Factors Influencing the Students' behavioral Intention on Using Mobile Learning (M-Learning) in Tourism and Hospitality Major in Phnom Penh, Cambodia.

DOM SOPHEA

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE MASTER DEGREE OF MANAGEMENT
IN INTERNATIONAL TOURISM MANAGEMENT
FACULTY OF MANAGEMENT AND TOURISM
BURAPHA UNIVERSITY
2021

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรการจัดการมหาบัณฑิต
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The Thesis of Dom Sophea has been approved by the examining committee to be partial fulfillment of the requirements for the Master Degree of Management in International Tourism Management of Burapha University

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DOM SOPHEA : FACTORS INFLUENCING THE STUDENTS' BEHAVIORAL INTENTION ON USING MOBILE LEARNING (M-LEARNING) IN TOURISM AND HOSPITALITY MAJOR IN PHNOM PENH, CAMBODIA.. ADVISORY COMMITTEE: PETCHARUT VIRIYASUEBPHONG, Ph.D., TINIKAN SUNGSUWAN, Ph.D. 2021.

Technology has rapidly improved and become a crucial tool for education. It provides both new content and opportunities that learners could employ for learning, especially mobile learning. To get an effective adoption and operation of new technology, it is imperative to understand factors influencing student's intentions to use it. The paper presents student behavioral intentions on using mobile learning among university students in Phnom Penh, Cambodia, by adopting the extended technology acceptance model (TAM). A quantitative method was employed using a survey with a 5-Point-Likert scale. Questionnaires were administered to 420 students majoring in Tourism and Hospitality in Cambodia through a stratified sampling method, with the return rate of 98.33 percent. Structural equation modeling (SEM) was employed to analyze the relationship between the proposed determinants of the research model by employing AMOS. The results illustrate that self-efficacy, personal innovativeness, perceived enjoyment, and social influence have significant effects on the perceived ease of use and perceived usefulness towards students' behavioral intention to use mobile learning in the proposed model. Based on these results, some recommendations for implications and further research have been proposed.

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CHAPTER 1

INTRODUCTION

1.1 Background of the study

The kingdom of Cambodia, called Kampuchea, is located in the Southeast Asian region. There are 181,035 square kilometers and have boundaries by three countries as the following: Vietnam in the east, Laos in the north, Thailand in the northwest, and the Gulf of Thailand at the southwest (TRAVELDUDES, 2009). There are over 16 (16,482,646) million of the total population and density is 93 per square kilometers (Worldometers, 2019). Additionally, there is 78 percent living in rural areas, two-thirds working age (15-64-year-old), 29 percent younger than 15 years old, and more than 5 percent older (Opendevelopment, 3 August, 2015). The official religion is Theravada Buddhism, practiced by approximately 95 percent of the total population (TRAVELDUDES, 2009). Cambodia has achieved considerable economic and social progress in the last few decades. According to the Asian Development Bank (ADB) report, the Cambodian economy was estimated to be at 7 percent for 2018 and 6.8 percent in 2019. The growth of industrial output was an estimated 10.8 % in 2018 to 6.8% in 2019 and agriculture decreased by 1.7% in 2019, compared to 1.8 % in 2018. However, the service industry was a slightly decreased rate of 6.9% in 2018 to 6.8% in 2019. The inflation rate is estimated to the average around 2.5% either in 2019 or 2020 (ADB, 2019). Tourism is one of the most important sectors that push Cambodia's economic growth besides agriculture, constructions and real estate, and the garment-textile industry (Opendevelopment). There were over 3 million tourist arrivals for the first semester of 2018, a 13.6 percent increase, compared with 11.8 percent in 2017 and the pop tourist one is Chinese by air (TheWorldBank, 2018). According to the Annual report of the Ministry of Tourism (MoT), there were over 6 million international tourist arrivals in 2018, which increased by 10.7% compared to 2017 (MoT, 2018). Moreover, World Travel and Tourism Council (WTTC) demonstrated in the annual report about Travel and

Tourism Economic Impact 2018 Cambodia that Travel and Tourism contributed 32.4% of total GDP in 2017 and predicted to grow 4.5% in 2018 and will be continually risen 28.3% of total GDP by 2028. It also created over 2.6 million jobs (30.4% of total employment) in 2017, forecasted to increase 4.2% (2,729,000 jobs) in 2018, and slightly grow 2.9% pa to (3,642,000jobs) by 2028 (WTTC, March, 2018).

According to Khmer Times, Cambodia was 12.5million internet users in 2018, which was a 13.6 percent increase, compared to 10.8 million in 2017 while the mobile operator's service expansion grew in rural areas. Meanwhile, there were 7 million Facebook users in 2018, which rose from 4.8 million in 2017, and there was a 3.18 percent increase in mobile connection in 2018, compared to 18.57 million in 2017 while the figure showed there was higher than the total population. Moreover, there was 99 percent of the population access to 2G and 65.8 percent for 3G, and 57 percent used 4G, which could access only 12.7 percent of the country (Chan, December 2018). There were over 27.16 million mobile connections, 7.16 million internet users, 4.9 million active social-media users, and 4.4 million active social mobile users in Cambodia. The number of internet users was a 50 percent increase compared to the total population. Moreover, the educational level of the users is from different levels as 1.400.000 college grad, 690.000 in college, 690.000 Master's degree, 670.000 in high school, 900.000 high school grad, and 3.600.000 unspecified (Endorphine, 2017).

Table 1: Internet users in 2003-2016

Year	**Internet Users	Penetration (% of Pop)	Total Population	Non-users	1 Y User change	1 Y User change	Population change
2016	1,756,842	11.1%	15,827,241	14,070,417	7.9%	128,711	1.6%
2015	1,628,113	10.5%	15,577,899	13,949,786	18%	248,581	1.63%
2014	1,379,532	9%	15,328,136	15,948,604	34.5%	354,190	1.66%
2013	1,025,342	6.8%	15,078,564	14,053,222	39.9%	292,629	1.66%
2012	732,713	4.9%	14,832,255	14,099,542	62%	280,327	1.64%
2011	452,386	3.1%	14,593,099	14,140,713	150%	271,405	1.6%
2010	180,981	1.3%	14,363,586	14,182,605	141.4%	106,016	1.55%
2009	74,965	0.5%	14,144,337	14,069,372	5.5%	3,903	1.51%
2008	71,062	0.5%	13,933,660	13,862,598	5.6%	3,791	1.49%
2007	67,271	0.5%	13,728,700	13,661,429	6.2%	3,924	1.5%
2006	63,347	0.5%	13,525,360	13,462,013	49,9%	21,079	1.54%
2005	42,267	0.3%	13,320,058	13,277,791	7.3%	2,873	1.58%
2004	39,394	0.3%	13,112,334	13,072,940	17.2%	5,778	1.64%
2003	33,617	0.3%	12,901,217	12,867,600	16,8%	4,831	1.73%

1.2 Definition of Mobile Learning (M-Learning)

Mobile learning is defined as portable wireless devices consumption such a thing as mobile phones, personal digital assistants (PDAs), smartphones, desktops, tablets, and personal computers.., etc. to attain adaptability and interaction (Crompton, 2013). Guy (2009) explained mobile learning or m-learning as offering education and studying through digital devices such as PDA, smartphones, and mobile phones. Recently, notebooks, tablets, and smartphones are facilitating a new platform that offers an effectiveness approach to mobile learning for studying and teaching. Moreover, learner can access his/her study via mobile devices at distant places or at any time by replacing sitting in class. The learners can participate in class activities through mobile devices connected to the internet or Wi-Fi (C. Lee, 2015). In short**,** Mobile learning or M-learning defined as offering education and studying through the portable wireless device consumption as mobile phones, personal digital assistants (PDAs), smartphones, desktops, tablets, and personal computers, etc., which allow the learners or users to participate in class activities at a distance place and at any time via mobile devices connected to the internet or Wi-Fi.

1.3 Problem Statement

In the technology era, human lives and lifestyles have been changed. It has become the main component which gets involved with our part of our daily life. It is a driver for making our society improved because people utilize it for traveling, for communicating, for doing business, for making their lives lived in a better way, and especially for educating and studying purposes (Pathak, 2011). There are many benefits of employing and integrating technology in the education system through other electronic devices. Bukharaev and Altaher (2017) proved in their study of mobile learning education has become more accessible. They found that mobile learning has several advantages as shown in the below:

- Coordinate the studying process, costing cheap, easy to store, possibly attach anytime and anyplace, quickly speed of reaching information for the learners and educators.

- Complete to the learners' needs while mobile learning approximately offers new learning experiences and studying tools whenever the learner wants.
- Provide a variety of educational service functions for making learners or users send or share knowledge or information and communicate among groups or teachers.
- Link to global learning about discoveries such things as theories.
- Create a new form (innovative) of modern educational systems (distance learning).
- Build up students' ownership learning characteristics by using mobile digital devices as tools in school to motivate them to learn with technology.

On the other hands, ADB Country Director for Cambodia Ms. Sunniya Durrani-Jamal mentioned that "A key driver of growth in the future will be improving the quality of Cambodia's human resource, combining technical and vocational skills, to meet the demand of the private sector" (ADB, 2019). Moreover, Asian Development Outlook 2019 notices that the skills gap is the critical challenge that the country should pay much attention to, which leads to a mismatch between skills supplied by the available workforce and those demanded by markets. Qualified trainers, financial support for the poor, and high-performing students are needed to motivate them to keep studying particularly skills that the market is demanding in the technology era (ADB, April 2019). To get sustainable growth, the Cambodian government should concentrate on the medium-term policy challenges and responses: increasing productivity of agriculture, reforming the prudential and supervisory framework of the financial sector, and improving tourism-specific infrastructure. In the tourism sector, the government should make a balance between the supply-side issues and the demand side of marketing and promotion. Furthermore, the supply side should be cared about inspiring the competitiveness of the tourism industry through improving productivity and quality, motivating innovation, developing niche markets, improving tourism infrastructure, building the capacity of tourism industries to

capitalize on the internet and ICT, offering skill training as well as eliminating the negative social and environmental impacts (OECD, 2014)

Similarly, Ministry of Education, Youth, and Sport (MoEYS)'s policy and strategy on applying Information and Communication Technology (ICT) in the education in Cambodia, MoEYS's vision has been applying Information and Communication Technology (ICT) into the educational system at all levels to develop the effectiveness of education and to create the technologically literate, productive, and critical-thinking workforce for the country. For achieving the vision, MoEYS has proposed the policy of ICT in education path, which focuses on four main phases such as offering ICT access to both teacher and students particularly at the secondary level to be clear that the digital gap will be deducted between Cambodia school and neighboring countries, demonstrating the ICT role in education as self-teaching and self-learning instruments in diversifying major and subject via computers for analyzing information, knowledge, skills, and communication, implementing Education For All policy through distance learning or self-learning for the people lack access to education or skill equipping by including ICT with radio, TV, printed material and other media, and illustrating the advantages of ICT use like processing students and teachers records, sharing and communicating between the policymakers and schools, teaching plan, evaluating and testing, budget control as well as inventory restoration (MoEYS, December, 2004). Besides, Richardson (2008) explained that Cambodia started applying ICT in education policy; therefore, the policymakers might be suggested to carefully create a practicing process and improve it to be ad hoc. Thus, the ICT in education reform necessarily pays much attention to the political streams based on the reform of implementation and evolution. Vuth, Chan Than, Phanousith, Phissamay, and Thi Tai (2007) also described that the quick integration of ICT in Cambodia, especially smartphones, offers benefits and a timely opportunity to initiate an innovative distance education system that allows at all levels of learners possibly access.

Additionally, the Royal Government of Cambodia's (RGC) vision tends to update the Cambodian industry from labor-intensive to knowledge and skill-labor by 2025 by setting up a technology-driven and knowledge-based modern industrial

economy. Following this, the Ministry of Education, Youth, and Sport (MoEYS) have considered ICT as a principal accelerator (catalysts) for human resource development in the 21st-century economy. MoEYS (May 2018) plans to mix ICT within the educational system, making ICT a means of teaching, learning, and knowledge distribution. With this statement, MoEYS is also going to adopt e-learning to leverage education delivery for students and organizational capacity building and lifelong learning purposes. According to the RGC's vision and MoEYS commitment, this study intends to explore the criteria that impact students' behavioral intention to use mobile learning (M-learning) once the RGC launches it to operate across the education sector. Since there are many problems that MoEYS needs to identify and solve in advance, it looks more difficult to make it sustained while it is the new technology for the users, especially students, and trainers/ teachers. No one knows whether they will intentionally use it or not as there are still few empirical studies on the subject in Cambodia. To successfully adopt and implement new technology as a learning tool, learning about factors affecting users' intention to adopt new technology in advance is considered necessary. This study will investigate factors that influence students' perception to accept to take advantage of M-learning through the extended technology acceptance model (TAM) (Venkatesh & Davis, 1996). By studying this, it allows the policymaker, academic programmers, private sectors, and all stakeholders to use it to review or propose effective and efficient policy and strategy to make it fit the student and teacher needs in terms of knowledge-based development as well as tourism development in the technology era.

1.4 Research Questions

As mentioned above, even the proportion number of internet and the mobile user has increased recently, most of the users are students; they might not apply it for their educational purposes. Thus, this makes them missed taking great opportunities to learn powerfully and innovatively way especially in Hospitality and Tourism field. To determine the factors that influence students' behavioral intention to use mobile

learning, the researcher tends to answer one main research question like the following:

a. What factors determine the student learning style of M-learning use?

1.5 Research Objectives

The purpose of this study is to examine the factors influencing the students' behavioral intention to use the mobile device for learning at higher education in Hospitality and Tourism major in Phnom Penh, Cambodia. There are two main objectives for this study:

1. To measure the level of each variable in the construct: 1. Self-efficacy (SE), 2. Mobile Anxiety (MA), 3. Personal Innovativeness (PI), 4. Perceived Enjoyment (PE), 5. Social Influence (SI), 6. Perceived Ease of Use (PEOU), 7. Perceived Usefulness (PU), and 8. students' behavioral intension (BI) to use mobile learning in tourism and hospitality.
2. To identify factors influencing students' behavioral intension to use mobile devices to support education in Tourism and Hospitality.

1.6 Scope of the Study

To make the study smooth work, the author would like to employ the quantitative approach by using structural equation modeling (SEM) to find an approach to student's behavioral intention to use mobile learning, which is the case study of students in tourism and hospitality major in Phnom Penh, Cambodia. There are 420 respondents surveyed. Therefore, the researcher planned to draw the scope and to limit the boundary of the study as below:

-The scope of the content included in this study are, Self-efficacy (SE), Mobile Anxiety (MA), Personal Innovativeness (PI), Perceived Enjoyment (PE), Social Influence (SI), Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Students' Behavioral Intention (BI).

-The scope of the study area is conducted in Phnom Penh city, Cambodia. Due to budget, time, and resource-limited, the researcher decided to study only this area.

-The scope of time for this is approximately 6 months, which will be started by June till December, 2020.

-Lastly, the population selected for this study was students who are studying in Hospitality and Tourism major within 9 universities in Phnom Penh purposely selected from the 17 educational centres under-recognized by the Ministry of Tourism. Multi steps will be used for sampling method. Among 9 universities, 4 universities will be randomly selected to be studied and stratified sampling will be employed for distributing 105 questionnaires in each selected university.

1.7 Research Hypothesis

- H1-Self-efficacy positively predicts perceived ease of use of using mobile learning by students.
- H2-Self-efficacy positively predicts perceived usefulness of using mobile learning by students.
- H3-Mobile anxiety negatively predicts perceived ease of use of using mobile learning by students.
- H4-Mobile anxiety negatively predicts perceived usefulness of using mobile learning by students.
- H5-Personal innovativeness positively predicts perceived ease of use toward to using mobile learning by students.
- H6-Personal innovativeness positively predicts perceived usefulness toward to using mobile learning by students.
- H7-Perceived enjoyment positively predicts perceived ease of use of using mobile learning by students.
- H8-Social influence positively predicts perceived usefulness of using mobile learning by students.

- H9-Social influence positively predicts the behavioral intention to use mobile learning by students.
- H10-Perceived ease of use positively predicts perceived usefulness to use mobile learning by students.
- H11-Perceived ease of use positively predicts behavioral intention to use mobile learning by students.
- H12-Perceived usefulness positively predicts behavioral intention to use mobile learning by students.

