, LC-PEOU, LI-BI, LI-A, LI-PU, Occupational Seniority – BI, PDI-BI, PDI-LI, PEOU-A, PEOU-PU, PU-A, SN-BI, SN-PU, SN-LI, Theorist (LS) - BI

Table FF.2
q^2 Thai data group

	BI	A	PEOU	PU	LI
A	0.242				
AA		-0.036			
Activist (LS)	0.021				
Age	-0.015				0.001
Edu	0.011				0.001
Gender	0.016				
HCC	-0.044				
LC	0.028		-0.021		-0.005
LI	-0.038	0.135	0.084	0.003	0.002
Occ. Sen	0.072				0.001
PDI	-0.046		-0.001		-0.039
PEOU	0.003	0.060		0.102	0.001
Pragmatist (LS)	0.018				
PU	0.007	0.021	0.001		0.003
SA	-0.002	0.018			
SN	0.051		0.001	0.021	0.038
Theorist (LS)	-0.038				

2. United Kingdom

Table FF.3
Q^2 UK

	SSO	SSE	Q^2 (=1-SSE/SSO)
A	300	133.838	0.554
AA	500	500	
AA mod PEOU-A	100	100	
Activist	100	100	
Age	100	100	
BI	200	88.004	0.56
Education	100	100	
Gender	100	100	
HCC	400	400	
HCC mod PU-BI	100	100	
LC	400	400	
LC mod LI-BI	100	100	
LC mod LI-PEOU	100	100	
LI	500	404.2	0.192
Occ. Seniority	100	100	
Org A	100	100	
Org C	100	100	
Org D	100	100	
PDI	400	400	
PDI mod SN-BI	100	100	
PDI mod SN-LI	100	100	
PEOU	400	339.549	0.151

PU	400	207.999		0.48
Pragmatist	100	100		
SA	500	500		
SA mod LI-A	100	100		
SN	400	400		
Theorist	100	100		

q^2 UK data group

Table FF.4
q^2 UK data group

	BI	A	PEOU	PU	LI
A	0.195				
AA		0.007			
Activist (LS)	0.070				
Age	0.002				
Edu	-0.007				
Gender	0.005				
HCC	-0.014				
LC	-0.009		-0.004		0.025
LI	-0.020	0.002	0.128		
Occ. Sen	0.002				
PDI	-0.093		-0.002		0.027
PEOU	0.002	0.159			-0.001
Pragmatist (LS)	0.020				

PU	-0.002	0.220			
SA		0.002			
SN	-0.098		0.002	0.448	0.101
Theorist (LS)	0.050				

Large predictive relevance: only one predictor variable had a predictive relevance value above (±) 0.35 on the specified endogenous variable SN-PU.

Medium predictive relevance: the predictor variables with values above (±) 0.15 but below (±) 0.35 are A-BI, PEOU-A, and PU-A.

Small predictive relevance: the predictor variables with values above (±) 0.02 but below (±) 0.15 are Activist (LS) – BI, LC – LI, LI – BI, LI – PEOU, PDI – BI, PDI – LI, Pragmatist (LS) – BI, SN – BI, SN – LI, Theorist (LS) – BI.

3. United States

Table FF.5

Q^2 USA data group

	SSO	SSE	Q^2 (=1-SSE/SSO)
A	699	411.428	0.411
AA	1,165.00	1,165.00	
AA mod PEOU-A	233	233	
Activist	233	233	
Age	233	233	
BI	466	244.817	0.475
Education	233	233	
Gender	233	233	
HCC	932	932	
HCC mod PU-BI	233	233	
LC	932	932	
LC mod LI-BI	233	233	
LC mod LI-PEOU	233	233	
LI	1,165.00	967.421	0.17
Occ. Seniority	233	233	
Org A	233	233	
Org C	233	233	
Org D	233	233	
PDI	932	932	

PDI mod SN-BI	233	233	
PDI mod SN-LI	233	233	
PEOU	932	809.336	0.132
PU	932	621.289	0.333
Pragmatist	233	233	
SA	1,165.00	1,165.00	
SA mod LI-A	233	233	
SN	932	932	
Theorist	233	233	

USA

Large predictive relevance: None of the predictor variable had a predictive relevance value above (±) 0.35 on the specified endogenous.

