CHAPTER I
INTRODUCTION

1.1 Introduction

In this chapter, the background of the study, statement of problem, research questions, as well as the research objectives, on mobile learning or m-learning are comprehensively outlined. Furthermore, this chapter will discuss the study's significance, as well as its contribution in the field of education. Then, the scope of the study is presented before proceeding into a discussion on the thesis structure, which is highlighted as the final part of this chapter.

1.2 Background of the Study

Mobile learning or m-learning has recently evolved into a real means of education (Stead, 2005). This has been proven through the growth and impact of groundbreaking technology and implementation of m-learning in the last decade. The growth and development of m-learning has also been in line with the evolution of online world (Alzaza & Yaakub, 2011), and the rapid development of mobile technology has propelled the creation of wireless m-learning on mobile devices (Yordanova, 2007; Pulla, 2013). Further, in line with the development of means of communication, the process of learning has also changed where it has evolved from the conventional face-to-face method to the distance learning and e-learning (Keegan, 2002; Azizan, 2010).

M-learning is defined as a type of learning that can potentially happen anytime or anywhere through the use of portable device (Kukulska & Shield, 2008; Behera, 2013) and this method of learning creates a more personalized learning experience (Shuler, 2009; Kim et al., 2013). Additionally, through the use of mobile devices, users would be able to access learning applications in a selection of diverse contexts when interacting with their environment or other users. Moreover, m-learning is increasingly growing and moving from asynchronous to synchronous instructor-to-learner communication and content delivery, owing to the rapid advances in technology. Specifically, asynchronous learning encompasses gaining information without instructor-learner interaction; such as reading and understanding an online article on a mobile device. On the other hand, synchronous learning comprises of active back and forth instructor-learner interaction, such as learner participating in online webinar by posting questions or making comments using video conferencing tool or a smartphone. M-learning is not restricted by time-and-space limitation, as it has now become a method that allows both educators and students to communicate through a variety of learning tools through the use of mobile gadgets (Mirski & Abfalter, 2004; Goundar, 2011). The uses of mobile devices vary and these include voice and video calls, internet and social networking sites access, sending and receiving emails, capturing and sharing pictures and videos and playing games. Thus, the handheld devices function in one of the three common qualities – namely utility, communication, or fun (Kaasinen, 2005; Mockus et al., 2011). In terms of education, specifically in the Malaysian higher education environment, the use of m-learning services will improve the availability of education. As reported by Robertson (2008) and Embi and Nordin, (2013), m-learning will meet the priority of the Malaysian education

strategy to brand its education. Furthermore, the Ministry of Education of Malaysia (2010) has reported a significant increase of international students studying in Malaysia, which totals from about 18, 240 students in 2001 to 72, 000 students in 2009. Given the critical importance of mobiles and tablets in the learning context, it is crucial that the country prepares itself to embrace the newly emerging technology, i.e., mobile learning. Also, according to Ismail et al., (2013) the Malaysian government has just recently announced that, as of 2013, students shall no longer be prohibited from bringing their mobile phone to school.

Practically, this change does shed some light on the potentials of using the device as a pedagogical tool. This is in line with the Malaysian government's national goal for Vision 2020. However, mobile learning is still in its embryonic stage in this country; thus, it is crucial that studies and research initiatives are carried out to develop its adoption into the Malaysian education system. . In fact, some groundbreaking studies in this area have been conducted by a number of Malaysian researchers, as in (Alzaza and Razak (2010); Ismail et al., (2013); Norazah et al., (2010); Hashim et al., (2011)).

Majority of countries, including Malaysia, are manifesting this trend. For instance, in 2011, the ratio of mobile phone subscriptions in Malaysia was at 119.2 for every 100 people (MCMC, 2012). In other words, on average, each consumer has multiple mobile-cellular network subscriptions, and this amount exceeds the 100% penetration. It has also been predicted by the government's communication and multimedia commission--otherwise known as MCMC (2012) – that these multiple subscriptions will carry on to achieve the possible penetration of 121% by year 2012's first quarter. This demonstrates

that the number of mobile phones has exceeded that of the Internet equipped conventional computers. However, albeit success stories of m-learning in the western countries, more investigation on this type of learning should be done in the context of Malaysia (Embi & Nordin, 2013). In support to this notion, Liu and Han (2010) are of the opinion that m-learning has yet to achieve its maximum potential and there also exists a significant gap between what is offered and what is used.

1.3 Problem Statement

Researchers have shown great interest on the success or failure of mobile learning and have so far been mainly investigating into the matter post-trial (Shuler et al., 2012; Embi & Nordin, 2013). As such, before m-learning is implemented, it is necessary to probe into the elements that impact the acceptance of students, such as factors of acceptance, limitations and requirements (Nassuora, 2012; Mtebe & Raisamo, 2014). This is done to help ensure that the money and time invested into the implementation of the system are well spent and hopefully would generate success (i.e. in terms of students' acceptance). Furthermore, the investigation could assist universities in to align their strategic planning with the demands of the students – all of which would lead to better investment in technology (Al-matari et al., 2013; Embi & Nordin, 2013). Also, as indicated by Williams (2009) and Alzaza and Yaakub (2011), m-learning is a significant alternative platform for learning services, in which having the knowledge on the influencing factors of m-learning acceptance among learners in higher education institutions is crucial. Aside from that, as

stated by Liu and Han (2010), an individual's subjective willingness and cognitive engagement in m-learning activities is one of the success keys for m-learning.