1.8 Significance of Study

This research would participate in great benefits in academic scholars, Hospitality and Tourism education centres, and Cambodian policymakers to develop human resources in the Hospitality and Tourism sectors. There are serval benefits, which can be drawn from this research as the following:

First, this study would enable researchers, investigator as well as other scholars to deeply understand the relationship and factors: self-efficacy (SE), perceived enjoyment (PE), mobile anxiety (MA), personal innovativeness (PI), social influence (SI), perceived usefulness (PU), perceived ease of use (PEOU), the effect on students' behavioral intention (BI) to use mobile learning in the Hospitality and Tourism in Phnom Penh, Cambodia.

In the educational field, it will be taken as a case study for each educational centres for taking as a sample for identifying the gaps in their organization and fill them in order to increase competitive advantage as well as to provide a fit teaching methodology to students or trainees in efficient and effective ways.

Lastly, government agencies, non-governmental organizations, and other stakeholders can apply the results of this study for building or reforming human resource policy in order to promote the educational system in the technological era.

1.9 Definition of Terms

In order to clearly understand the terms used in this research and to avoid misunderstanding among the readers, the specific key terms are defined as the following:

- **Self-efficacy (SE)** can be identified to the students' self-belief in their ability to study and operate a mobile phone in the study in their context.
- **Mobile anxiety (MA)** is focused on the negative thought or fear of operating a mobile phone in the study, which the users might face.
- **Personal innovativeness (PI)** is mentioned as the willingness of the students to accept to use to or to learn to mobile phone technology regarding a form accepting to change in study.
- **Perceived enjoyment (PE)** is represented to the level of fun and satisfaction when students operate a mobile phone in the study within their own rights.
- **Social influence (SI)** is described as the perceived pressures or influence from the surrounding environment such as social networks, peer and reference groups as well as education on the behavior in which it should or should not perform mobile phones in the study.
- **Perceived ease of use (PEOU)** refers to the degree of students' perception of which utilizes mobile phones in learning that would make them free of effort in their study.
- **Perceived usefulness (PU)** can be explained as the degree of students' perception of using mobile phone learning would increase in his or her job productivity or work performance.
- **Student behavioral intention (BI)** can be defined as the willingness of students in which they intend to and desire to perform mobile phone in his or her study.

1.10 Conceptual Framework

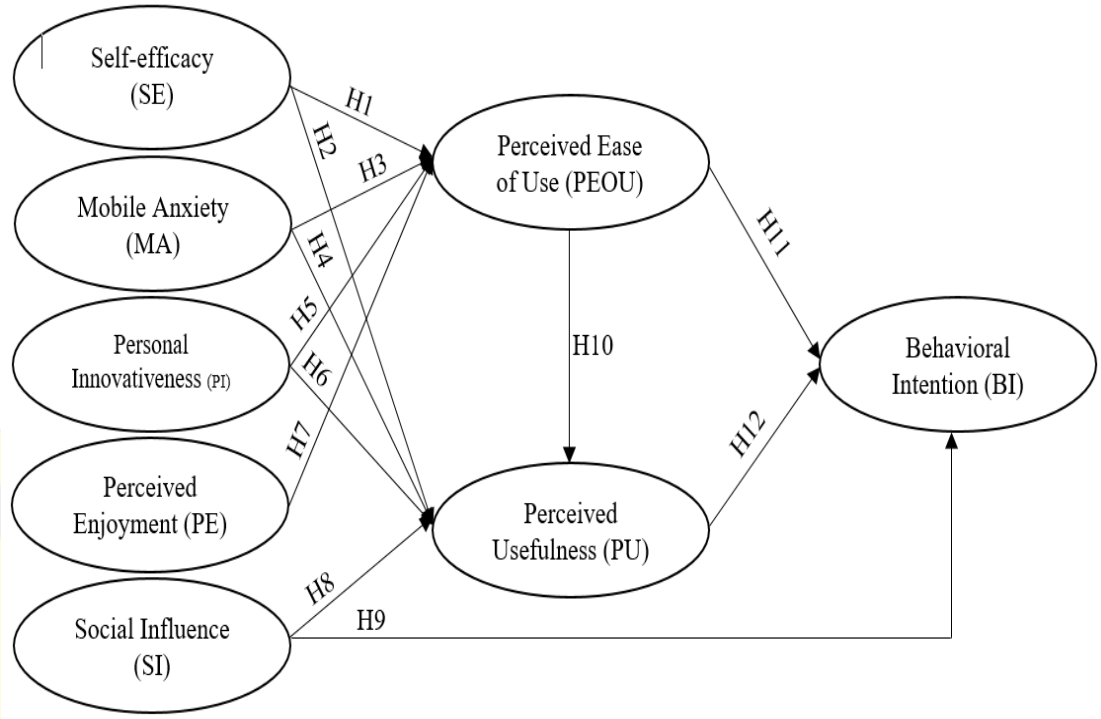

Figure 1: Conceptual framework

1.11 Structure of the Study

The study was organized into five chapters as the following:

Chapter 1 is the introduction of the background of the study, states the problems and its purpose of the study. The introduction also briefly highlighted the general information of Cambodia, economic situation, tourism situation and statistic, and the statistic of the internet user including user types. Moreover, it also mentioned the research objectives, research issues, research questions, conceptual framework, and the contribution of the research. Lastly, the scope and limitation of the study, the definition of the terms and specific location for conducting the study as well as the structure of the study were provided, too.

Chapter 2 is the literature reviews which was separated into five main parts:

The first part was focused on the overall situation of Hospitality and Tourism education in Cambodia. Then the second part, the researcher reviewed the theories related to behavioral intention. After that, the third part focuses on related studies which involved in behavioral intention. Then, in the fourth part, there would be followed by literature reviews of factors affect mediators (PEOU and PU) towards Student's behavioral Intention. In this part, there were divided into two sub-sections including external or indirect factors affect to mediator towards student's behavioral intention and mediators directly influence student's behavioral intention to use mobile devices in the study. The final part showed the research conceptual framework and research hypothesizes.

Chapter 3 described the research methodology of the study. There were also included such things as research design, population, sample, research procedure, data collection, and data analysis.

Chapter 4 demonstrated the research results which was generated from the analyzing program and then interpreted the result based on what had been analyzed.

Lastly, Chapter 5, the researcher would make a conclusion depending on the data-analyzed result with discussion as well as offering some suggestions or recommendations. There would be consisted of a summary of the study, research findings, discussion, managerial implications, limitation, and recommendation for future research.

CHAPTER 2

LITERATURE REVIEWS

This chapter aims to empathize with the literature reviews on the mobile phone acceptance and intension to use it in the education displayed by undergraduate students who are studying Tourism and Hospitality in Phnom Penh, Cambodia. The outlines will be consisted of the following:

2.1 Overall Hospitality and Tourism education in Cambodia

2.2 Student Learning Style of Technology Use

2.3 The Fishbein-Ajzen Behavioral-intention Model

2.4 Factors affect endogenous variables (PEOU and PU) towards Student's behavioral Intention (BI).

2.4.1 Exogenous variables (SE, MA, PI, PE, and SI) affect to endogenous variables towards Student's behavioral Intention.

2.4.2 Endogenous variables (PEOU and PU) directly influence Student's behavioral intention (BI).

2.5 Conceptual Framework and Hypothesis

2.1 Overall Hospitality and Tourism Education in Cambodia

Tourism is considered one of the largest global economic sectors while it has been proposing precious opportunities such things as increasing works, pushing exportation, and enhancing investment to the globe. There was 10.4 % of global GDP and 313 million jobs or 9.9% of the total global employment rate in 2017 generated by tourism (WTTC, March, 2018). As taking a glance at Cambodia, WTTC (March, 2018) had mentioned that it also enhances exporting activity. In 2017, there was 28.8% (KHR16,321.3bn (USD4,037.7mn) visitor exports and it expects to rise 3.2% by 2018, and 5.2% in 2028. About investing in Travel and Tourism, there was KHR3,136.3bn, 15.8% of total investment (USD775.9mn). It was predicted to increase by 6.5% in 2018 and 6.4% by 2028.

To develop human resource in Cambodia, the Ministry of Education, Youth, and Sport has proposed the Master Plan for Information and Communication Technology (ICT) in Education 2009-2013, which is focused on the four main objectives in order to align with the ministry's vision to "establish and develop human resources of the very highest quality and ethics for improving a knowledge-based society within Cambodia" as the following: 1). Enhancing the accessibility to fundamental education, higher education, and life-long learning, either formal or non-formal, through employing ICT as an alternative education delivery media, 2). Generating the benefits of ICT and applying it with a basic education in order to develop the quality of teaching and learning, 3). Converting the ICT-based professional skills needed into the knowledge-based society aspect for competing and closely working within the globe, and 4). Reforming the effectiveness and efficiency of management (MoEYS, December, 2010).

According to Tourism Strategic Development Plan: 2012-2020 in the vision, the Cambodian government plans to develop tourism, cultural and natural based, with a highly responsible and sustainable manner in order to generate benefits from tourism as much as possible. Based on this concept, it will drive socio-economic, create jobs, and reduce poverty too. Moreover, the Cambodian government plans to get 7 million international tourists' arrival by 2020. For accomplishing the goal, the government is necessary to make the globe recognized Cambodia, which is a world tourist destination feel the warmth. Therefore, the government has proposed a tourism strategic development plan (2012-2020) focusing on the six key activities:1). Tourism product development, 2). Tourism marketing research and promotions, 3). Improving tourist facilitation and transportation, 4). Tourist safety and security and tourism impact management, 5). Law reformation and implementation, and 6). Human resource development (MoT, September 2012). In short Tourism development, the Ministry of Tourism (MoT) have performed his strategic activities based on the 4 pillars as shown in the following: 1). Tourism product development with creatives and innovation, 2). Strengthening tourism industry performance through proposing standard of products 'one service, one standard' and building tourism professional capacity based on ASEAN qualification standard on tourism

professionals (MRA-TP) via ‘one staff, one skill’, and 3). Strengthening and improving the tourism marketing and promotion activities within all means, and 4). Smart tourism (MoT, 2018). Furthermore, to promote sustainable growth, MoT has prioritized human resource development by equipping high-qualified professionals with national and ASEAN standards through improving tourism skills, innovation, and creativity to skilled-labor in this high demand and competitiveness sector. Therefore, MoT has proposed the “Strategic Plan for Tourism Human Resource Development 2017-2025” which is aimed at creating career paths for students, skills development as well as job opportunities either in or outside the country with life-long learning in knowledge, skills, and attitudes. Its vision also is to “By 2025, Cambodia will have highly skilled, creative, and innovative tourism professionals to work in or outside the ASEAN region, strengthening competitiveness and increasing human capital in Cambodia’s tourism sector in line with the economic, social and labor market needs”, which is following by three key strategic directions as 1). Keep strengthening practices Mutual Recognition Arrangement on Tourism Professionals (MRA-TP), 2). Improve and build up tourism skills within national standards, and energize the capacity of all stakeholders via training (MoT, 2017a).

In 2017, there were 17 educational centres which were recognized by MoT with educating on hospitality and tourism skill based on ASEAN qualification standard, Mutual Recognition Arrangement on Tourism Professionals (MRA-TP). All of them are located in four different zones as the following:

- Phnom Penh zone: 9 educational centres
- Siem Reap zone: 6 educational centres
- Coastal zone: 1educational centre
- Northeast zone (Eco-tourism zone): 1 educational centre

Table 2: Tourism & Hospitality Educational Centres Recognized by Ministry of Tourism

No	Name of Educational Centre	Location	Telephone Number
1	PSE Institute	Phnom Penh	012 902 584
2	Institute of Tourism and Hospitality of Cambodia	Phnom Penh	095 575 855
3	Institute of Hospitality and Tourism of Phnom Penh	Phnom Penh	012 78 78 89
4	APT School of Hospitality and Tourism	Phnom Penh	012 979 965
5	Academy of Career and Tourism (ATC)	Phnom Penh	012 664 473
6	NAGA Academy	Phnom Penh	016 985 252
7	International Hospitality Training in Cambodia (ACAC)	Phnom Penh	012288 005 http://acac.edu.kh
8	National Polytechnic Institute of Cambodia	Phnom Penh	088 333 33 82 http://www.npic.edu.kh
9	Asia Euro University	Phnom Penh	017 555 967 http://www.aeu.edu.kh/
10	Ecole d´ hôtellerie et de tourisme paul dubrule	Siem Reap (SR) Province	012 829 673
11	Salabai	SR Province	012 323 612

Table 2 (Con't)

12	E Pok School	SR Province	012 657 337
13	Regional Polytechnic Institute Techo Sen Siem Reap	SR Province	012 918 167 http://www.rpitssr.edu.kh/
14	Feeding Dream Cambodia	SR Province	016 551 525 feedingdreamscambodia.org
15	University of South-East Asia	SR Province	012 886 476 http://www.usea.edu.kh
16	Le Tonlé Training Restaurant & Guesthouse	Kratie Province	078 398 886
17	Don Bosco School	Sihanuk Ville province	096 48 34 178

Note: This has been translated from Khmer to English

Source: National Committee for Tourism Professionals (NCTP), Ministry of Tourism-MoT (MoT, 2017b)

2.3 Student Learning Style of Technology Use

Technology has been integrating into the education sector recently therefore the instructor should understand the character of students especially students' learning styles. According to Lawrence (Jan 16, 2018) said that there are three main different learning styles: visual, auditory, and kinesthetic in using technology.

Visual Learning

Visual learning learners can study well based on the direction or illustration via the chart, graphic and pictures for scanning the main them or objective of a specific thing or aspect. Therefore, instructors can adopt technology for creating visual aids such as power points or video clips for teaching or showing in order to make students easily understood. Moreover, learners themselves can use Youtube or searching engine to facilitate their study and to get understood better.

Auditory Learning

Auditory learning learner refers to a student that can comprehend and memory data or lesson through discussing or talking and listening to others such as peers or lecturers as well. They can learn from participating in workshops or seminars and representation. Either lecturer or student can use technology to help for improving their skill or for learning to the specific topic.

Kinesthetic Learning

A kinesthetic learner refers to the learner who necessarily learns with practice the theory or concepts in order to understand better. Therefore, students can use technology for help in his or her study from educational applications or website. He or she can use other digital devices such as tablets or smartphones in his or her studying through educational apps while most apps may be operated or introducing by schools.

2.4 The Fishbein-Ajzen Behavioral-intention Model

The Fishbein-Ajzen behavioral-intentions model is constructed to predict the influence of attitudes and social norms on behavioral intention. It can be applied in different contexts and the proofs of its validity depend on its performance to

anticipate behavioral intention. The manner has been used to investigate the difference between personal and normative reasons for getting involved in a behavior (Fishbein & Ajzen, 1975, p. 301). Based on the model, there are two main determinants that influence on behavioral intention. They are personal or attitudinal and social or normative factors. Personal attitude towards particular behavior is considered to be worked as a salient belief about which performs behavior depending on the person's assessment of the attributes and results he or she expectedly perceives. Another factor is the social norm in which the perception of the referent group effects on the actor's decision and motivate he or she should or should not perform the behavior. Therefore, the relation of the two elements for measuring intention is predicted to the different behaviors, circumstances, and personal issues of the actor.

In addition, the correlation between behavior and behavioral intentions, Fishbein & Ajzen (1975, p. 368-372), complies with:

1. The level measuring of intention corresponds straightforward to the observed behavior.
2. The situation between the intention measured and behavior occurred.
3. The level of how the actor freely performs a specific activity that agrees with his or her own intention or without any help.

Therefore, the powerful correlation between intention and behavior happens while the intention is being determined to a particular behavior of interest, the behavior performed closely links to the intention measured, and the behavior is under volitional control.