Medium predictive relevance: There are 2 predictor variables with values above (±) 0.15 but below (±) 0.35. They are PU-A and SN-LI.

Small predictive relevance: the predictor variables with values above (±) 0.02 but below (±) 0.15 are A-BI, LI-BI, LI-A, LI – PEOU, PEOU-PU, SA – A, SN – BI, and SN-PU.

Table FF.6
q^2 USA data group

	BI	A	PEOU	PU	LI
A	0.082				
AA					
Activist (LS)	0.004				

Age					
Edu	-0.002				
Gender	0.013				
HCC	-0.004				
LC	-0.002				0.004
LI	0.027	0.025	0.139	-0.007	
Occ. Sen	-0.006				
PDI	0.015				0.017
PEOU	0.002	0.017		0.106	
Pragmatist (LS)	0.006				
PU	-0.006	0.199			-0.004
SA	0.000	0.025			
SN	0.088			0.135	0.151
Theorist (LS)					

Appendix GG: **Regression Analysis**

Table GG.1

Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.190[a]	0.036	0.034	0.60485
2	0.293[b]	0.086	0.081	0.58973

a. Predictors: (Constant), PD

b. Predictors: (Constant), PD, LC

Table GG.2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.583	1	5.583	15.262	0.000[b]
	Residual	149.632	409	0.366		
	Total	155.215	410			
2	Regression	13.321	2	6.660	19.151	0.000[c]
	Residual	141.895	408	0.348		
	Total	155.215	410			

a. Dependent Variable: LI

b. Predictors: (Constant), PD

c. Predictors: (Constant), PD, LC

Table GG.3
Regression Coefficients

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.468	0.104		33.479	0.000
	PD	0.133	0.034	0.190	3.907	0.000
2	(Constant)	3.701	0.112		32.909	0.000
	PD	0.181	0.035	0.258	5.216	0.000
	LC	-0.164	0.035	-0.234	-4.717	0.000

a. Dependent Variable: LI

1. Thailand

Table GG.4
Model Summary – Thai

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.263	0.069	0.004	0.61924

a. Predictors: (Constant), SA, AA, HCC, PD, LC

Table GG.5
ANOVA (LI) – **Thai**

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.049	5	0.410	1.069	0.385[c]
	Residual	27.609	72	0.383		
	Total	29.658	77			

a. Dependent Variable: LI

b. Selecting only cases for which Thai = Thai

c. Predictors: (Constant), SA, AA, HCC, PD, LC

Table GG.6

Regression Coefficients (LI) – **Thai**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.563	0.689		3.717	0.000
	AA	0.210	0.151	0.168	1.391	0.169
	HCC	0.114	0.119	0.137	0.958	0.341
	LC	-0.089	0.118	-0.120	-0.750	0.455
	PD	-0.026	0.126	-0.033	-0.208	0.836
	SA	0.103	0.131	0.130	0.783	0.436

a. Dependent Variable: LI

b. Selecting only cases for which Thai = Thai

2. UK

Table GG.7
Model Summary

Model	R Nationality = UK	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.346[a]	0.119	0.110	0.53614
2	0.435[b]	0.190	0.173	0.51698
3	0.501[c]	0.251	0.228	0.49946

a. Predictors: (Constant), AA

b. Predictors: (Constant), AA, LC

c. Predictors: (Constant), AA, LC, PD

Table GG.8

ANOVA (LI) – **UK**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.819	1	3.819	13.286	0.000[c]
	Residual	28.170	98	0.287		
	Total	31.988	99			
2	Regression	6.064	2	3.032	11.344	0.000[d]
	Residual	25.925	97	0.267		
	Total	31.988	99			
3	Regression	8.040	3	2.680	10.744	0.000[e]
	Residual	23.948	96	0.249		
	Total	31.988	99			

a. Dependent Variable: LI

b. Selecting only cases for which Nationaity = British

c. Predictors: (Constant), AA

d. Predictors: (Constant), AA, LC

e. Predictors: (Constant), AA, LC, PD

Table GG.9

Regression Coefficients (LI) – **UK**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.795	0.293		9.527	0.000
	AA	0.288	0.079	0.346	3.645	0.000
2	(Constant)	3.173	0.311		10.186	0.000
	AA	0.314	0.077	0.376	4.085	0.000
	LC	-0.189	0.065	-0.267	-2.898	0.005
3	(Constant)	3.093	0.302		10.234	0.000
	AA	0.213	0.082	0.255	2.577	0.011
	LC	-0.252	0.067	-0.356	-3.775	0.000
	PD	0.198	0.070	0.295	2.815	0.006