Further, when factors associated to acceptance of mobile learning are identified, the universities implementing this learning method can improve on the delivery of services to the students. Apart from that, when these factors are incorporated into the business process, education and learning will be more efficient and there will be an increase in students' loyalty (Alzaza & Yaakub, 2011; Hilmi et al., 2012; Pimpaka, 2013; Mac Callum & Lynn, 2013; Iyamu & Mtshali, 2013). However, according to Al-matari et al., (2013), the university would have to expect the potential factors that may influence students' intention and understand how the factors could encourage them to use m-learning in order to invest the developments of mobile service and content properly. Nonetheless, it would be hard for the students to get the information if they fail to accept a new technology.

However, factors such as service quality, social influence and culture factor impede the involvement of learner and faculty in m-learning or acceptance of new information technology (Liu & Han, 2010; Ariffin, & Dyson, 2012; Cheon et al., 2012; Shuler et al., 2012; Pimpaka, 2013; Al-Qudah & Kamsuriah, 2014; Din et al., 2014). As such, this necessitates a research that identifies the factors that are considered vital in the acceptance of m-learning from the perspective of the university students.

Based on the discussions above, it is evident that there are two prevalent issues in the implementation of m-learning in the higher education institutions. These issues are disparity with regard to the perceptions of technology between students and the

university, and insufficient knowledge and incorporation of students' acceptance when deciding on technology investment (Almatari et al., 2013; Alrasheedi & Capretz, 2015). This is why it is important to look into the factors, limitations and requirements influencing acceptance of m-learning among students in higher learning institutions. Based on the abovementioned, ascertaining the underlying factors or dimensions that influence the acceptance of students towards m-learning becomes the aim of this study. Then, this study will attempt to formulate a model of mobile learning acceptance.

Among the factors that are found to be affecting the acceptance of students towards m-learning are service quality, social influence and cultural differences. Additionally, the factor of service quality also affects users' acceptance intention. Furthermore, according to Liu and Han (2010) it service quality also shows a positive causal relationship between the satisfaction of user concerning a web portable, as well as the perceived overall quality of service. Also, according to Abu-al-aish and Love (2013), service quality has an effect on users' acceptance intention. Therefore, the service quality is an important determinant of students' attitude towards using m-learning. Moreover, understanding the services quality factor will help universities to deliver high quality services to students and improve their pedagogical and learning strategic plans.

Apart from that, the most questioned aspect of student`s interest of m-learning is the understanding of social influence, as described in (Cruz et al., 2014), This also measures the extent to which an individual views that significant others believe he or she should utilize the new system. Hence, prior studies have demonstrated that a student`s decision is

normally influenced by peer students or by other people such as instructors and parents (Miller et al., 2003; Abu-al-aish & Love, 2013).

Aside from that, considering that the market for mobile learning has gradually become global, cultural difference also becomes an important factor; thus universities or training organizations should have the knowledge of cultural difference so that they would earn the significant competitive edge (Ariffin, & Dyson, 2012 ; Pimpaka, 2013). According to Ariffin (2011), the cultural perspectives of mobile learning in Malaysia context is an aspect that has yet to be covered.

There is a need to re-conceptualize learning for the mobile age, to recognize the essential role of mobility and communication in the process of learning, and to indicate the importance of context in establishing meaning, and the transformative effect of digital networks in supporting virtual communities that transcend barriers of quality and culture. So, the effectiveness of existing models still needs to be enhanced -- to which researchers have indicated certain factors must be taken into consideration such as the service quality, social influence and cultural factor {(Abu-al-aish & Love 2013; Ariffin, & Dyson, 2012 ; Pimpaka, 2013)}. This study is essential in bridging the gap in the development of services in order to create more efficiency and relevance in the context of higher education environment -- all of which could be achieved through the expansion and use of the Technology Acceptance Model (TAM) and the Innovation Diffusion Theory (IDT).

1.4 Research Questions

The aforementioned problems in the section 1.3 highlight three research questions that require answers. These are:

1. What are the user requirements towards the use of m-learning services in the higher education environment?

2. What are the factors and variables that could influence the acceptance of m-learning services among students?

3. What is the relationship between compatibility and perceived ease of use and perceived usefulness?

1.5 Research Objectives

1. To investigate students' awareness and requirements regarding mobile learning services in the higher education environment.