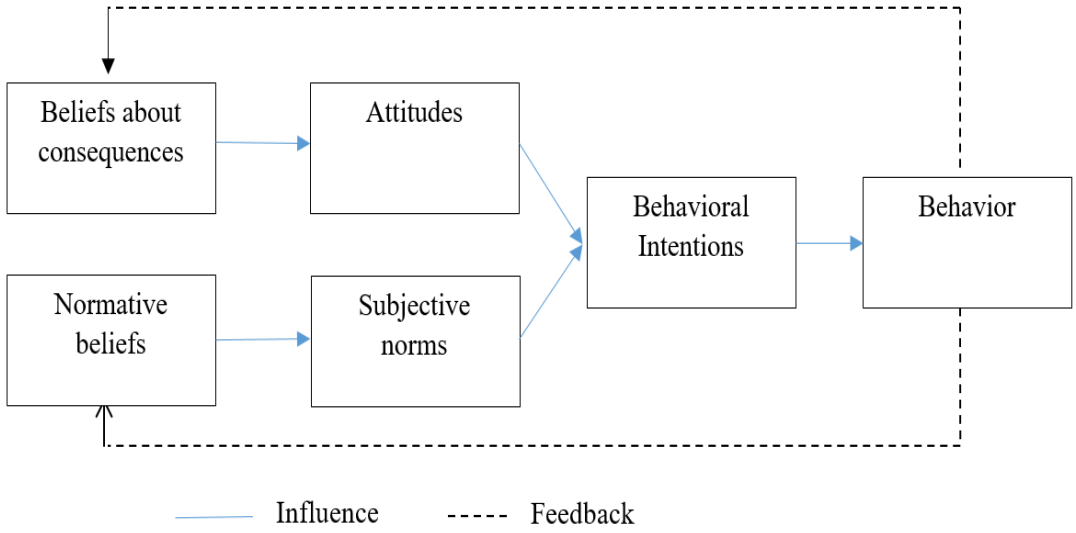

Figure 2: *Fishbein-Ajzen behavioral-intention model modified from Mitchell-Carson, (1989)*

Theory of Reasoned Action (TRA)

Behavior can be considered as control of the conscious will. If people intend to do something, they will demonstrate it out as actions. According to the state, the Theory of Reason Action is the most popular theory used which studies on someone behavioral intention attitude towards the behavior. Fishbein and Ajzen (1975) and Fishbein and Ajzen (1977a) can be largely identified while the theory of Reasoned action is used to analyze the behavior of willingness and to offer people to determine their psychological factors. This was happened depending on the set of available information for making a decision and the results would be released after the acceptance or fit to the expectation. Attitude towards behavior and subjective norm and subjective norm concerning behavior, two main elements, work as key role play for individual intention. Normally, people believe in multiple salient beliefs while it is the consequence of performing the behavior and it has a relationship with outcome evaluation. A certain subjective value comes from the salient belief that ties behavior to a valuable outcome. The attitude was explained as an individual's judgment to an item and belief was named as an alignment between the item and reflects characteristics. Consequently, the behavior leads to the outcome or intention. The attitudes influence the item of behavior based on the level of belief. What they get

from their social norm or from group belief in which they are is defined as a subjective norm. It will be affected by their thinking and attitude of the behavior by another person for acting specific behavior. Therefore, it is clearly identified that whenever the belief and valuable outcome are integrated, the attitude would appear automatically and it leads either positive or negative behavior. When people see that advantages are less than disadvantages, they would withstand to carry out the behavior, so it is the time that salient beliefs are determined.

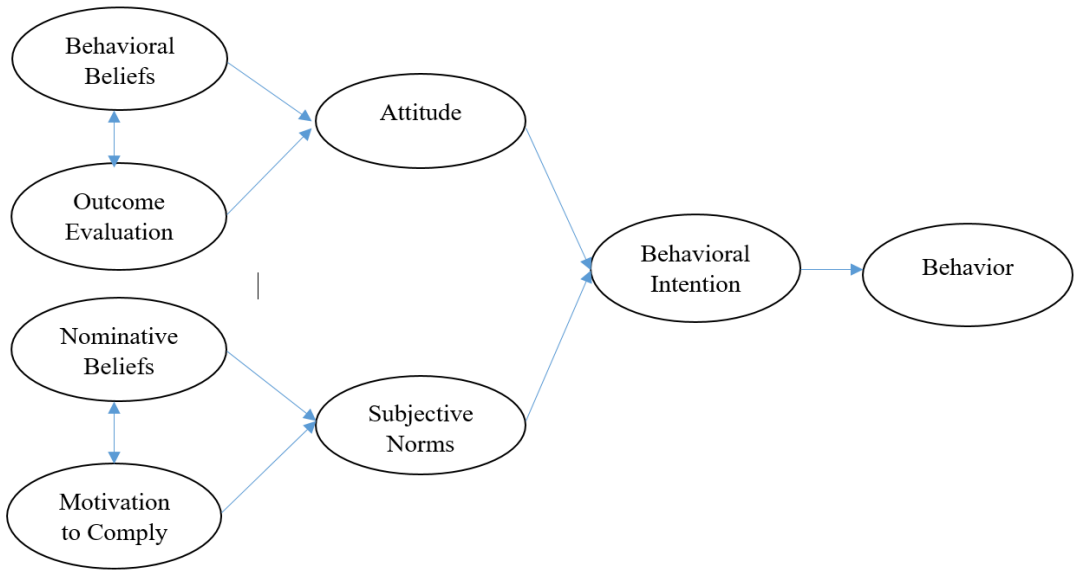

Figure 3: *Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975)*

Technology Acceptance Model (TAM)

Acceptance model goals to determine the factors which offer the research to anticipate the use of behavior and describing the adoption process. The theory of reasoned action (TRA) (Fishbein & Ajzen, 1977) and Technology Acceptance Model (TAM) (Davis, 1989) are simplified the technology acceptance and its predecessors make it become complicated. Technology Acceptance Model (TAM), Davis (1985), is used to determine the causal correlation of variables. Based on the model, the attitude of users toward the proposed system is figured out as the main determinant in case the users tend to use it or not and its control to the main beliefs: perceived usefulness and perceived ease of use while perceived ease of use permanently influences on perceived usefulness. In addition, perceived usefulness and perceived ease of use are

directly affected by design features or external factors, which indirectly involve the attitude or behavior. While the system is easy to use for the users, their work performance will increase as they think it is useful for them. Moreover, if the users' job gets more fruitful by using the given system via greater ease of use, they will increase productivity as a whole. Therefore, the system performance could indirectly affect usefulness by disturbing ease of use.

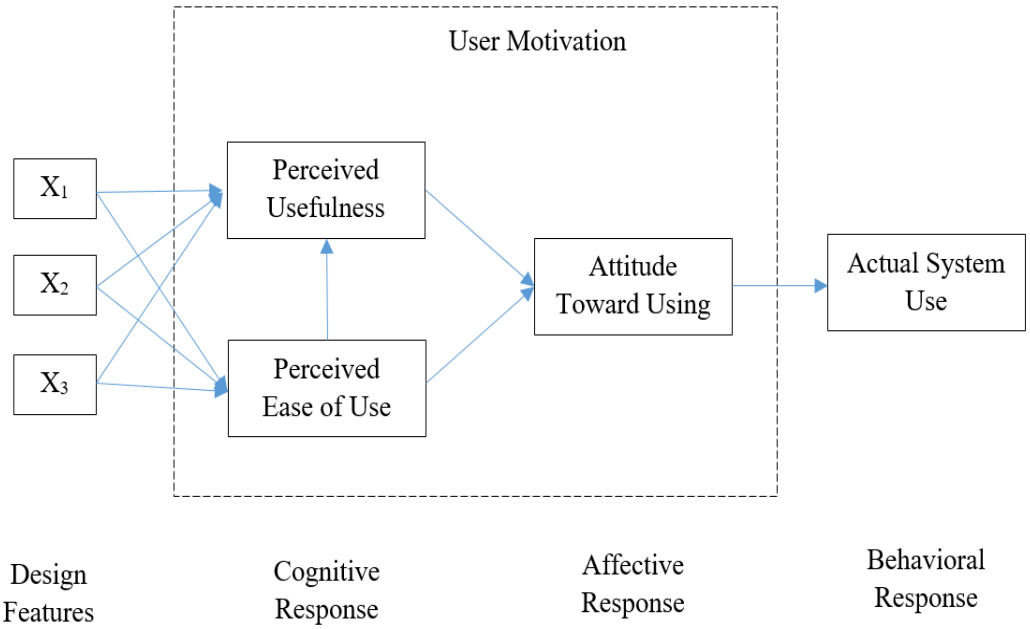

Figure 4: Technology Acceptance Model (TAM) (Davis, 1985)

Afterward, Venkatesh and Davis (1996) developed the Technology Acceptance Model based on the experiment results. The researchers demonstrated that the two main cognitive responses, perceived ease of use and perceived usefulness, were straightly correlated to behavior intention; therefore, attitude construct is possibly omitted.

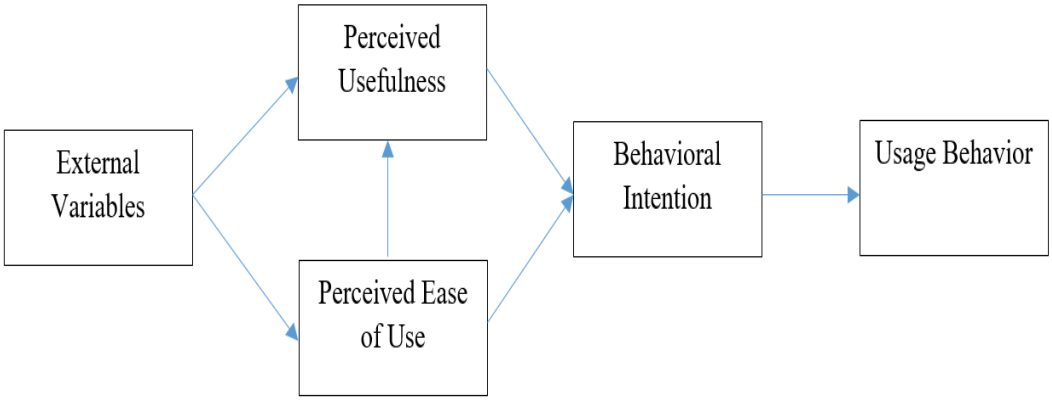

Figure 5: *The Extension to Technology Acceptance Model developed by (Venkatesh & Davis, 1996)*

Student's Behavioral Intention (BI)

Behavior can be considered as control of the conscious will. If people intend to do something, they will demonstrate it out as actions. Behavioral intention can be defined as an individual's thought or decision that he or she will perform it as activities (CHIRr, N/A). According to, Ajzen (1991) described behavioral intention as to how to inspire an individual is and how appreciated he or she to carry out the behavior. Behavioral Intention is assessed by another synonym (eg. I plan to[behavior]) and it is distinguished from desire and self-anticipated (Armitage & Conner, 2001). Depending on De Pillis and Reardon (2007), behavioral intention can be interpreted as the desire and motive to create a new brand. Khuong and An (2016) addressed behavioral intention as the increasing attentive frame of mind in which a person wishes to do or to form it out**.** Thus**,** the researcher would define student behavioral intention (BI) as the willingness of students in which they intend to and desire to perform mobile phone in his or her study. As mentioned above, Fishbein and Ajzen (1975) and Fishbein and Ajzen (1977b) said that the attitude affects to behavior depending on the degree of salient belief and what actors get from their society and from their referents, subjective norm; it could influence to their thought and to their performing on a specific behavior. Additionally, Davis (1989), Technology Acceptance Model (TAM), modified that the attitude of users or actors towards a

given system roles play as the main factor for scaling the users' or actors' intention to apply it or not and it directs the two main salient beliefs. Design features or external factors can directly affect the two main salient beliefs towards attitude or behavior. When the users find it is easy and fruitful from using, they will intentionally employ it. Moreover, Venkatesh and Davis, (1996) confirmed that the two salient beliefs or cognitive response constructs can possibly directly influence behavioral intention without concern with attitude factors anymore.

Ozturk and Hancer (2015) investigated the correlation between the personal uniqueness of customers and their behavioral intention to consume radio-frequency identification (RFID) technology in the hospitality firm. The research survey with 305 respondents in order to prove the significant uniqueness of intention to utilize the RFID technology via past experience and demographic factors- gender, age, education, and revenue.

Ssekibaamu (2015) learned about the relation between the unified theory of acceptance and the use of technology (UTAUT) for clarifying factors, faculty's adoption game as teaching material in the higher education system. The researcher paid attention to such factors as facilitating conditions (FC), social influence (SI), effort expectancy (EE), and performance expectancy(PE) for the study.

Sahli and Legohérel (2016) certified the determinants for booking tourism products online through the tourism web acceptance model (T-WAM). They studied on perceived risk, trust, social norm, perceived behavioral control, perceived ease of use, enjoyment, compatibility, perceived usefulness, and attitude as the main variable for their research.

Hsu (2016) studied the structural relation between the factors of EFL (English as a Foreign Language) student perceptual learning styles and technology acceptance model (TAM). The researcher collected 341 students and the perceived usefulness, as well as perceived ease of use, were used in this study.

Chang, Hajiyev, and Su (2017) discussed the use of the General Extended Technology Acceptance Model for e-learning (GETAMEL) with 714 undergraduate and master students. This research was employed perceived usefulness, perceived ease of use, social norm, enjoyment, technology, experience, computer anxiety, self-

efficacy as the variable for their study in order to measure the student behavioral intention to use e-learning.

Adukaite, van Zyl, Er, and Cantoni (2017) studied the six determined predictors: perception about playfulness, curriculum fit, learning opportunities, challenges, self-efficacy, and computer anxiety impact on supporting to accept a gamified application by 209 South African tourism teachers.

Abbas (2017) purposely analyzed the two human factors affecting the University Hospitality and Tourism student intention to use e-learning which focused on two higher education groups: Egypt and The United Kingdom with 600 online surveys and 73.7% response rate. The research focused on the two external variables: Self-efficacy and experience will directly affect the two moderate variables such as perceived usefulness and perceived ease of use towards student intention to use e-learning. In addition, gender and student background considerably impacted on their intention, too.

Forteza Grimalt (2018) learned about how virtual reality affects tourism destination advertisements and identified the diversified technology use in the tourism field based on the technology acceptance model (TAM). The intention of tourists using virtual reality for selecting their destination was analyzed by perceived usefulness, social norm, attitude, personal innovativeness, perceived ease of use, organizational factor, enjoyment, personal social characteristic, and individual factor.

B.-C. Lee, Yoon, and Lee (2009) explored the appropriated factors on e-learning adoption in South Korea and complete the weakness in that field. The researchers analyzed to the previous studies by using the flow theory, service quality, and the technology acceptance model. Their study focused on the four main independent variables-instructor characteristics, teaching materials, design of learning content, and playfulness and two beliefs variables-perceived ease of use and perceived usefulness and lastly, intention to use e-learning was the dependent variable.

An empirical study in Taiwan, Lin (2010) identified to the reasons for users agree or disagree with using e-travel and how it affects in case the users agree to use the platform by focusing on the three main aspects: relevant information content, information quality, and functionality needs service, which directly influence on

student behavioral intention through perceived usefulness and perceived ease of use. The researcher surveyed 242 Taiwanese users e-travel through an extended technology acceptance model.

Phatthana (2011) determined three factors: perceived usefulness, perceived ease of use, and image to intention to e-purchase of health tourism through the technology acceptance model (TAM) with 320 questionnaires delivered to the international patients, 74% response rate and the results showed that all variables totally support to the intention to use e-purchase for health tourism.

Y.-C. Chen and Lin (2012) identified factors influencing travelers' intention to use the local government tourism web for rousing local tourism. The technology acceptance model (TAM) would be applied for this study in order to evaluate the pros and cons of the web platform and to examine the motives of tourists to use the web for information seeking. The outcome demonstrated that self-efficacy, perceived usefulness, and users' attitude straightly affect behavioral intention.

Gao, Røinend, and Krogstie (3, December 2012) determined mobile adoption in tourism service in Norway by analyzing to perceived usefulness, perceived ease of use, trust, and personal innovativeness, which surveyed with 47 mobile users for finding tourism service called Extended Mobile Tourist Service Recommender (MTSR), based on technology acceptance model (TAM).

Li, Duan, Fu, and Alford (2012) learned about the correlation between e-learners' experience and perception as well as behavioral intention to reuse the e-learning system. Researchers applied the information system success model, technology acceptance model, and self-efficacy model and analyzed with 280 e-learners for learning deeply to learners' behavioral intention to reuse the system. The study used perceived usefulness, perceived ease of use, course quality, service quality, and self-efficacy to identify student experience, perception, and behavioral intention.

Padilla-MeléNdez, Del Aguila-Obra, and Garrido-Moreno (2013) focused on the main determinants of technology acceptance and utilizing which analyzed perceived playfulness mixed learning assigning and gender differences by surveying with 484 students. Moreover, those variables were perceived usefulness, perceived ease of use, attitude, and enjoyment.