a. Dependent Variable: LI

b. Selecting only cases for which Nationality = British

3. USA

Table GG.10

Model Summary – USA

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	0.176[a]	0.031	0.027	0.61709
2	0.263[b]	0.069	0.061	0.60601

a. Predictors: (Constant), PD

b. Predictors: (Constant), PD, LC

Table GG.11

ANOVA (LI) – **USA**

	Model	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	2.804	1	2.804	7.364	0.007
1	Residual	87.965	231	0.381		
	Total	90.769	232			
	Regression	6.301	2	3.150	8.579	0.000
2	Residual	84.468	230	0.367		
	Total	90.769	232			

a. Dependent Variable: LI

b. Selecting only cases for which Nationaity = American

c. Predictors: (Constant), PD

d. Predictors: (Constant), PD, LC

Table GG.12

Regression Coefficients (LI) – **USA**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.556	0.138		25.817	0.000
	PD	0.121	0.045	0.176	2.714	0.007
2	(Constant)	3.770	0.152		24.806	0.000
	PD	0.150	0.045	0.218	3.356	0.001
	LC	-0.139	0.045	-0.201	-3.086	0.002

a. Dependent Variable: LI

b. Selecting only cases for which Nationaity = American

Appendix HH: **Exploration**

Table HH.1

Exploration Path Coefficients and t-statistics

	Corp	T	P	Thai	T	P	UK	T	P	US	T	P	Pilot	T	P
A -> BI	0.44	8.93	0.00	0.53	5.39	0.00	0.68	6.54	0.00	0.35	5.12	0.00	0.49	5.32	0.00
AA -> PEOU	0.15	3.21	0.00	0.02	0.13	0.89	0.29	2.91	0.00	0.19	3.42	0.00	0.17	3.13	0.00
AA -> SN	0.20	3.86	0.00	0.27	2.16	0.03	0.41	4.04	0.00	0.14	2.04	0.04	0.12	1.95	0.05
HCC -> PU	0.09	2.16	0.03	0.14	1.46	0.15	0.03	0.29	0.77	0.10	1.66	0.10	0.11	2.50	0.01
LC -> A	-0.07	2.04	0.04	-0.03	0.30	0.77	-0.16	2.33	0.02	-0.05	1.04	0.30	0.08	1.47	0.14
LC-> LI	-0.09	1.99	0.05	0.00	0.02	0.98	-0.18	1.73	0.08	-0.05	0.96	0.34	0.05	0.72	0.48
LC-> SN	-0.21	4.50	0.00	-0.08	0.56	0.57	-0.22	2.24	0.03	-0.22	3.54	0.00	0.02	0.33	0.75
LC mod PU-> A	0.12	2.65	0.01	0.06	0.45	0.65	0.11	1.76	0.08	0.14	2.96	0.00	-0.06	1.16	0.25
LI -> A	0.20	3.71	0.00	0.42	3.36	0.00	0.05	0.63	0.53	0.19	2.96	0.00	0.18	3.03	0.00
LI -> BI	0.13	3.48	0.00	0.21	2.14	0.03	0.14	1.93	0.05	0.13	2.62	0.01	0.03	0.57	0.57
LI -> PEOU	0.45	8.95	0.00	0.35	2.56	0.01	0.42	4.39	0.00	0.47	7.53	0.00	0.38	5.55	0.00
PDI -> SN	0.18	3.27	0.00	-0.12	0.49	0.62	0.25	2.41	0.02	0.16	1.07	0.28	0.24	3.73	0.00
PEOU -> A	0.22	4.11	0.00	0.35	3.30	0.00	0.31	4.17	0.00	0.15	2.37	0.02	0.22	3.06	0.00
PEOU -> PU	0.33	5.46	0.00	0.42	3.52	0.00	0.08	0.59	0.56	0.36	5.54	0.00	0.37	4.60	0.00
PU -> A	0.47	9.08	0.00	0.17	1.80	0.07	0.60	8.84	0.00	0.51	6.69	0.00	0.47	5.95	0.00
PU->BI	0.00	0.08	0.93	0.00	0.06	0.96	0.02	0.15	0.88	-0.02	0.29	0.77	0.23	3.32	0.00
SA -> A	-0.12	3.20	0.00	-0.18	1.30	0.19	-0.12	1.74	0.08	-0.13	2.67	0.01	0.00	0.08	0.94
SA mod A -> BI	-0.15	2.55	0.01	0.13	1.10	0.27	-0.02	0.14	0.89	-0.28	3.86	0.00	0.09	0.92	0.36
SA mod SN->BI	0.14	2.43	0.02	-0.04	0.34	0.74	0.00	0.04	0.97	0.24	3.28	0.00	-0.03	0.30	0.76