2. To identify the factors and variables that influence the acceptance m-learning services among students.

3. To identify the relationship between compatibility and perceived ease of use and perceived usefulness.

1.6 Significance of the Study

People from many walks of life nowadays use mobile phone for many purposes, but mainly as a means to communicate. Thus, mobile technology has become a part of the modern human life. Owing to the consistent growth in technology, universities are keen to use this channel in providing learning services as an important alternative. As such, this study aims to contribute to the theory, methodology, and practical usage of mobile technology in the higher education setting.

Additionally, through the expansion of the Technology Acceptance Model (TAM) and the Innovation Diffusion Theory (IDT), the integral theoretical paradigm that could address a vast continuum of technical, administrative, as well as student problems associated with m-learning could be created. These aspects serve as the aim of this study. Apart from this, the empirical evidence generated by this study will give a new perspective on how m-learning can stimulate students' acceptance and interest.

There are three crucial aspects raised by the current research - service quality, social influence and culture - and these aspects are considered vital in improving students' learning process {(Abu-al-aish & Love 2013; Ariffin, & Dyson, 2012; Pimpaka, 2013)}. Simultaneously, this study attempts to convince the administrators of the university to be aware of the aspects affecting the use of m-learning. Considering this, the research hopes to generate an assessment tool, which will assist the university administrators in steering the process of m-learning that would result in students' adoption of the learning.

Another contribution of this study is that, in the context of higher education setting, this study addresses the connection between acceptance of students and the effects of m-learning use. This association could turn students into independent learning individuals; they are no longer the unresponsive clients of teaching. This would change the students' learning nature, as learning will occur at any time or place. Not only that, information on the factors influencing students' acceptance of m-learning would provide universities with beneficial guidance to pay attention to the most significant factors that encourage students to use their m-learning.

Additionally, this research sheds light on the limitations and requirements to the acceptance of student of m-learning. As such, the field of m-learning will benefit from this study's vital theoretical contribution, which will consequently lead to the establishment of more effective and more meaningful m-learning services for context of the higher education. Also, by attempting to reduce reluctance among the universities in Malaysia to implement m-learning as one of their educational services, this study pursues to identify various factors that could mold the success in implementing m-learning.

Therefore, it is hoped that this research could provide support to the existing proposed solutions to these problems and if so, this could translate to the acceptance of m-learning among Malaysian higher learning institution students. This study also will assist in discovering both the motivating and impeding factors in the acceptance of m-learning. Holistically, through this study, the academicians could be aided in formulating efficient ways to stimulate students' awareness of m-learning benefits.

The outcome from this study will provide support to the existing evidence on information system and the success of m-learning service implementation. This owes to the fact that the study provides the crucial information, which enables application. The work conducted in this study will assist universities in creating and achieving full acceptance of m-learning aside from establishing the vital attitude for technology and their relationship with the focus on use, usage, user satisfaction and net benefits of m-learning.

1.7 Scope of the Study

There are two categories in the research on m-learning environment namely, infrastructure of technology, and the services.

This research delves into the relationship between adoption and behavior of use with regard to the informative services of m-learning in the setting of higher education. However, the factors addressed in the research are the effects of m-learning usage in the higher education environment; while the focal point of this research are students of public universities in Malaysia. However, it is important to note that this study is only focusing on utilizing m-learning services in the higher education environment and therefore, the aspects of learning process or educational aspects will not be discussed. As m-learning includes the use of mobile devices, this research has stipulated that for the context of this study, mobile devices are comprised of handheld mobile phones, smart phones, and PDAs. Also, a model is proposed by this research and the model comprises of crucial factors leading to the acceptance of the implementation of m-learning in the context of the

International Islamic University of Malaysia (IIUM) and Universiti Sains Islam Malaysia (USIM).

1.8 Thesis Structure

This thesis contains five chapters whiles this chapter describes about the background of this study, the remaining discuss about the study in-depth. In short, each chapter is obtained in the following paragraphs.

Chapter 2: Literature Review

This chapter describes the concept of learning, electronic learning systems, and mobile learning in higher education institutes and necessities for accept m-learning. The discussion will be supplemented with an explanation of current m-learning implementations in Malaysia. Also, theories and models related to the acceptance of mobile learning are highlighted.

Chapter 3: Research Design and Methodology

Chapter three outlines the research design and methodology. Specifically, this chapter entails the descriptions on the research model, research instrument, research hypotheses, research design, population, methods of sampling and sample size, instrument used for the research, research procedures, pilot test, and methods for data analysis.

Chapter 4: Data Analysis and Finding

Chapter four presents the findings of this research. This includes a specified data analysis and outcomes of the research. Reliability tests, factor analysis, correlation as well as regression tests of the hypotheses, stepwise regression, ANOVA, and t-tests are the analysis instruments utilized in this study.

Chapter 5: Conclusion

Chapter five concludes the study where the findings as well as the implications of the study are thoroughly deliberated. Specifically, the deliberation includes vital items such as the study's contributions and limitations. Finally, the study presents several recommendations for the consideration of future research.