Agudo-Peregrina, Hernández-García, and Pascual-Miguel (2014a) concentrated on a TAM3 based model which included two extra variables: personal innovativeness of IT and perceived interaction in order to measure the factors: perceived usefulness, perceived ease of use, attitude, facilitating conditions, relevant for learning, subjective norm, self-efficacy, computer anxiety, and perceived playfulness impact on the acceptance technology in an e-learning system. The consequence totally agreed to the TAM correlation. However, there was not any relation of behavioral intention and perceived usefulness which linked with efficiency and performance as well as flexibility.

Table 3: Related Study about Behavioral Intention (BI)

Author-Year	Topic	Variables	
		Dependent	**Independent**
Ozturk & Hancer, (2015).	The effects of demographics and past experience on RFID technology acceptance in the hospitality industry.	intention to use RFID technology	experience, demographic
Ssekibaamu, (2015).	Technology and education: A quantitative study of the acceptance of gaming as a teaching tool using the Unified Theory of Acceptance and Use of Technology (UTAUT)	behavioral intention	Facilitating condition, social influence, effort expectancy, performance expectancy
Sahli & Legohérel, (2016).	The tourism Web acceptance model: A study of intention to book tourism products online.	intention to book tourism products online	Perceived risk, trust, social influence, perceived behavioral control, perceived ease of use, perceived enjoyment, compatibility, perceived usefulness, attitude,

Table 3 (Con't)

Hsu, (2016).	An empirical examination of EFL learners' perceptual learning styles and acceptance of ASR-based computer-assisted pronunciation training.	Continuing use	Perceived usefulness, perceived ease of use
Chang, Hajiyev & Su, (2017).	Examining the students' behavioral intention to use e-learning in Azerbaijan? The general extended technology acceptance model for e-learning approach.	university students' behavioral intention (BI) to use e-learning	Perceived usefulness, perceived ease of use, social influence, perceived enjoyment, technology, experience, computer anxiety, self-efficacy
Adukaite, van Zyl, & Cantoni, (2017).	Teacher perceptions on the use of digital gamified learning in tourism education: The case of South African secondary schools.	influence the advocacy to accept a gamified application(behavioral intension)	perceived enjoyment, perceived curriculum fit, self-efficacy, computer anxiety, risk, learning opportunity, Challenges

Table 3 (Con't)

Abbas, (2017).	Human factors affecting university hospitality and tourism students' intention to use e-learning: A comparative study between Egypt and the UK.	students' intention to use	Perceived usefulness, perceived ease of use, experience, self-efficacy
Forteza Grimalt, (2018)	A model of acceptance of virtual reality by tourists in the selection of destinations.	Behavioral intension	perceived usefulness, social influence, attitude, personal innovativeness, perceived ease of use, organizational factor, perceived enjoyment, personal social characteristic, individual factor
Lee, Yoon, & Lee, (2009)	Learners' acceptance of e-learning in South Korea: Theories and results.	intention to use e-learning).	perceived ease of use, perceived usefulness, curriculum fit, perceived enjoyment, teaching materials, instructor characteristics

Table 3 (Con't)

Lin, (2010)	Examining e-travel sites: an empirical study in Taiwan.	Behavioral intension	perceived ease of use, perceived usefulness, Risk, information quality, functionality need service,
Phatthana & Mat, (2011).	The Application of Technology Acceptance Model (TAM) on health tourism e-purchase intention predictors in Thailand.	e-purchase intension	perceived ease of use, perceived usefulness, image
Chen,& Lin, (2012)	Technology acceptance analysis of local government tourism website.	Behavior intense to use	perceived usefulness, attitude, self-efficacy
Gao, Røinend, & Krogstie, (2012, December)	The adoption of mobile tourism services: an empirical study.	Intent to use mobile service	perceived ease of use, perceived usefulness, trust, personal innovativeness
Li, Duan, Fu, & Alford, (2012)	An empirical study on behavioral intention to reuse e-learning systems in rural China.	behavioral intention to reuse e-learning systems	perceived ease of use, perceived usefulness, course quality, service quality, self-efficacy

Table 3 (Con't)

Padilla-MeléNdez, Del Aguila-Obra, & Garrido-Moreno, (2013)	Perceived playfulness, gender differences and technology acceptance model in a blended learning scenario.	Intense to use technology	perceived ease of use, perceived usefulness, attitude, perceived enjoyment
Agudo-Peregrina, Hernández-García et al. (2014)	Behavioral intention, use behavior and the acceptance of electronic learning system-differences between higher education and lifelong learning	behavioral intention	Personal innovativeness, perceived ease of use, perceived usefulness, attitude, facilitating conditions, relevant for learning, perceived interaction, social influence, self-efficacy, computer anxiety, perceived enjoyment

Based on the above table, there are many variables which influence the students' behavioral intention to use a mobile learning in their study; therefore, the researcher decided to do frequency with the previous research article in order to identify which variables should be selected to study depended on their high score of each factor if compare to others as shown in the following table of frequency of independent variables as shown below:

Table 4: Independent variable frequency

Factors/ Author	Ozturk, & Hancer, (2015)	Ssekibaamu, (2015)	Sahli, & Legohérel,(2016)	Hsu, (2016)	Chang, Hajiyev, & Su, (2017)	Adukaite, van Zyl, & Cantoni, (2017)	Abbas, (2017)	Forteza Grimalt, (2018)	Lee, Yoon, & Lee, (2009)	Lin, (2010)	Phatthana, & Mat, (2011)	Chen,& Lin, (2012)	Gao, Røinend, & Krogstie, (2012, December)	Li, Duan, Fu, & Alford, (2012)	Padilla-MeléNdez, Del Aguila-Obra, & Garrido-Moreno, (2013)	Agudo-Peregrina, Hernández-García et al. (2014)	**Frequency**
Facilitating condition		✓														✓	2
Social influence	✓	✓			✓			✓								✓	5
Effort expectancy		✓															1
Performance expectancy		✓															1
Trust			✓										✓				2

Table 4 (Con't)

Perceived ease of use	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	12
Perceived Enjoyment	✓		✓	✓		✓	✓					✓	✓	7
Compatibility	✓													1
Perceived usefulness	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	13
Attitude	✓				✓				✓			✓	✓	5
Technology			✓											1
Experience			✓		✓									3
Computer anxiety	✓		✓	✓			✓						✓	5
Self-efficacy			✓	✓	✓				✓		✓		✓	6
Perceived curriculum fit				✓		✓					✓		✓	3
Learning opportunity				✓										1
Personal innovativeness	✓				✓	✓				✓			✓	5
Organizational factor					✓									1
Teaching materials														1
Information quality							✓							1
Functionality need service							✓							1

Table 4 (Con’t)

Image		✓			1
Service quality			✓		1
perceived interaction					1
Facilitating condition	✓			✓	2

According to the table 4 above, there are sixteen related studies reviewed and there are twenty-five factors counted as well as listed in those studies**.** Drawing from the frequency of the factors in the chart, we can see that eight factors have the highest frequency counted. However, seven factors have been selected to studying such as social influence (5), self-efficacy (6), computer anxiety (5), personal innovativeness (5), perceived enjoyment (5), perceived usefulness (13), and perceived ease of use (12). Attitude (5) is not selected to be a factor in this research because depending on the Technology Acceptance Model developed by (Venkatesh & Davis, 1996) because it can be skipped. And the two main cognitive responses, perceived ease of use and perceived usefulness, were straightly correlated to behavior intention. Therefore, five factors which are called external factors (social influence, self-efficacy, Mobile anxiety, personal innovativeness, and perceived enjoyment) and two main cognitive responses: perceived usefulness and perceived ease of use, are considered as independent variables. Lastly, students' behavioral intention is a dependent variable.

2.5 Main Variables in the Construct

Exogenous variables (SE, MA, PI, PE and SI)

Five external variables are influencing directly on mediator PEOU and PU towards student's behavioral intention to use mobile learning in the study (Venkatesh & Davis, 1996). They were considered as social influence (SI), self-efficacy (SE), mobile anxiety (MA), personal innovativeness (PI), and perceived enjoyment (PE). They would be explained in details as the following:

Self-efficacy (SE)

Self-efficacy is employed to analyze its positive effect on perceived ease of use of utilizing mobile learning in the study by students. Consequently, it was described with a variety of aspects as the following. Firstly, self-efficacy is focused on the individual's self-belief in his or her ability to do a specific task or job (Agudo-Peregrina, Hernández-García, & Pascual-Miguel, 2014). Then, V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis (2003b) explained self-efficacy as the ability to

use technology (eg. Computer...etc) to achieve his or her job or task assigned effectively. According to, Al-Ammary, Al-Sherooqi, and Al-Sherooqi (2014) defined as an individual's belief in his or her ability or skills to use a particular system in the concept of information technology to use that skills widely and more complicated job. And after that, it is referred to an individual's self-belief in the capacity of practicing behavior and a particular system in the technology context (Al-Ammari & Hamad, 2008). On the other words, self-efficacy is defined as an individual's self-confidence or self-judgment on his or her ability to implement a specific task or works by using technology (Alenezi & Karim, 2010) while Al-Gahtani (2016) described as the grade to which judgment of ability to complete specific jobs or duties by applying technology. Next, self-efficacy is explained as the confidence degree of a person about holding a particular job and his or her ability to affect his or her casual life (Aypay, Celik, Aypay, & Sever, 2012). Lastly, Yi-Cheng, Chun-Yu, Yi-Chen, and Ron-Chen (2007) transcribed self-efficacy as students' self-confidence in their capacity to study and operate e-learning in their context. In succinctly, self-efficacy in this research can be defined as the students' self-belief in their ability to study and operate mobile learning in the study in their context. Moghadam and Bairamzadeh (2009) found that self-efficacy is an important direct effect on perceived ease of use. Once the students have known to use mobile phones by themselves; in case, they found the affirmative belief in the system that it is the ease of use and useful to them. Also, Hsia and Tseng (2008a) confirmed that when users have higher computer self-efficacy, they tend to have more affirmative perceived ease of use as well as received usefulness. The previous researches will prove the concept.

Chow, Herold, Choo, and Chan (2012) studied online 3D world second life (SL) to learn about its improvement and assessment to the virtual aspects, as rapid sequence intubation (RSI) with 206 nursing students as the sample size in this research. The result showed that once the students found the system was useful for them and felt self-efficacy to consume it, they would tend to apply it with their job as much as possible. Moreover, both computer self-efficacy had a significantly positive direct influence on perceived usefulness and perceived ease of use toward the behavioral intention.

Hsia and Tseng (2008a) used the combination of two constructs: perceived flexibility and computer self-efficacy to identify the applicability of the technology acceptance model (TAM) for learning staff perception to accept e-learning. Researchers studied with 233 staffs selected from 16 branches at Hsinchu Science Park in Taiwan. The result found that computer self-efficacy was an important direct effect on either perceived ease of use or perceived usefulness.

Y.-C. Chen and Lin (2012) identified factors influencing travelers' intention to use the local government tourism web for rousing local tourism. The technology acceptance model (TAM) would be applied for this study to evaluate the pros and cons of the web platform and to examine the motives of tourists to use the web for information seeking. The outcome demonstrated that self-efficacy had a positive effect on perceived ease of use.

Hussein, Aditiawarman, and Mohamed (2007) determined the factors influencing the acceptance of using e-learning, which operated in Indonesian Open University or Universitas Terbuka (UT) with 164 respondents. The result showed that computer self-efficacy has a positive effect on the two beliefs construct: perceived ease of use and perceived usefulness.

As mentioned in the above, Chang et al. (2017) discovered that self-efficacy (SE) positively and importantly influence perceived ease of use (PEOU) and perceived usefulness of e-learning. Thus, the researcher formulates the following hypothesis:

H1-Self-efficacy positively predicts perceived ease of use of using a mobile learning in the study by students.

H2-Self-efficacy positively predicts the perceived usefulness of using mobile learning in the study by students.

Mobile Anxiety (MA)

Mobile anxiety is applied to negatively predict perceived ease of use of using mobile learning in a study by students. There are many previous studies mentioned and defined in different ways based on their study contexts. For instance, computer anxiety is described as a level of fear or negative thought that individual has

whenever operating the computers because of lacking computer skills by Venkatesh and Morris (2000) and Venkatesh et al. (2003b). Al-alak and Alnawas (2011) mentioned computer anxiety as an individual's fear of computer utilization that possibly happens in negative effects while it is explained as the tendency of the individual experience of being afraid of using computer Alenezi and Karim (2010). Based on Al-Gahtani (2016), computer anxiety is defined as the rate of personal belief of fear if he or she might confront computer utilization. Computer anxiety, Calisir, Altin Gumussoy, Bayraktaroglu, and Karaali (2014), translated as evoking anxious and mental reactions if it leads to performing the behavior. Another meaning, Park, Son, and Kim (2012a) defined computer anxiety as a result of fear after an individual is confronted by possibly consuming IT. In the briefing, mobile anxiety can be translated as the negative thought or fear of operating mobile learning in the study, which the users might face. It can be explained that if the users find there are no fears or less negative thought of use a specific technology, they will tend to use more often than the users have much negative thought (Venkatesh & Morris, 2000). Moreover, they also confirmed that mobile phone anxiety negatively direct predicts to perceived ease of use by students. Many previous studies can modify the above statement like the following:

Purnomo and Lee (2013) identified whether the TAM could be extended with the other five external variables or not and monitored the influencing on the decision to use e-learning. The study worked with 500 students with 61percent of the response rate. The research outcome released that computer anxiety had a significantly negative effect on both perceived ease of use and perceived usefulness of an e-learning system.

Saadé and Kira (2006) aimed to measure the effect of anxiety on the perception of the e-learning system through the TAM model. The result demonstrated that anxiety had a negatively significant influence on perceived ease of use and perceived usefulness in the TAM construct.

Chang et al. (2017) discussed in their study. They found that computer anxiety (CA) was a directly negative effect influence either perceived ease of use (PEOU) or perceived usefulness of e-learning.

McFarland and Hamilton (2006) studied how contextual specificity affecting technology acceptance. The result showed that computer anxiety and other variables had a strongly significant and direct effect on the two main constructs: perceived ease of use and perceived usefulness as well as system usage. Base on this, research posits the following hypothesis:

H3-Mobile anxiety negatively predicts perceived ease of use of using mobile learning in the study by students.

H4-Mobile anxiety negatively predicts perceived usefulness of using mobile learning in the study by students

Personal Innovativeness (PI)

Personal innovativeness is proposed as a variable for positively predicting perceived ease of use for using mobile learning in the study. Previous research had defined it in a different way as the following. Personal innovativeness is referred to the desire of a person to test any new information technology regarding as a form of accepting to change (De Smet, Bourgonjon, De Wever, Schellens, & Valcke, 2012). However, Agarwal and Prasad (1998) defined personal innovativeness as the passion of an individual to taste the new information technology. Then, Lu, Yao, and Yu (2005) explained personal innovativeness as an active information technology seeker about new ideas. Finally, Jackson, Mun, and Park (2013) transcribed personal innovativeness as a willingness to adapt to the new information technology. All in all, personal innovativeness refers to the students to accept to use to or to learn to mobile phone technology regarding a form accepting to change in study. Generally, people with highly positive personal innovativeness seem more likely to try out new things or new high-tech (Agarwal & Prasad, 1998); therefore, it can be proved that they have a high desire to use mobile phone in their study. It is considered that personal innovativeness could positively predict behavioral intention to use mobile learning via perceived ease of use. Thus, there are some related studies that will be raised to confirm this idea as the following:

Yang (2005) studied how Singaporeans use Mobile for their business by applying the technology acceptance model (TAM) to identify determinants

influencing Singaporean's attitudes to use a mobile phone and applications. The researcher surveyed 866 Singaporean students about the decision to adopt M-commerce. The finding showed that personal innovativeness had a positive effect on perceived ease of use as well as perceived usefulness toward M-commerce adoption by Singapore consumers.

Jackson et al. (2013) paid attention to an individual trait on technological innovation and its impact on behavioral intention to use the e-buying system by using three different theories combined. They studied with 196 hospital administrators in South Korea. The outcome was demonstrated that personal innovativeness in IT (PIIT) had a significant determinant for testing behavioral intention to use via mediators, perceived ease of use and perceived usefulness path.

De Smet et al. (2012) explored the instructional use of the learning management system (LMS) and conducted with 505 Flemish secondary school teachers along with testing 9 variables selected. The result displayed that personal innovativeness in IT had positively and significantly affected both perceived ease of use and perceived usefulness.