T = T Statistic / P= P value

Appendix II: Comparison Across Data Groups

Table II.1

Comparison Path Coefficients and t-statistics

	Corp	T	P	Thai	T	P	UK	T	P	US	T	P	Pilot	T	P
A -> BI	0.45	9.92	0.00	0.54	5.34	0.00	0.60	5.42	0.00	0.38	5.48	0.00	0.47	4.70	0.00
LI -> A	0.21	4.12	0.00	0.34	2.89	0.00	0.10	1.37	0.17	0.20	2.84	0.01	0.16	2.73	0.01
LI -> BI	0.14	3.62	0.00	0.12	1.14	0.26	0.11	1.38	0.17	0.14	2.40	0.02	0.02	0.28	0.78
LI -> PEOU	0.47	8.97	0.00	0.43	3.52	0.00	0.48	5.01	0.00	0.49	7.42	0.00	0.39	5.41	0.00
PEOU -> A	0.22	3.96	0.00	0.34	3.04	0.00	0.34	4.14	0.00	0.15	2.28	0.02	0.22	3.21	0.00
PEOU -> PU	0.34	5.65	0.00	0.44	3.56	0.00	0.07	0.57	0.57	0.37	6.00	0.00	0.38	4.48	0.00
PU -> A	0.45	8.88	0.00	0.20	2.13	0.03	0.48	6.85	0.00	0.51	6.09	0.00	0.46	6.03	0.00
PU -> BI	0.03	0.58	0.57	0.17	1.74	0.08	0.08	0.62	0.54	-0.01	0.13	0.90	0.22	3.36	0.00
SN -> BI	0.30	5.42	0.00	0.15	1.29	0.20	0.05	0.40	0.69	0.36	5.12	0.00	0.11	1.02	0.31
SN -> LI	0.46	10.37	0.00	0.28	2.61	0.01	0.49	5.13	0.00	0.51	8.97	0.00	0.41	5.72	0.00
SN -> PU	0.44	8.24	0.00	0.24	2.15	0.03	0.75	7.01	0.00	0.41	6.36	0.00	0.45	5.08	0.00

*T=T Statistics (|O/STDEV|) / P=P Values

Appendix JJ: **Mean, Median, Mode, and Percentiles**

Table JJ.1

Mean, Median, Mode, and Percentiles - Thai / Non-Thai

Thai			PEOU	PU	SN	BI	A	LI	AA	HCC	LC	PD	SA
Non-Thai													
	Mean		3.91	3.76	3.79	4.02	3.97	3.89	3.65	3.03	2.27	2.99	2.45
	Median		4.00	4.00	3.75	4.00	4.00	4.00	3.80	3.00	2.25	3.00	2.20
	Mode		4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	1.00	3.00	1.00[a]
	Percentile	25	3.50	3.25	3.50	3.50	3.50	3.60	3.20	2.50	1.50	2.25	1.60
		50	4.00	4.00	3.75	4.00	4.00	4.00	3.80	3.00	2.25	3.00	2.20
		75	4.25	4.25	4.25	4.50	4.67	4.20	4.00	3.75	3.00	3.75	3.40
Thai													
	Mean		3.63	3.50	3.62	3.81	3.90	3.69	3.99	2.93	2.37	2.64	2.34
	Median		3.75	3.50	3.75	4.00	4.00	3.80	4.00	3.00	2.25	2.50	2.20
	Mode		4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.25	2.25	2.75	2.00
	Percentile	25	3.19	3.00	3.00	3.00	3.67	3.35	3.60	2.50	1.75	2.00	1.80
		50	3.75	3.50	3.75	4.00	4.00	3.80	4.00	3.00	2.25	2.50	2.20
		75	4.06	4.00	4.00	4.00	4.33	4.00	4.20	3.50	3.00	3.25	2.80