Lewis, Agarwal, and Sambamurthy (2003) searched for factors affecting on the construct of beliefs: perceived usefulness and perceived ease of use in the frame of contemporary technology targeted at autonomous knowledge workers. The survey was conducted with 161 respondents from the academic department. The finding was released that top management to new technology and the individual factors: personal innovativeness and self-efficacy affected two beliefs construct about technology use, perceived ease of use and perceived usefulness. According to this, the researcher proposes the following hypothesis:

H5-Personal innovativeness toward mobile learning in study positively affects perceived ease of use by students.

H6-Personal innovativeness toward mobile learning in study positively affects perceived usefulness by students.

Perceived Enjoyment (PE)

Perceived enjoyment is selected as a determinant to positively predict the perceived ease of use of using mobile learning for learning by students. It can be defined as the following. Agudo-Peregrina, Hernández-García, and Pascual-Miguel, (2014) defined perceived enjoyment as the level of satisfaction and enjoyment of the users that get from using a given system. Al-Gahtani (2016) defined perceived enjoyment as the extent to which an individual performs on a particular system to be enjoyable for his or her own rights. On the other meaning, perceived enjoyment is explained as the proportion of action of enjoyment that are got by computer use besides any performance results predicted (Yi-Cheng et al., 2007). Furthermore, Park et al. (2012a) defined perceived enjoyment as fun aspects which are got from operating a specific system with his or her own rights. In summary, perceived enjoyment refers to the level of fun and satisfaction when students operate a mobile learning in a study within their own rights. In general, when people find they get happy and enjoy performing one specific activity, they will intentionally get involved with that as much as possible (T. S. Teo & Lim, 1997). Consequently, it is a belief that perceived enjoyment could be served as a key determinant for predicting the effect on perceived ease of use toward the student's behavioral intention to use mobile learning in the study. The previous studying will be employed to prove this concept as the following:

Shyu and Huang (2011) tended to apply TAM for measuring and describing the usage of e-government study through collecting data with 371 Taiwanese students, an 82.75 response rate. The result showed that there was highly significant which perceived enjoyment had a direct effect on perceived ease of use in the path.

Shen and Eder (2009) purposely studied the student intends to use the virtual world second life (SL) for study based on TAM with the business school students. The study revealed that computer playfulness was also directly significant to perceived ease of use toward intention to use the virtual world second life (SL).

Agudo-Peregrina, Hernández-García, and Pascual-Miguel (2014b) used a TAM3-based model by focusing on the factors affecting the acceptance of use e-

learning with 125 respondents included higher education students and lifelong learning at UPM. The result demonstrated that perceived playfulness supported TAM construct and it was illustrated that there was a significant effect on perceived ease of use.

Al-Gahtani (2016) described the perceived enjoyment had a positively significant relation to perceived ease of use. So, the researcher can draw the following hypothesis:

H7-Perceived enjoyment positively predicts perceived ease of use of using mobile learning in the study by students.

Social Influence (SI)

Social influence is used to predicts the effect of student behavioral intention to use mobile learning in a study. Therefore, social influence can be defined as a different meaning by researchers as the following. Subjective norm is exemplified as the idea that the students get pressure from their surrounding environment or people they belong to in order to use e-learning (Agudo-Peregrina, Hernández-García, & Pascual-Miguel, 2014). It is not about social conditions towards decision making; however, it interacts with how the concept of friends, teachers, or educational centres policy. On the other hand, social influence is interpreted as an individual's belief which is affected by reference group, culture, and agreement depend on his or particular social situation (Venkatesh et al., 2003b). According to Al-Ammary et al. (2014) explained social influence as someone's ideas which impact his or her thought or performance in order to clarify that it is good or bad to the social situation. Moreover, Al-Ammari and Hamad (2008) described as an individual's perception of the social pressures to behavior whether his or her behavior should do or not in question based on the reference group, while it is focused on the scale of personal perceives or judgment to whom significant to him thought in case he or she ought to perform the behavior or to use the system or not (Al-Gahtani, 2016). Not different from the others, Park et al. (2012a) explained social influence as the degree of personal recognition that it is significant to carry out his or her behavior or not because of other thoughts. Similarly, Lu et al. (2005) interpreted as the perceived

pressure from social stakeholders on the exact behavioral decision whether should or should not perform it out. Besides others, social influence can be defined as other person's ideas, superior influence, and referent groups' influence (Lu, Yu, Liu, & Yao, 2003). To recap, social influence in this study can be explained as the perceived pressures or influence from the surrounding environment such as social networks, peer and reference group as well as education on the behavior in which it should or should not perform mobile phone in study. Depend on the Unified Theory of Acceptance and Use of Technology (UTAUT), V. Venkatesh, M. Morris, F. Davis, and G. Davis (2003a) supposed that social influence directly impacts user acceptance and usage behavior of technology. Furthermore, social influence is considered indirectly affects student's behavioral intention to use a mobile phone in the study through perceived usefulness towards based on the TAM (Davis, 1985).

Schepers and Wetzels (2007) studied the previous articles on the Technology Acceptance Model (TAM) through an empirical meta-analysis that was focused on the social role in the TAM model. They differentiated between moderating influence including an individual-related factor (respondents group), a technology-related factor (technology category), and contingent factors (culture) depending on the finding. The finding showed that there was a positively important impact of social influence on both perceived usefulness and behavioral intention to use.

Agudo-Peregrina et al. (2014a) investigated the factors affecting the acceptance of the e-learning system by analyzing to 125 Spanish graduate and lifelong learning students. The research outcome revealed that almost only the main elements of the model and its coefficients are stable in the two settings. It demonstrated that social influence and perceived usefulness have a directly significant effect on student behavioral intention.

Ssekibaamu (2015) learned about the relation between the unified theory of acceptance and the use of technology (UTAUT) for clarifying factors, faculty's adoption game as teaching material in the higher education system. The finding released that there was a significant correlation between the key constructs of the UTAUT model: performance expectancy(PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC) and faculty's behavioral intention (BI)

while the whole construct was correlated at R = 72% with explaining possibility 52% (R^2 = 0.522) of the variance in Behavioral Intention (BI).

Farahat (2012) aim to explore the factors influencing the students' perception and their intention to use e-learning. The researcher withdrew the data from 153 undergraduate students in DBMU. The finding illustrated that perceived ease of use, perceived usefulness, attitude towards online learning, and social influence of student's referent group truly have a significant effect on students' intention to use e-learning.

Al-Gahtani (2016) employed an empirical method to investigate a causative explanation of individual decision behavior towards the acceptance to e-learning in an academic setting based on the third version of the Technology Acceptance Model (TAM3), which was selected 286 students as a sample size for this study. The result proved that social influence has a positively straightforward effect on perceived usefulness as well as a significant direct impact on behavioral intention. Therefore, the hypothesizes are proposed:

H8-Social influence positively predicts the perceived usefulness of using mobile learning in the study by students.

H9-Social influence positively predicts the behavioral intention to use mobile learing in the study by students.

Mediated variables (PEOU and PU)

Perceived ease of use (PEOU)

Perceived ease of use is used to predict the direct effect on perceived usefulness and behavioral intention to use mobile learning in learning by students. It is also defined by different researchers based on their study context as the following: Perceived ease of use refers to the level of individual belief in using a specific system which may be either harmless for his or her physical or mental appearances (Davis, 1985). Based on Venkatesh et al. (2003b) defined perceived ease of use as the scale of innovation perceived as being hard to use. On the other meaning, Al-alak and Alnawas (2011) claimed perceived ease of use as a degree of human belief in which using a given system would be requiring no physical or mental exertion. It also is

interpreted as the extent to which individual perception of using IT would be free of effort by Al-Gahtani (2016). But, Aypay et al. (2012) considered perceived ease of use as both intrinsic and extrinsic encouragement to consume technology. Another definition, perceived ease of use is referred to as an individual judgment of utilizing a given system or technology could be free of effort (Calisir et al., 2014). In short**,** perceived ease of use can be defined as the degree of students' perception of which utilizes mobile learning in learning that would make them free of effort in their study. The original model of TAM, Davis (1989), perceived ease of use has directly influenced two different determinants. First, it affects directly to perceived usefulness, and the other side, it directly has an effect on perceived usefulness toward the behavioral intention. It can be work as a catalyst to push the likelihood acceptance of the user while it directly affects; however, once it is indirectly influenced to behavioral intention, it performs as likely as stemming of situation, other thing being balance. For example, while the users find it easy to use a specific system, it seems to be useful for them. This will be confirmed by other related studies as the following:

According to Hussein et al. (2007), the study result mentioned that perceived ease of use had strongly direct positive effects on perceived usefulness and intention to use, too.

Ifinedo (2006) studied the higher education students' acceptance and continuance intention of use for Web-based learning tools in Estonia. The researcher studied with 72 students selected from four universities. The finding was released that perceived ease of use strongly impact on perceived usefulness with a path coefficient with 0.375 and continuance intention also.

Shen and Eder (2009) found that perceived ease of use influenced student intention to use the virtual world second life (SL) through perceived usefulness.

Phatthana (2011) determined three factors: perceived usefulness, perceived ease of use, and image to intention to e-purchase of health tourism through the technology acceptance model (TAM) with 320 questionnaires delivered to the international patients, 74% response rate and the results showed that all variables totally support to the intention to use e-purchase for health tourism.

Gao et al. (3, December 2012) had described in their research above, determining mobile adoption in tourism service in Norway which surveyed 47 mobile users for finding tourism service called Extended Mobile Tourist Service Recommender (MTSR), based on the technology acceptance model (TAM). The researchers found that perceived ease of use were positively and significantly support the model. As it affected directly on perceived usefulness as well as the intention to use MTSR.

Y.-C. Chen and Lin (2012) identified factors influencing travelers' intention to use the local government tourism web for rousing local tourism. They found that perceived ease of use positively influenced on perceived usefulness and affected directly to behavioral intention.

Purnomo and Lee (2013) have mentioned above. Perceived ease of use was shown it had a positive indirect influence on intention to use e-learning through perceived usefulness.

In addition, Agudo-Peregrina et al. (2014a) revealed that perceived ease of use was identified that has a positive indirect impact on student behavioral intention via perceived usefulness.

Al-Gahtani (2016) demonstrated in his study that perceived ease of use showed extremely affirmative affect perceived usefulness as well as directly influence student behavioral intention. In short, the researcher can hypothesize that:

H10-Perceived ease of use positively predicts perceived usefulness to use mobile learning in the study by students.

H11-Perceived ease of use positively predicts behavioral intention to use mobile learning in the study by students.

Perceived usefulness (PU)

Perceived usefulness is used to positively predicts behavioral intention to use mobile learning in a study by students. It was defined as the following depending on the previous research context. Perceived usefulness is explained as the level of individual belief in using a given system could increase his or her work performance (Davis, 1985). Al-alak and Alnawas (2011) concluded perceived usefulness as a

degree of human belief in which consuming a particular system would make their work performance increased positively. Anyway, Aypay et al. (2012) defined perceived usefulness as the opinion of an individual utilizing technology that will improve his or her work or productivity. Besides that, perceived usefulness is focused on the scale of which personal belief in applying technology would expand his or her job (Calisir et al., 2014). As it has been defined in varied meanings by the previous studies; all in all, it can be redefined in order to fit this study as the degree of students' perception of using mobile phone learning would increase in his or her job productivities or work performance. Perceived usefulness is closely related to benefit expectation, instrumentality, and extrinsic motivation that could be got from consuming any given system. Based on TAM constructs, perceived usefulness is a strong factor to predict user acceptance and behavioral intention to use (Davis, 1989) and (Venkatesh & Davis, 1996). The concepts will be clarified by the previous research as shown below:

As mentioned in the study above, Ifinedo (2006) identified that perceived usefulness was affected directly by perceived ease of use and it significantly directly influenced continuance intention.

Li et al. (2012) learned about the correlation between e-learners' experience and perception as well as behavioral intention to reuse the e-learning system. Researchers applied the information system success model, technology acceptance model, and self-efficacy model and analyzed with 280 e-learners for learning deeply to learners' behavioral intention to reuse the system. The result showed that e-learning service quality, course quality, perceived usefulness, perceived ease of use, and self-efficacy positively and significantly direct influence the behavioral intention to reuse.

Phatthana (2011) mentioned that perceived usefulness influenced directly the intention to e-purchase health tourism through the technology acceptance model (TAM).

As raised above, Gao et al. (3, December 2012) identified that all the seven hypothesizes were positively and significantly support the model. Anyway,

among all, perceived usefulness was a positive direct impact on the intention to use MTSR.

Y.-C. Chen and Lin (2012) mentioned in their study, identified factor influencing travelers' intention to use local government tourism web for rousing local tourism. They displayed that perceived usefulness had a straight impact on behavioral intention.

According to Purnomo and Lee (2013) has found in their study above, they identified that perceived usefulness is importantly an impact on the intention to use the e-learning.

In their study, Agudo-Peregrina et al. (2014a) found that perceived usefulness was direct effects students behavioral intention to use e-learning system.

Al-Gahtani (2016) verified in his research that perceived usefulness affects directly to student behavioral intention.

Rezaei, Mohammadi, Asadi, and Kalantary (2008) released that there have positively indirect relations between perceived ease of use to students' behavioral intention to use online learning through perceived usefulness. So, the researcher posits the hypothesis that:

H12-Perceived usefulness positively predicts behavioral intention to use mobile learning in the study by students.

2.6 Conceptual Framework and Hypothesis

Conceptual Framework

Drawing on the above discussion, this study proposed a comprehensive model and developed an instrument for measuring students' intentions to use mobile learning. As can be seen in figure 1, the conceptual framework hypothesizes that perceived enjoyment (PE), self-efficacy (SE), Mobile anxiety (MA), and personal innovativeness (PI) are the underlying determinant of perceived ease of use (PEOU). On the other side, social influence (SI) is underlying determinants of perceived usefulness (PU) of mobile learning. Moreover, PEOU and PU directly influence students' behavioral intention to use mobile learning while behavioral intention

influences the actual use of mobile learning. The main them is the constructed belief that PEOU and PU as well as SI have an indirect influence on the actual use of mobile learning through the coalition of students' behavioral intention. PE, SE, MA, PI, and SI: exogenous variables are mediated by constructed two beliefs: PEOU and PU which indirectly influence endogenous: the behavioral intention (BI) to use mobile learning. TAM is used as the main model in this study. The hypothesized relationships in TAM will be identified in the context of mobile learning.

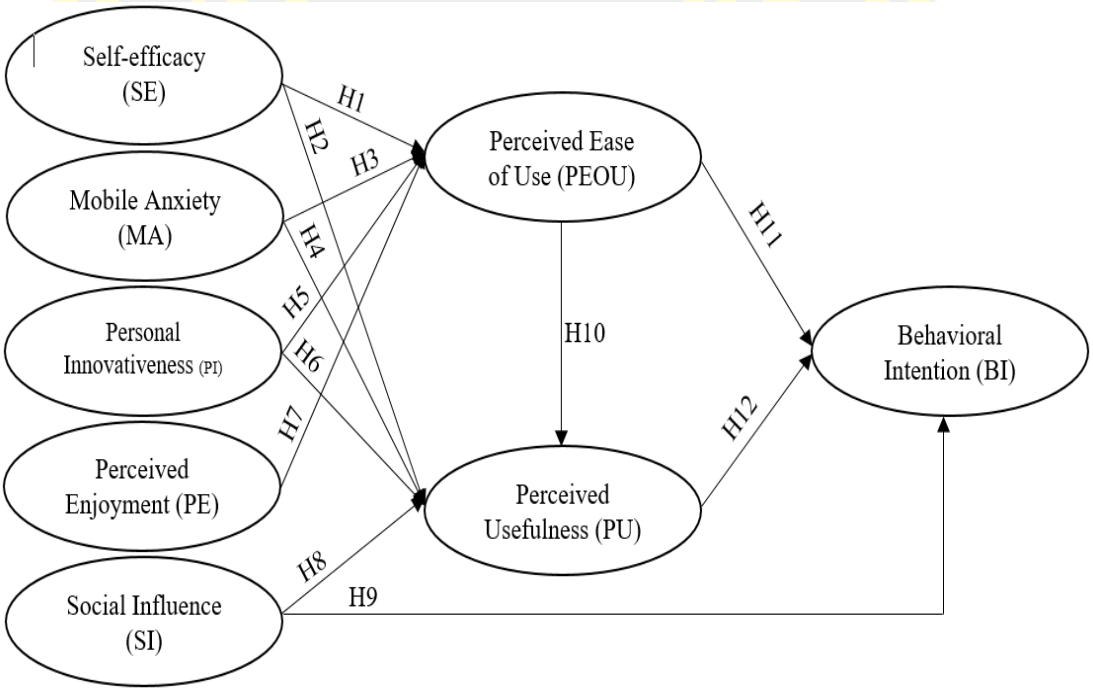

Figure 6: *Conceptual Framework*

Research Hypothesis

- H1-Self-efficacy positively predicts perceived ease of use of using mobile learning in the study by students.
- H2-Self-efficacy positively predicts perceived usefulness of using mobile learning in the study by students.
- H3-Mobile anxiety negatively predicts perceived ease of use of using mobile learning in the study by students.