a. Multiple modes exist. The smallest value is shown

Non-Thai N = 333 / Thai N=78

Table JJ.2

Mean, Median, Mode, and Percentiles – **USA / Other**

Statistics			PEOU	PU	SN	BI	A	LI	AA	HCC	LC	PD	SA
Non-USA													
	Mean		3.78	3.66	3.71	3.93	3.92	3.78	3.80	3.12	2.44	2.88	2.49
	Median		3.75	3.88	3.75	4.00	4.00	3.80	3.80	3.00	2.25	2.75	2.40
	Mode		3.75[a]	4.00	4.00	4.00	4.00	4.00	4.00	3.00[a]	2.25	2.75	2.00
	Percentiles	25	3.50	3.00	3.25	3.50	3.67	3.40	3.40	2.50	2.00	2.25	1.80
		50	3.75	3.88	3.75	4.00	4.00	3.80	3.80	3.00	2.25	2.75	2.40
		75	4.25	4.25	4.25	4.50	4.67	4.20	4.20	3.75	3.00	3.50	3.20
USA													
	Mean		3.91	3.75	3.80	4.02	3.99	3.91	3.65	2.93	2.17	2.95	2.39
	Median		4.00	4.00	4.00	4.00	4.00	4.00	3.80	3.00	2.00	3.00	2.20
	Mode		4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.25	1.00	3.00	1.00
	Percentiles	25	3.50	3.25	3.25	3.50	3.33	3.60	3.20	2.25	1.25	2.25	1.60
		50	4.00	4.00	4.00	4.00	4.00	4.00	3.80	3.00	2.00	3.00	2.20
		75	4.25	4.25	4.25	4.75	4.67	4.40	4.00	3.50	3.00	3.75	3.40

[a]. Multiple modes exist. The smallest value is shown. Non-USA N=178 / USA N = 233

Table JJ.3

Mean, Median, Mode, and Percentiles – **UK / Other**

Statistics	PEOU	PU	SN	BI	A	LI	AA	HCC	LC	PD	SA
Non-UK											
Mean	3.84	3.68	3.75	3.96	3.97	3.86	3.73	2.93	2.22	2.88	2.38
Median	4.00	4.00	3.75	4.00	4.00	3.80	3.80	3.00	2.25	2.75	2.20
Mode	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.25	1.00	2.75	2.00
25 Percentile	3.50	3.00	3.25	3.50	3.67	3.40	3.40	2.25	1.50	2.25	1.60
50 Percentile	4.00	4.00	3.75	4.00	4.00	3.80	3.80	3.00	2.25	2.75	2.20
75 Percentile	4.25	4.25	4.25	4.50	4.67	4.20	4.20	3.50	3.00	3.50	3.00
											UK
Mean	3.90	3.78	3.79	4.02	3.93	3.85	3.64	3.27	2.50	3.07	2.60
Median	4.00	4.00	3.75	4.00	4.00	4.00	3.80	3.25	2.50	3.00	2.40
Mode	3.75	4.00	3.50	4.00	4.00	4.00	3.80	4.00	2.00[a]	3.00	2.00
25 Percentile	3.50	3.25	3.50	3.50	3.67	3.60	3.20	2.75	2.00	2.50	1.80
50 Percentile	4.00	4.00	3.75	4.00	4.00	4.00	3.80	3.25	2.50	3.00	2.40
75 Percentile	4.50	4.50	4.50	4.50	4.67	4.20	4.00	4.00	3.00	3.75	3.55