- H4-Mobile anxiety negatively predicts perceived usefulness of using mobile learning in the study by students.
- H5-Personal innovativeness toward mobile learning in the study positively affects perceived ease of use by students.
- H6-Personal innovativeness toward mobile learning in the study positively affects perceived usefulness by students.
- H7-Perceived enjoyment positively predicts perceived ease of use of using mobile learning in the study by students.
- H8-Social influence positively predicts perceived usefulness of using mobile learning in the study by students.
- H9-Social influence positively predicts the behavioral intention to use mobile learning in the study by students.
- H10-Perceived ease of use positively predicts perceived usefulness to use mobile learning in the study by students.
- H11-Perceived ease of use positively predicts behavioral intention to use mobile learning in the study by students.
- H12-Perceived usefulness positively predicts behavioral intention to use mobile learning in the study by students.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the overall methodology that was used to conduct this study. It begins by describing the research design, population, and sample as well as the setting for study. Next, it gives the measurement instrument used and why it was selected followed by the method of data collection and analysis. Furthermore, this chapter also provides the validity and reliability of the research instrument used, outline the limitation of the methodology used, examines some ethical consideration that would affect the study; and finally, ends with a concluding summary.

3.1 Research design

The main factors of the research design and methodology for the study depended upon the research question under exploration. It will reflect the type of data collected or analyzed based on the research questions. However, it will be affected by other elements as the skill of the researcher and resource availability (EIPPEE, 2011). W. Chen and Hirschheim (2004) explained that the positivist research technique which is symbolized by hypothesis, propositions, models, quantitative measurement, the population as well as sample size. The researcher used one main question for his study: what factors determine the student learning style of technology usage?

The researcher employed a quantitative approach and descriptive technique in his research for defining the correlation between technology acceptance and students' behavioral intention to use mobile learning in Hospitality and Tourism at higher education in Phnom Penh, Cambodia. A questionnaire was used to directly collect data from students in that major according to the research objectives, scope, and limitation. Moreover, the result from the surveyed questionnaire was treated as the primary data. Structural Equation Modeling (SEM) applied for the study to test the relationship among each variable in the core constructs on the technology acceptance model (SI, SE, MA, PI, PE, PEOU, and PU variables) and students' behavioral

intention to accept to use mobile learning technology for improving their learning process in the Hospitality and Tourism major. Creswell and Creswell (2017) mentioned that the quantitative approach is the better way to learn about the relationship and effect among each variable, while it focuses on the experiment and survey as the research tool for collecting the statistical data.

The research employed a site-survey study that directly gathered data at the respondents' site. The students who are studying in Tourism and Hospitality in Phnom Penh will be selected to respond to the questionnaires.

Endogenous Variables

After reviewing the literature (chapter 2), the conceptual model used in this study as the independent variable was students' behavioral intention to use mobile learning (BI).

Exogenous Variables

The following section describes the construct measurements of dependent variables of SI, SE, MA, PI, PE, PEOU, and PU.

3.2 Population, Sample size, and Sampling Method

Target Population

The purpose of the study was to determine the factors influencing the students' behavioral intention to use mobile learning in a study at the higher education in Hospitality and Tourism field in Phnom Penh, Cambodia. Therefore, the population selected for this study was students who were learning in Hospitality and Tourism major in 2019 within 17 universities or institutes which registered and under governed by the Ministry of Tourism. The lists of the 17 universities or institutes as shown in the following table:

No	Name of Educational Centre	Location	Telephone
1	PSE Institute	Phnom Penh	012 902 584
2	Institute of Tourism and Hospitality of Cambodia	Phnom Penh	095 575 855
3	Institute of Hospitality and Tourism of Phnom Penh	Phnom Penh	012 78 78 89
4	APT School of Hospitality and Tourism	Phnom Penh	012 979 965
5	Academy of Career and Tourism (ATC)	Phnom Penh	012 664 473
6	NAGA Academy	Phnom Penh	016 985 252
7	International Hospitality Training in Cambodia (ACAC)	Phnom Penh	012288 005 http://acac.edu.kh
8	National Polytechnic Institute of Cambodia	Phnom Penh	088 333 33 82 http://www.npic.edu.kh
9	Asia Euro University	Phnom Penh	017 555 967 http://www.aeu.edu.kh/
10	Ecole d´ hôtellerie et de tourisme paul dubrule	Siem Reap Province	012 829 673
11	Salabai	Siem Reap Province	012 323 612
12	E Pok School	Siem Reap Province	012 657 337
13	Regional Polytechnic Institute Techo Sen Siem Reap	Siem Reap Province	012 918 167

			http://www.rpitssr.edu.kh/
14	Feeding Dream Cambodia	Siem Reap Province	016 551 525 feedingdreamscambodia.org
15	University of South-East Asia	Siem Reap Province	012 886 476 http://www.usea.edu.kh
16	Le Tonlé Training Restaurant & Guesthouse	Kratie Province	078 398 886
17	Don Bosco School	Sihanuk Ville province	096 48 34 178

Adopted from: Ministry of Tourism, Cambodia-2017

Sample Size

In order to define the proper sample sizes in the quantitative method, particularly in structural equation modeling (SEM), sample size as rule of thumb, is recommended by Green (1991) (cited in Kline (1998)) to be more than 25 times the number of parameters to be estimated whereas the minimum o being a subject of parameter ratio 10:1 by (Kline, 1998). Therefore, this study 420 sample sizes were considered acceptable based on the total of 39 parameters.

Sampling Method

The researcher applied the probability sampling method because the researcher does not know exactly the total numbers of the population in each targeted university or institute. So that, multi steps was employed for selecting samples (4 universities) in this study in order to make sure that each target population has an equal chance to be chosen. There were three steps implying within the sampling method as shown in the following below:

Step1: The researcher used simple random sampling (SRS) for selecting four universities or institutes among nine universities or institutes located in Phnom Penh along with a total of 17 universities or institutes in the whole country. As a result, there were four universities or institutes selected by chance, namely as 1. National Polytechnic Institute of Cambodia (NPIC), 2. Asia Euro University, 3. Institute of Hospitality and Tourism of Phnom Penh, and 4. PSE Institute.

Step2: The stratified sampling method was used for selecting 420 respondents from the four chosen universities above. Thus, the researcher decided to intentionally set 105 respondents from each university or institute among the four ones to answer the questionnaire for the data collection.

Step3: those 420 respondents would be selected depending on the three main criteria such as 1. Students were studying in each four targeted universities or institutes in Phnom Penh, 2. Students were studying in Tourism and Hospitality major, and 3. they must be at least studying associate degrees.

3.3 Research Methodology

Cross-section approach, the quantitative method, and a self-administered questionnaire were employed in this study. The questionnaire was distributed directly to students in each target university in Phnom Penh, Cambodia as it was the most suitable data collection tool in this approach and it was the most effective way too.

There were three parts set to make this research completed.

Part 1: the researcher defined the conceptual principle of the Technology Acceptance Model and factors affecting students' behavioral intention to use mobile learning, which was significant in exploring with the research. Based on reviews from books, academic journals, thesis, and other publications, those factors were identified, and a conceptual framework was also built for this study as well as an operational definition of each variable was defined.

Part 2: the research instrument was developed from previous related studies. The questionnaire is divided into 2 parts. Part one focuses on the general information of the respondents and users' behavior (age, gender, education/degree, experience with a mobile phone). In part two is about independent variables that are exogenous variables affecting students' behavioral intention to use mobile learning and finally talks about students' behavioral intention to use mobile learning. Moreover, the reliability and validity of questionnaire testing would be processed in this phase.

Part 3: in this stage is to collect and to analyze data. The collected data were analyzed by Statistical Package for Social Science tools (SPSS) 23.0 and AMOS 21.0. After that, the results, discussions, and the managerial implication was interpreted. Lastly, result in discussion and recommendation for further or next study would be proposed too.

Table 5: Summary of The Research Methodology

Part 1: Conceptual Framework	**Part 2: Questionnaire development**	**Part 3: Data collection and analysis**
-Conceptual principles of TAM and factor reviewing based on students' behavioral intention to use mobile phone for their learning. -Proposing operational definition of each factor	-Developing questionnaire from the operational definition and reviewing from other previous studies. -Checking questionnaire reliability (Cronbach's alpha) and validity (IOC): • Validity (IOC) is evaluated by 3 experts in Hospitality and Tourism field and research statistic • Reliability (Cronbach's alpha) is analyzed by statistical testing based on alpha value and pilot testing with 30 target respondents.	-Collecting data at target respondents' sits by handing directly to them fill -Analyzing data using SPSS 23.0 and AMOS 21.0 program -Interpreting result and discussion -Proposing research conclusion and recommendation for the future research.

3.4 Research Instrument

The questionnaire was employed to perform data collection, and it was directly handed to students at their site to respond. It divided into 2 parts as the following:

Part 1: Demographic profile information of respondents is separated into 2 sections 1st: Respondents Profile (gender, age, degree) and 2nd: Respondents behavior (internet usage, and experience using mobile digital devices).

Part 2: is based on the seven Independent variables (SE, MA, PI, PE, SI, PEOU, and PU) and Dependent variable (BI). 39 questions were equal to 39 items. In details, there were three items of SE got from Ali, Ahmed, Tariq, and Safdar (2013), fours items of MA drawn from Calisir et al. (2014), seven items of PI selected from Walczuch, Lemmink, and Streukens (2007), six items belonged to PE adopted from Tajudeen, Basha, Michael, and Mukthar (2013), three items of SI taken out from Jackson et al. (2013), six items of PEOU and six items of PU retrieved from Davis (1989) and Tajudeen et al. (2013). Finally depended on Dependent variable (Students' behavioral intention: BI) with four items in this part, adopted from Ho Cheong and Park (2005) and Tajudeen et al. (2013).

In part 2, there are 39 questions, all are measured respondents' opinion on using mobile learning through using a 5-Points-Likert scale with the following scoring criteria:

1 point is equal to Strongly disagree

2 point is equal to Disagree

3 point is equal to Neutral

4 point is equal to Agree

5 points equal to Strongly agree

Table 6: Questionnaire Items

Variables	**Item Numbers**
Self-efficacy-SE (3)	1, 2, 3
Mobile Anxiety-MA (4)	4, 5, 6, 7
Personal Innovativeness-PI (7)	8, 9, 10, 11, 12, 13, 14
Perceived Enjoyment-PE (6)	15, 16, 17, 18, 19, 20
Social Influence-SI (3)	21, 22, 23
Perceived Ease of Use-PEOU (6)	24, 25, 26, 27, 28, 29
Perceived Usefulness-PU (6)	30, 31, 32, 33, 34, 35
Behavioral Intention-BI (4)	36, 37, 38, 39

Table 7: Operational Definition of Variables Used in the Study

Theory	**Variables**	**Meaning**	**Statements/Questions**	**References**
Technology Acceptance Model (TAM) (Venkatesh & Davis, 1996)	Self-efficacy-**SE**	the students' self-confident in their ability to study and operate a mobile digital devices to support study in their context.	**1**-I could complete my job using mobile learning for support my study if there was no one around to tell me what to do as I go. **2**-I am able to attain my job using new mobile learning for studying application if I had never used like it before. **3**-I could complete my job by using mobile app if I had the software manuals to use it for reference.	Agudo-Peregrina et al. (2014), Venkatesh et al. (2003b), Al-Ammary et al. (2014), Al-Gahtani (2016), Aypay et al. (2012), Yi-Cheng et al. (2007)
	Mobile Anxiety-**MA**	the negative thought or fear of operating mobile phone in study, which the users might face.	**4**-I feel apprehensive about using mobile learning would interrupt my studying performance.	Venkatesh and Morris (2000), Venkatesh et al.

Table 7 (Con't)

			5-It makes me thought that I could lose my studying performance or productivity by using mobile learning. **6**-I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct. **7**-Using mobile learning in my studying is somewhat intimidating to me.	(2003b), Al-alak and Alnawas (2011), Alenezi and Karim (2010), Al-Gahtani (2016), Calisir et al. (2014), Park et al. (2012a)
Innovation Diffusion Theory (IDT)(Rogers, 1962)	Personal Innovativeness-**PI**	the students to accept to use to or to learn to mobile phone technology regarding a form accepting to change in study.	**8**-Some people come to you for advice on how to use mobile learning for any online learning. **9**-It seems your friends are learning more about the new mobile learning application or platform by mobile phone. **10**-Generally, you are among the first in your circle of friends to	De Smet et al. (2012), Agarwal and Prasad (1998), Lu et al. (2005), Jackson et al. (2013)

Table 7 (Con't)

		acquire or know mobile app/ platform for learning when it appears through your mobile phone. **11**-You can operate new mobile high-tech products and service without any help from others. **12**-You keep up with latest learning mobile app or learning platforms development in your areas of interest. **13**-You enjoy the challenge of figure out mobile learning high-tech gadgets. **14**-You find you have fewer problems than other people in using mobile learning technology with your student performance.

Table 7 (Con't)

Technology Acceptance Model (TAM) (Venkatesh & Davis, 1996)	Perceived Enjoyment-**PE**	the level of fun and satisfaction when students operate a mobile phone in study within their own rights.	**15**-I would find mobile learning enjoyable to use for study. **16**-I would find mobile learning exciting to use for study. **17**-I would find mobile learning pleasant to use for study. **18**-I would find mobile learning very interesting to use. **19**-I would find mobile learning boring to use for study. **20**-I would find mobile learning disgusting to use.	Agudo-Peregrina et al. (2014), Al-Gahtani (2016), Yi-Cheng et al. (2007), Park et al. (2012a)
	Social Influence-**SI**	the perceived pressures or influence from surrounding environment such as social networks, peer and reference group as well as education on the behavior in which it should or should not preform	**21**-At university, my friends, who are important to me think that I should use mobile learning to support my studying. **22**-At university, my lecturers, think that I ought to utilize mobile	Agudo-Peregrina et al, (2014), Venkatesh et al. (2003b), Al-Ammary et al. (2014), Al-Ammari and Hamad (2008),

Table 7 (Con't)

		mobile phone in study.	learning to support my study. **23**-At home, my relatives or my parents think that I should use mobile learning to support my study.	Al-Gahtani (2016), Park et al. (2012a), Lu et al. (2005), Lu et al. (2003)
	Perceived Ease of Use-**PEOU**	the degree of students' perception to which utilizes mobile phone in learning that would make them free of effort in their study.	**24**-Utilzing mobile learning would be easy for me. **25**-I would find it easy to use mobile learning to upload and download materials from the internet. **26**-My interaction with mobile learning would be clear and understanding. **27**-It is easy to be skillful in using mobile learning for study. **28**-It would be easy to access all learning materials from mobile learning.	Davis (1985), Venkatesh et al. (2003b), Al-alak and Alnawas (2011), Al-Gahtani (2016), Aypay et al. (2012), Calisir et al. (2014).