Non-UK N=311 / UK N=100

Appendix KK**: Pilot Study – Statistical Significance - Thai / non-Thai**

Table KK.1

Pilot Study - Test of Homogeneity of Variances – Thai / Other

		Levene Statistic	df1	df2	Sig.
AA	Based on Mean	0.030	1	237	0.862
	Based on Median	0.051	1	237	0.821
	Based on Median and with adjusted df	0.051	1	236.618	0.821
	Based on trimmed mean	0.029	1	237	0.865
LC	Based on Mean	3.820	1	237	0.052
	Based on Median	3.998	1	237	0.047
	Based on Median and with adjusted df	3.998	1	232.038	0.047
	Based on trimmed mean	3.820	1	237	0.052
PD	Based on Mean	5.120	1	237	0.025
	Based on Median	5.353	1	237	0.022
	Based on Median and with adjusted df	5.353	1	229.851	0.022
	Based on trimmed mean	5.106	1	237	0.025
HCC	Based on Mean	7.326	1	237	0.007
	Based on Median	4.273	1	237	0.040
	Based on Median and with adjusted df	4.273	1	207.396	0.040
	Based on trimmed mean	6.867	1	237	0.009
SA	Based on Mean	0.117	1	237	0.733
	Based on Median	0.058	1	237	0.810
	Based on Median and with adjusted df	0.058	1	236.917	0.810

	Based on trimmed mean	0.115	1	237	0.734
PEOU	Based on Mean	0.223	1	237	0.637
	Based on Median	0.313	1	237	0.576
	Based on Median and with adjusted df	0.313	1	236.776	0.576
	Based on trimmed mean	0.271	1	237	0.603
PU	Based on Mean	1.763	1	237	0.186
	Based on Median	1.307	1	237	0.254
	Based on Median and with adjusted df	1.307	1	236.344	0.254
	Based on trimmed mean	1.666	1	237	0.198
SN	Based on Mean	4.574	1	237	0.033
	Based on Median	6.055	1	237	0.015
	Based on Median and with adjusted df	6.055	1	236.100	0.015
	Based on trimmed mean	4.530	1	237	0.034
BI	Based on Mean	1.246	1	237	0.265
	Based on Median	2.313	1	237	0.130
	Based on Median and with adjusted df	2.313	1	234.800	0.130
	Based on trimmed mean	1.569	1	237	0.212
A	Based on Mean	5.246	1	237	0.023
	Based on Median	4.165	1	237	0.042
	Based on Median and with adjusted df	4.165	1	236.941	0.042
	Based on trimmed mean	4.581	1	237	0.033
LI	Based on Mean	0.191	1	237	0.662

Based on Median	0.553	1	237	0.458
Based on Median and with adjusted df	0.553	1	231.193	0.458
Based on trimmed mean	0.333	1	237	0.564

Table KK.2

Pilot Study – Mann-Whitney Test Descriptive Statistics (Thai / Other)

	N	Mean	Std. Deviation	Minimum	Maximum
AA	239	3.6360	0.613	1.60	5.00
LC	239	2.4874	1.010	1.00	5.00
PD	239	2.8975	0.897	1.00	5.00
HCC	239	3.7238	0.666	1.50	5.00
SA	239	2.8636	0.969	1.00	5.00
PEOU	239	3.7469	0.576	2.00	5.00
PU	239	3.8117	0.613	1.50	5.00
SN	239	3.6726	0.651	1.00	5.00
BI	239	3.7594	0.744	1.50	5.00
A	239	3.9135	0.702	1.67	5.00
LI	239	3.8736	0.568	1.80	5.00
ThaiNat	239	.90	.307	0	1

Table KK.3

Pilot Study – Mean Ranks (Thai / Other)

	ThaiNat	N	Mean Rank	Sum of Ranks
AA	Not Thai	25	114.68	2867.00
	Thai	214	120.62	25813.00
LC	Not Thai	25	118.76	2969.00
	Thai	214	120.14	25711.00
PD	Not Thai	25	136.00	3400.00
	Thai	214	118.13	25280.00
HCC	Not Thai	25	85.56	2139.00
	Thai	214	124.02	26541.00
SA	Not Thai	25	108.86	2721.50
	Thai	214	121.30	25958.50
PEOU	Not Thai	25	116.24	2906.00
	Thai	214	120.44	25774.00
PU	Not Thai	25	114.52	2863.00
	Thai	214	120.64	25817.00
SN	Not Thai	25	115.56	2889.00
	Thai	214	120.52	25791.00
BI	Not Thai	25	129.22	3230.50
	Thai	214	118.92	25449.50
A	Not Thai	25	138.10	3452.50