Table 7 (Con't)

		29-I would find mobile learning easy to use for study.	
Perceived Usefulness-**PU**	the degree of students' perception of using mobile phone learning would increase in his or her job productivities or work performance.	**30**-Utilizing mobile learning would make my work done more easily and quickly. **31**-It would improve my study performance. **32**-Mobile learning would improve my study performance. **33**-It would increase my study productivity. **34**-Using mobile learning would give me total control in my learning process. **35**-I would fine mobile useful for my study.	Davis (1985), Al-alak and Alnawas (2011), Aypay et al. (2012), (Calisir et al., 2014)
Behavioral Intention-**BI**	the willingness of students in which they intent to and desire to perform	**36**-I intend to use mobile learning for my study.	Ajzen (1991), Armitage and Conner

Table 7 (Cont')

	mobile phone in his or her study.	**37**-I intent to use mobile learning for study purpose as much as possible. **38**-I intend to use mobile learning in the future for study. **39**- I would adopt mobile learning for study.	(2001), De Pillis and Reardon (2007), Khuong and An (2016)

3.5 Validity and Reliability

Consequently, the researcher has completed the questionnaire development, according to **section 3.4 above**. Before taking the questionnaire to collect data, the researcher had to check the quality of the questionnaire in terms of validity and reliability as the following:

Validity of Questionnaire

The researcher asked the advisor to evaluate the questionnaires that got from the review of relevant documents and related research. After that, the researcher took it to test the validity, checked the appropriated wording or phrase as well as language used, and final revise before taking it to question the actual data collection. Moreover, the researcher suggests three experts who are specialists in the Hospitality and Tourism field to verify and certify items in the questionnaire form utilizing The Indexes of Objective Congruence (IOC) scores on a range from -1 to 1. The three experts are listed as the following:

1. Dr. Chitlada Pinthong, BUU lecturer
2. Dr. Nathakan Pruksorranan, BUU lecturer
3. Assistant Prof. Dr. Sombat Thamrongsinthaworn, BUU lecturer

Congruent = 1

Questionable = 0

Incongruent = -1

For proving the questionnaire fits to the study or not, the formula is employed as the following:

$$IOC = \sum R/N$$

IOC = Consistency between the objective and content or questions and objective.

$\sum R$ = Total assessment points given from all qualified experts.

N = Number of qualified experts

The consistency index value must be at least 0.5 or higher to be accepted. When the researcher received the assessment or evaluation of the results, the questions will be adjusted to ensure or confirm a consistency index value of each

question must be greater than 0.5 (Rovinelli & Hambleton, 1977). In contrast, any items whose scores are less than 0.5 are revised.

The questionnaire was directly sent to the experts after getting permission. After the questionnaire returned, the researcher revised it based on the score or what the experts have commented. Consequently, the final valid questionnaire can be obtained. The IOC evaluation form and experts' comment was shown in the following table below:

Table 8: Experts evaluation result on students' behavioral intention to use M-Learning

	Statements	Experts' opinion			Result
		A	B	C	
Self-efficacy-SE					
1	I could complete my job using mobile learning for support my study if there was no one around to tell me what to do as I go.	1	1	1	1
2	I am able to attain my job using new mobile learning for studying application if I had never used like it before.	1	1	1	1
3	I could complete my job by using mobile app if I had the software manuals to use it for reference.	1	1	1	1
Mobile Anxiety- MA					
4	I feel apprehensive about using mobile learning would interrupt my studying performance.	1	1	1	1
5	It makes me thought that I could lose my studying performance or productivity by using mobile learning.	1	1	1	1
6	I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct.	1	1	1	1
7	Using mobile learning in my studying is somewhat intimidating to me.	1	1	1	1

Table 8 (Con't)

Personal Innovativeness-PI					
8	Some people come to you for advice on how to use mobile learning for any online learning.	1	1	1	1
9	It seems your friends are learning more about the new mobile learning application or platform by mobile phone.	1	0	1	0.67
10	Generally, you are among the first in your circle of friends to acquire or know mobile app/ platform for learning when it appears through your mobile phone.	1	1	1	1
11	You can operate new mobile high-tech products and service without any help from others.	1	1	1	1
12	You keep up with latest learning mobile app or learning platforms development in your areas of interest.	1	1	1	1
13	You enjoy the challenge of figure out mobile learning high-tech gadgets.	1	1	1	1
14	You find you have fewer problems than other people in using mobile learning technology with your student performance.	1	1	1	1
Perceived Enjoyment-PE					
15	I would find mobile learning enjoyable to use for study.	1	1	1	1
16	I would find mobile learning exciting to use for study.	1	1	1	1
17	I would find mobile learning pleasant to use for study.	1	1	1	1
18	I would find mobile learning very interesting to use.	1	1	1	1
19	I would find mobile learning boring to use for study.	1	1	1	1

Table 8 (Con't)

20	I would find mobile learning disgusting to use.	1	1	1	1
Social Influence-SI					
21	At university, my friends, who are important to me think that I should use mobile learning to support my studying.	1	1	1	1
22	At university, my lecturers, think that I ought to utilize mobile learning to support my study.	1	1	1	1
23	At home, my relatives or my parents think that I should use mobile learning to support my study.	1	1	1	1
Perceived Ease of Use-PEOU					
24	Utilizing mobile learning would be easy for me. **(Easy to learn)**	1	1	1	1
25	I would find it easy to use mobile learning to upload and download materials from the internet. **(Controllable)**	1	1	1	1
26	My interaction with mobile learning would be clear and understanding. **(Clear and understandable)**	1	1	1	1
27	It is easy to be skillful in using mobile learning for study. **(Easy to become skillful)**	1	1	1	1
28	It would be easy to access all learning materials from mobile learning. **(Flexible)**	1	1	1	1
29	I would find mobile learning easy to use for study. **(Easy to use)**	1	1	0	0.67
Perceived Usefulness-PU					
30	Utilizing mobile learning would make my work done more easily and quickly. **(Work more quickly)**	1	1	1	1

Table 8 (Con't)

31	It would improve my study performance.	1	1	0	0.67
32	Mobile learning would increase my study productivities**. (Increase productivity)**	1	1	0	0.67
33	It would improve my study effectiveness. **(Effectiveness)**	1	1	1	1
34	Using mobile learning would give me total control in my learning process. **(Make Job easier)**	1	1	1	1
35	I would fine mobile learning useful for my study. **(Useful)**	0	1	1	0.67
Behavioral Intention-BI					
36	I intend to use mobile learning for my study.	1	1	1	1
37	I intent to use mobile learning for study purpose as much as possible.	1	1	1	1
38	I intend to use mobile learning in the future for study.	1	1	0	0.67
39	I would adopt mobile learning for study.	1	1	1	1

According to the above table 8, the result of experts' evaluation pointed out that some results of all the items score were higher than 0.5; however, few of them with 0.67 score were suggested to revise according to experts' comment as shown below:

Expert A: After finishing checking and giving the marks to the overall statements, all were consistent except statement 35. The expert also had some doubts about few statements that need to be clarified as statement 35 in the Perceived Usefulness-PU section, she raised that it should be reformed to *I would find mobile learning useful for my study* to show how usefulness that the user perceives after utilization. As a result, the researcher decided to reform this statement to: *I would fine mobile learning useful for my study*.

Expert B: Statement 9 in the Personal Innovativeness section, the expert mentioned that it was not clear enough as this sentence focuses on someone

improvement (friend) not self-improved. Thus, he suggested to revise it. After discussing with his advisor, the researcher decided to keep it the same.

Expert C: According to what the expert completed, most of the statements found acceptable, and some needed to be edited or modified. Consequently, she requested to the researcher add some more information in Part A: type of mobile device being used, frequency of internet use, web base use purposes, internet experiences, degree of the internet accessibility, degree of internet use per day, internet availability, type of mobile browser use. Moreover, she also commented to the statement 29 in section Perceived ease of use-PEOU as should found that it sounded similar to the statement 24 so she requested to change to: *The mobile learning provides simple and clear direction or add to question about information like The information on mobile learning is well-organized for use.* In addition, the statement 31 and 32 in the Perceived usefulness-PU section, she also advised to modify to make them easily understood as an example: *After using mobile learning, I will know more on…(something)*. Another statement is 38 because it is similar to statement 36. Thus, it might be changed to the likelihood that I would recommend this mobile learning to my friends. After reviewing and discussing the expert's comment and suggestion, the researcher also revised those statements like the following: statement 29: *I would find mobile learning easy to use for study (Easy to use)*, statement 31: *It would improve my study performance. (Job performance)*, and statement 32: *Mobile learning would increase my study productivities (Increase productivity)* excepted statement 38, the researcher decided to keep it the same.

After finishing the content validity check, the researcher started translating the questionnaire into Khmer language and then sent it to the Khmer experts who are working in Tourism and Hospitality for reviewing the meaning and concept of each statement before distributing it to the target respondents in Cambodia.

Reliability of Questionnaire

After questionnaire revision, a pilot study was conducted by the researcher with 30 target students sample who were studying at university in Phnom Penh to find out whether the individual scores from the instruments are consistent or reliable or not. To ensure consistency, the researcher used Cronbach's Alpha to validate or

confirm the reliability. The values of coefficient Cronbach's Alpha (George & Mallery, 2010) as the following:

Cronbach's alpha (α) > .9	Excellent
Cronbach's alpha (α) > .8	Good
Cronbach's alpha (α) > .7	Acceptable
Cronbach's alpha (α) > .6	Questionable
Cronbach's alpha (α) > .5	Poor
Cronbach's alpha (α) < .5	Unacceptable

The coefficient Cronbach's Alpha should be equal to or greater than **0.**7 (Pallant, 2013) for ensuring the reliability of the research instruments. Thus, the values of the Coefficient Cronbach's Alpha should be between 0.7 and 0.9.

Table 9: Summary of Pilot Test Result of Internal Reliability of the questionnaire

Item of Factors	**Cronbach's Alpha of each Factor**	**Number of Items**	**Total Cronbach's Alpha**
Self-efficacy- SE			
I could complete my job using mobile learning for support my study if there was no one around to tell me what to do as I go.			
I am able to attain my job using new mobile learning for studying application if I had never used like it before.	.801	3	.961
I could complete my job by using mobile app if I had the software manuals to use it for reference.			
Mobile Anxiety-MA			
I feel apprehensive about using mobile learning would interrupt my studying performance.	.842	4	

Table 9 (Con't)

It makes me thought that I could lose my studying performance or productivity by using mobile learning.		
I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct.		
Using mobile learning in my studying is somewhat intimidating to me.		
Personal Innovativeness-PI		
Some people come to you for advice on how to use mobile learning for any online learning.		
It seems your friends are learning more about the new mobile learning application or platform by mobile phone.		
Generally, you are among the first in your circle of friends to acquire or know mobile app/ platform for learning when it appears through your mobile phone.		
You can operate new mobile high-tech products and service without any help from others.	.820	7
You keep up with latest learning mobile app or learning platforms development in your areas of interest.		
You enjoy the challenge of figure out mobile learning high-tech gadgets.		
You find you have fewer problems than other people in using mobile learning technology with your student performance.		

Table 9 (Con't)

Perceived Enjoyment-PE		
I would find mobile learning enjoyable to use for study.		
I would find mobile learning exciting to use for study.		
I would find mobile learning **fun and** pleasant to use for study.	.824	6
I would find mobile learning very interesting to use.		
I would find mobile learning boring to use for study.		
I would find mobile learning disgusting to use.		
Social Influence-SI		
At university, my friends, who are important to me think that I should use mobile learning to support my studying.		
At university, my lecturers, think that I ought to utilize mobile learning to support my study.	.820	3
At home, my relatives or my parents think that I should use mobile learning to support my study.		
Perceived Ease of Use-PEOU		
Utilizing mobile learning would be easy for me.**(Easy to learn)**		
I would find it easy to use mobile learning to upload and download materials from the internet. **(controllable)**	.955	6
My interaction with mobile learning would be clear and understanding. **(Clear and**		

Table 9 (Con't)

understandable)		
It is easy to be skillful in using mobile learning for study.**(easy to become skillful)**		
It would be easy to access all learning materials from mobile learning. **(flexible)**		
I would find mobile learning easy to use for study. **(easy to use)**		
Perceived Usefulness-PU		
Utilizing mobile learning would make my work done more easily and quickly. **(work more quickly)**		
It would improve my study performance. **(Job performance)**		
Mobile learning would increase my study productivities. **(Increase productivity)**	.977	6
It would improve my study effectiveness. **(Effectiveness)**		
Using mobile learning would give me total control in my learning process. **(Make Job easier)**		
I would fine mobile learning useful for my study. **(useful)**		
Behavioral Intention-BI		
I intend to use mobile learning for my study.		
I intent to use mobile learning for study purpose as much as possible.	.969	4
I intend to use mobile learning in the future for study.		
I would adopt mobile learning for study.		

According to Table 9, the result of the pilot test with 30 respondents showed that Cronbach's Alpha values of each variable were from .801 to .977, and the total Cronbach's Alpha of the construct was .961; thus, it found that there was reliable (Pallant, 2013). Therefore, this questionnaire can be used for this study and can be used for collecting data.

3.6 Data Collection

Primary Data

The survey data collection was conducted on the consecutive one month and a half from 15th July to 1st September, 2020. There were 4 steps to collect the data.

Step 1: To collect the data, the researcher had to ask a permission letter from the university (Faculty of Management and Tourism, where the researcher start to conduct the research) to do the data collection.

Step 2: After receiving the letter from the university, the researcher used this letter as the reference to request the approval letter from the Ministry of Tourism, Cambodia for conducting the data collection in the selected universities/institutes.

Step 3: When got approved from the Ministry, a permission letter will be sent to selected universities/institutes under the coordination of management for doing the data collection.

Step 4: Finally, when selected universities/institutes permitted to collect the data from the students, the researcher will distribute questionnaires and will collect directly from the students to ensure the quality of the questionnaires.

The quantitative method used a self-administered questionnaire to distribute to hospitality and tourism students of 4 universities/institutes in Phnom Penh, Cambodia. A questionnaire is the most appropriate data collection tool in the quantitative approach and it is also the most effective. The researcher employed a probability sampling method with multi step approaches in sampling technique in this study. A sample of 30 Tourism and Hospitality students in Phnom Penh, pilot study, will use to pre-test of the instrument. Moreover, to ensure the understanding of the questionnaire, the English language was translated into the Khmer language.

Consequently, 420 questionnaires will be distributed at four universities/institutes in Phnom Penh, Cambodia. There are 1. National Polytechnic Institute of Cambodia (NPIC), 2. Asia Euro University (AEU), 3. Institute of Hospitality and Tourism of Phnom Penh, and 4. PSE Institute.

Secondary Data

This data was collected from other different sources like books, journals, academic articles, thesis, Burapha library online, and other websites. All of those are relevant to concepts, ideas, theories, supporting researchers, and to complete of researching.

3.7 Data Analysis

The collected data will be encoded and examined in a statistical program called Statistical Package for Social Science (SPSS) and AMOS analyses the collected data as the following:

Descriptive Statistic

The researcher analyzes as well as determines the demographic of the respondents by using descriptive statistics which consists of frequency and percentage.

The researcher analyzes and identifies the level of students' behavioral intention to mobile learning in the Hospitality and Tourism study in Phnom Penh, Cambodia by utilizing descriptive statistics which consists of mean, and standard deviation. The interpretation of the mean score will be employed during the data analysis as shown in the following formula:

The range from each level = (The highest score – The lowest score)/ Number of level

= (5-1)/5

= 0.8

The effectiveness can be interpreted as following the level below:

4.21- 5.00	Very high
3.41- 4.20	High

2.61- 3.40	Average
1.81- 2.60	Low
1.00- 1.80	Very low

Table 10: 5-point-Likert scales 'Agree or Disagree'

Scale	Rank score	Level of Agreement	Interpretation
5	4.21- 5.00	Strongly agree	Very high
4	3.41- 4.20	Agree	High
3	2.61- 3.40	Neutral	Average
2	1.81- 2.60	Disagree	Low
1	1.00- 1.80	Strongly disagree	Very low

Inferential Statistic

The researcher analyzes and tests the hypothesis of the study by using multiple regression as multiple regression analysis analyzes the relationship of dependent and independent variables and variables used in the study, and test the hypothesizes.

The causal model (Structural Equation Modeling) was tested by using AMOS version 21 (Arbuckle, 2012). Data analysis included preliminary analysis (descriptive statistic) and model testing was implemented. Preliminary analysis of research data consisted of descriptive analysis, internal reliability assessment of research variables using Cronbach's alpha and coefficients. Principle component factor analysis was performed to assess the construct validity of multi-item measurement. Item loadings above 0.5 are considered as evidence for construct validity (Stanley, 1957). With the confirmatory factor analyses (CFA), the average variance extracted (AVE) should be 0.5 or higher, which is considered adequate convergence while the construct reliability (CR) should be between 0.6 and 0.7 or above 0.7, which is considered acceptable or good reliability and discriminant validity can be confirmed by the correlation between any two constructs is equal to one or by comparing AVE scores of any two construct with the square of the correlation estimate between these two constructs and the value of AVE should be higher than square correlation estimate (Hair, Black, Babin, & Anderson, 2013).