	Thai	214	117.89	25227.50
LI	Not Thai	25	110.68	2767.00
	Thai	214	121.09	25913.00

Total = 239

Table KK.4

Pilot Study - Mann-Whitney test (Thai / Other)

	AA	LC	PD	HCC	SA	PEOU	PU	SN	BI	A	LI
Mann-Whitney U	2542.0	2644.0	2275.0	1814.0	2396.50	2581.0	2538.0	2564.0	2444.5	2222.5	2442.0
Wilcoxon W	2867.0	2969.0	25280.0	2139.0	2721.5	2906.0	2863.0	2889.0	25449.5	25227.5	2767.0
Z	-0.409	-0.095	-1.225	-2.659	-0.853	-0.290	-0.423	-0.342	-0.722	-1.408	-0.718
Asymp. Sig. (2-tailed)	0.682	0.924	0.221	0.008	0.394	0.772	0.672	0.732	0.470	0.159	0.473

a. Grouping Variable: ThaiNat

Appendix LL**: Pilot Study SEM – Culture fit**

The first step is to assess the structural model for collinearity issues. Step two is to assess the significance and relevance of the structural model relationships. Step three is to assess the level of R^2. The forth step is to assess the effect sizes of f^2 and finally the last step is to assess the predictive relevance of Q^2 and the q^2 effect sizes.

Collinearity Assessment - Variance Inflation Factor (VIF)

Max outer VIF: 2.886 / Max inner VIF: 2.532

All VIFs are all well below the suggested upper limit of 5 (Hair Jr et al., 2013).

Table LL.1

Pilot Study outer VIFs

	VIF
A1	2.59
A2	2.573
A3	1.966
AA11	1.179
AA3	1.181
AA5	1.483
AA6	1.356
AA8	1.318
B1	1.531
B2	1.531
HCC10	1.385
HCC11	1.287
HCC4	1.352
HCC8	1.626
LC10	1.772
LC11	1.75
LC8	1.773
LC9	2.193
LI1	1.924
LI2	1.749
LI3	1.454
LI4	1.658
LI5	1.713

	VIF
PDI1	1.756
PDI3	1.362
PDI4	1.964
PDI6	1.357
PDI7	2.886
PDI9	2.62
PEOU1	1.486
PEOU2	1.391
PEOU3	2.053
PEOU4	1.469
PU1	1.842
PU2	1.85
PU3	2.368
PU4	1.86
SA4	1.479
SA5	2.232
SA6	2.129
SA7	2.107
SA8	1.623
SN1	1.831
SN2	2.087
SN3	1.561
SN4	1.603

Table LL.2
Pilot Study inner VIFs

	A	AA	BI	LI	PEOU	PU	SA	SN
A			2.532					
AA					1.034			
BI								
HCC				1.03		1.036		
LC							1	
LI	1.314		1.411		1.034			
SN mod LI-BI			1.065					
PDI			1.128					
PEOU	1.842					1.698		
PU	1.979		2.411					
SA								1
SN			2.372	1.03		1.699		

Assessment Significance and Relevance

Table LL.3

Pilot Study Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
A -> BI	0.48	0.487	0.084	5.684	0
AA -> PEOU	0.168	0.191	0.056	3.02	0.003
HCC -> PU	0.113	0.12	0.045	2.492	0.013
LC -> SA	0.456	0.466	0.061	7.499	0
LI -> A	0.18	0.182	0.059	3.047	0.002
LI -> BI	0.051	0.051	0.053	0.969	0.333
LI -> PEOU	0.377	0.375	0.068	5.573	0
Mod eff SN on LI-BI -> BI	0.078	0.074	0.032	2.422	0.016
PDI -> BI	0.105	0.106	0.042	2.51	0.012
PEOU -> A	0.222	0.233	0.075	2.96	0.003
PEOU -> PU	0.374	0.369	0.081	4.633	0
PU -> A	0.471	0.459	0.082	5.729	0
PU -> BI	0.223	0.221	0.068	3.273	0.001
SA -> SN	0.327	0.332	0.064	5.076	0
SN -> BI	0.092	0.088	0.093	0.992	0.322
SN -> LI	0.428	0.437	0.066	6.469	0
SN -> PU	0.431	0.435	0.082	5.226	0

BIOGRAPHY

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