For AVE, the value can be computed through standardized loading:

$$\text{AVE} = \frac{\sum_{i=1}^{n} L_i^2}{n}$$

L_i = standardized loading

i = the number of items

About CR, the value is calculated by:

$$\text{CR} = \frac{\left(\sum_{i=1}^{n} L_i\right)^2}{\left(\sum_{i=1}^{n} L_i\right)^2 + \left(\sum_{i=1}^{n} e_i\right)}$$

L_i = square sum of factor loading

e_i = the sum of the error variance terms for a construct

Moreover, casual model testing through structural equation modeling (SEM), which examines the path construct of the latent model. The model was tested and modified based on the analysis of path coefficient and modification. The overall fit of the model to data was examined through Chi-Square statistic (χ^2) is bigger than .05, the chi-square/ degree of freedom ratio (χ^2 /df) must be less than or equal 3 (Wheaton, Muthen, Alwin, & Summers, 1977, p. 99). As the rule of thumb models within good fit have fit statistic above 0.90 for the goodness-of-fit Index (GFI), the adjusted goodness-of-fit index (AGFI), the comparative fit index (CFI). On the other hand, the root mean square residual (RMR) must be equal or less than 0.08 and the root mean square error of approximation (RMSEA) must be less than 0.05(Byrne, 2016).

Table 11: Model of Goodness of Fit

Model Fit	Criteria	Source
Chi-square (χ^2)	p-value (p>.05)	Wheaton, Muthen, Alwin, & Summers, 1977, p. 99
χ^2 /df	<= 3	
RMSEA	<= .05	Byrne, 2016 S.-I. Cheng (2011)
RMR	<= .08	
CFI	>= .9	
GFI	>= .9	
AGFI	>= .9	

Table 12: Demographic profile of Respondents

	Demographic Profile	
1	Gender	
	Male	Female
2	Age	
	15-20 year old	21-25 year old
	25-30 year old	30-Up year old
3	Your educational background	
	Associate degree	Bachelor
	Master	Ph.D
4	Do you use any mobile devices?	
	Yes ((if yes, please continue to answer the next following question	
	No (if no, please finish answering at this point)	
5	Type of mobile devices being used nowadays (More than one answers)	
	Smart phone	Computer (Laptop or Desktop)
	Tablet	IPad
	Kindle	Visual Reality (VR) or Augmented Reality (AR)
	Others_____	
6	The year of experience that you are using mobile devices (smartphone..)	
	Less than 1 year	1-3 years
	3-6 years	6-9 years
	More than 9 years	
7	Frequency of internet based mobile device usage	
	Once a week	Twice a week
	Three Times a week	Daily

Table 12 (Con't)

8	Diversify of web based usage purposes (More than one answers)	
	Discussion list	Web Browsing
	E-mail and message	Downloading or Uploading
	Chat room	Others_____
9	Degree of internet experience	
	Less than 1 year	1-3 years
	3-6 years	6-9 years
	More than 9 years	
10	Degree of accessing internet per week	
	Seldom	Sometimes
	Often	Everyday
11	Degree of internet use in a day	
	None	Less than 2 hours/day
	2-5 hours/day	5-8 hours/day
	8-12 hours/ day	More than 12 hours/day
12	Availability of internet (More than one answers)	
	Home	School or University
	Cyber Coffee	Others_____
13	Frequency of using mobile device to learn in week	
	Once a week	Twice a week
	Three Times a week	Daily
14	Degree of attestation to the knowledge acquire via mobile learning activities	
	Yes	
	No	

Table 13: Constructs, ID Item, Items, and Reference study

Construct	ID Item	Item	Reference study
Behavioral Intention to use (BI)	BI-1	I intend to use mobile learning for my study.	Cheong &Park, (2005), Tajudeen, S. A., Basha, M. K., Michael, F. O., & Mukthar, A. L. (2013)
	BI-2	I intend to use mobile learning for my study purpose whenever possible.	
	BI-3	I intend to use mobile learning in the future for study.	
	BI-4	I would adopt mobile learning for study.	
Perceived usefulness (PU)	PU-1	Using mobile learning would make my work done more easily and quickly.	Davis, (1989), Tajudeen, S. A., Basha, M. K., Michael, F. O., & Mukthar, A. L. (2013)
	PU-2	It would improve my study performance.	
	PU-3	Mobile learning would improve my effectiveness in my study.	

Table 13 (Con't)

	PU-4	It would increase my study productivity.	
	PU-5	Using mobile learning would give me total control in my learning process.	
	PU-6	I would fine mobile learning useful for my study.	
Perceived ease of use (PEOU)	PEOU-1	Using mobile learning would be easy for me.	Davis, (1989), Tajudeen, S. A., Basha, M. K., Michael, F. O., & Mukthar, A. L. (2013)
	PEOU-2	I would find it easy to use mobile learning to upload and download materials from the internet.	
	PEOU-3	My interaction with mobile learning would be clear and understanding.	
	PEOU-4	It is easy to be skillful in using mobile learning for my study.	
	PEOU-5	It would be easy to access all learning material from mobile learning.	
	PEOU-6	I would find mobile learning easy to use for study.	
Perceived enjoyment (PE)	PE-1	I would find mobile learning enjoyable to use for my study.	Tajudeen, S. A., Basha, M. K., Michael, F. O., & Mukthar, A. L. (2013)
	PE-2	I would find mobile learning exciting to use for study.	
	PE-3	I would find mobile learning pleasant to use for study.	
	PE-4	I would find mobile learning very interesting to use.	
	PE-5	I would find mobile learning boring to use for learning.	
	PE-6	I would find mobile learning disgusting to use.	
Mobile Anxiety (MA)	MA-1	I feel apprehensive about using mobile learning would interrupt my studying performance.	Calisir et al. (2014)
	MA-2	It scares me to think that I could lose my studying performance or productivity by using mobile learning.	
	MA-3	I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct.	
	MA-4	Using mobile learning in my studying is somewhat intimidating to me.	
Personal	PI-1	Other people come to you for advice	Walczuch, R.,

Table 13 (Con't)

innovativeness (PI)		on how to use mobile learning for any online learning.	Lemmink, J., & Streukens, S. (2007), Jackson, J. D., Mun, Y. Y., & Park, J. S. (2013)
	PI-2	It seems your friends are learning more about the new mobile learning application or platform by mobile devices.	
	PI-3	In general, you are among the first in your circle of friends to acquire or know mobile app/ platform for learning when it appear through your mobile devices.	
	PI-4	You can usually figure out new mobile high-tech products and service without help from others.	
	PI-5	You keep up with the latest learning mobile app or learning platforms development in your areas of interest.	
	PI-6	You enjoy the challenge of figure out mobile phone learning high-tech gadgets.	
	PI-7	You find you have fewer problems than other people in using mobile learning technology with your student performance.	
Self-efficacy (SE)	SE-1	I could complete my job using mobile devices for my learning if there was no one around to tell me what to do as I go.	Ali et al. (2013)
	SE-2	I could complete my job using new mobile learning application if I had never used like it before.	
	SE-3	I could complete my job by using mobile app if I had the software manuals to use it for reference.	
Social influence (SI)	SI-1	At university, my friends who are important to me think that I should use mobile learning in my study.	Jackson, J. D., Mun, Y. Y., & Park, J. S. (2013)
	SI-2	At university, my lecturers think that I should use mobile learning in my study.	
	SI-3	At home, my relatives, parents think that I should use mobile learning in my study.	

CHAPTER 4

DATA ANALYSIS AND RESULTS

This research is aimed at confirming the determinants influencing students' behavioral intention on using a mobile device for learning at higher education in Hospitality and Tourism major in Phnom Penh, Cambodia. There are two main objectives for this study:

1. To measure the level of each variable in the construct: 1). Self-efficacy (SE), 2). Mobile Anxiety (MA), 3). Personal Innovativeness (PI), 4). Perceived Enjoyment (PE), 5). Social Influence (SI), 6). Perceived Ease of Use (PEOU), 7). Perceived Usefulness (PU), and 8). students' behavioral intension (BI) to use mobile learning in tourism and hospitality.
2. To identify factors influencing students' behavioral intension to use mobile devices to support education in Tourism and Hospitality.

The qualitative method was employed for this study, and 420 Hospitality and Tourism students from four different universities in Phnom Penh were surveyed. In this study, descriptive statistics conducted with the Statistical Package for the Social Sciences (SPSS) and confirmatory factor analysis performed with AMOS to analyze of proposed model based on Structural Equation Modeling (SEM) were used to answer the objectives of this research.

The researcher presented the results by separating it into six main parts namely as:

1. Data collection procedure
2. Participants personal information
3. Descriptive statistics and normality of the data
4. The result of confirmatory factor analysis of the measurement model
5. The result of testing construct validity and Hypothesis testing
6. Effect Measurement

Symbols using in data analysis:

M	=	Arithmetic Mean
SD	=	Standard Deviation
CV	=	Coefficient of Variation
CR	=	Construct Validity
AVE	=	Average Variance Extracted
MSV	=	Maximum Shared Variance
ASV	=	Average Shared Variance
DV	=	Dependent Variable
IV	=	Independent Variable
DE	=	Direct Effect
IE	=	Indirect Effect
TE	=	Total Effect
SK	=	Skewness
KU	=	Kurtosis
β	=	Estimate Factor Loading
S.E	=	Standard Error
R^2	=	Coefficient of Determination
χ^2	=	Chi-square
p	=	p-value
df	=	Degree of Freedom
CFI	=	Comparative Fit Index
RMSEA	=	Root Mean Squared Residual
GFI	=	Goodness-of-Fit Index
AGFI	=	Adjusted Goodness of Fit Index
RMR	=	The Root Mean Square Residual
SE	=	Self-efficacy
MA	=	Mobile Anxiety
PI	=	Personal Innovativeness
PE	=	Perceived Enjoyment
SI	=	Social Influence
PEOU	=	Perceived Ease of Use
PU	=	Perceived Usefulness
BI	=	Behavioral Intention

4.1 Data Collection Procedure

The questionnaire was used for getting the primary data in this study, and the researcher applied a self-administrated questionnaire at the target respondent sites. The questionnaire was finalized from the pilot study among 30 respondents.

According to chapter 3, the determined sample size was 420 for this research so that 420 pieces of the questionnaire were distributed to the target respondents

among the four-selected universities within an equal number, 105 questionnaires. Before distributing the questionnaire, the researcher spent 10 minutes to introduce and to explain to the topic to be surly respondents understood the purpose of the research and questionnaire. After that, he delivered his questionnaire to the students directly by allowing the time-limited before leaving the class/ them to respond independently. Finally, the returned questionnaire was put inside the setting box in the room. Among the 420-distributed questionnaire, the returned ones were 413. However, there were 405 fully completed. Moreover, after strictly checking, the research found that there were 5 returned questionnaires were responded improperly (All items were selected on the same scale). As a result, 400 questionnaires were finalized for coding and further analysis. The actual response rate was 95.24% as shown in the following below:

Table 14: Survey Response Rate

	Number	**Percent (%)**
Target sample size	420	100
Questionnaire distributed	420	100
Questionnaire returned	413	98.33
Unusable questionnaire	13	3.15
Total usable questionnaire	400	95.24

4.2 Participants Personal Information

There was a total of 400 sample sizes after data cleaning; the researcher started analyzing that data to discuss the information of the analyzed output related to respondents. The table 15 talked about the personal information of the participants and it also pointed out in detail about each component of the respondent profile as shown in the below:

For the basic information of the respondents (see table 15), more than half of the respondents are female which the total number is 218 equal to 54.5% while the male is 182 equal to 45.5%. Moreover, most of the participants are between 21 to 25 years old (n= 183; 45.8%) followed by the age 15 to 20 years old (n= 117; 29.3%), the third rank is the age between 25 to 30 years old which is 78 equal to 19.5%, and the rest is 30 years old up (n= 22; 5.5%). In addition, almost all the respondents are

studying in Bachelor Degree (n= 337; 84.3%) stood after by Master Degree (n= 47; 11.8%) as Associate Degree is 9 equal to 2.3% and the rest is Another Degree (n=7; 1.8%) except Ph.D. is zero.

In addition, about the characteristic of respondents with mobile devices, they completely use mobile devices (n= 400; 100%) with different types as well as quantities while Smartphone and computer is the most popular use (n= 224; 56%), followed by Smartphone use only (n= 91; 22.8%); Smartphone, Computer, and iPad (n= 37; 9.3%), Smartphone, Computer, Tablet, and iPad (n= 10; 2.5%), Smartphone, Computer, iPad, and Kindle (n= 6; 1.5%), computer (n= 5; 1.3%) equal to Smartphone, Computer, and Tablet (n= 5; 1.3%); Smartphone, Computer, and Kindle and Smartphone, Computer, and Others (n= 4; 1%); Smartphone and Tablet, Smartphone and IPad, and Smartphone and Computer (n= 2; 0.5%); Smartphone, Computer, Tablet, iPad, and Kindle; Smartphone, Computer, Tablet, iPad, Kindle and VR; Smartphone, Computer, Tablet, and others; Smartphone, Computer, iPad, and VR; Smartphone, Computer, iPad, and Others; Smartphone, Computer, and VR; Smartphone and Kindle; and Tablet (n= 1; 0.3%). Additionally, the years of experience that they have been using mobile devices are considerably separated into 5 categories. The results show that most of them have experienced between 3 to 6 years (n= 155; 38.8%), 26% (n= 104) has experienced between 6 to 9 years with mobile devices, 1-to-3-year experience are 23% (n= 92), 9.5% (n=38) of respondents have experienced more than 9 years, and the rest is less than 1 year (n= 11; 2.8%). As a further matter, the frequency of Internet-based mobile device usage illustrates that all nearly use the Internet everyday as daily and the less one is Twice a week as briefly shown: Daily (n= 387; 96.8%), Three times a week (n= 6; 1.5%), Once a week (n= 4; 1%), and twice time a week (n= 3; 0.8%). On top of that, they also launch several varieties of web-based use for a diversity of purposes while 26.3% (n= 105) use for different purposes (Discussion list, Web Browsing, E-mail, Down/uploading, and chatting room), which is the most use in the list and 0.3% (n= 1) is the least one (Discussion list, Web Browsing, Down/uploading, and others; Discussion list, Web Browsing, chatting room, and others; Discussion list, E-mail, Down/uploading, chatting room, and others; Discussion list and others; Web browsing, e-mail, and chatting room; Web browsing and chatting room; E-mail and Down/uploading;

Down/uploading and chatting room; and Down/uploading, chatting room, and others). There will be addressed in more detail in Table 16 below. Over and above that, almost all of the students have had Internet experience between 3 to 6 years (n= 147; 36.8%), which is the largest one while 9 years up is the least one (n= 30; 7.5%). 1 to 3 years internet experience is the second (n= 136, 34%), 6 to 9 years is the third (n= 52; 13%) and the fourth one is less than 1 year experience (n= 35; 8.8%). Besides, the respondents have differently accessed to the internet per week as indicated: Everyday (n= 322; 80.5%), Often (n= 67; 16.8%), and Sometimes (n= 11; 2.8%); all of them are internet users. Withal, all of the respondent access to the internet every day as 39% (n= 158) of respondents spend between 2 to 5 hours with internet use per day, 23.5% (n= 94) access to internet between 5 to 8 hours in a day, 17.3% (n= 94) spend between 8 to 12 hours/day, 10.8% (n= 43) spend less than 2 hours/day, 9% spend more than 12 hours/day. For bye, they access the Internet at different places. Most of the students (26.8%; n= 107) can connect to the Internet from Home, School, and Cyber coffee, which is followed by Home and School connected (n= 78; 19.5%), and the least one is 0.3% (n= 1) such things as School, Cyber coffee, and Others; School and Others; and Cyber coffee and Others. Another is about the frequency of using mobile devices to learn per week of the respondents. More than half of students (n= 290; 72.5%) daily use mobile learning and the least one is once time/week (n= 16; 4%). The others are mentioned to Three times usage/week (n= 63; 15.8%), and Twice times/week (n= 31; 7.8%). Finally, all respondents are intentional to the knowledge acquire via mobile learning activities while the statistic is shown 100% (n= 400).

Table 15: Participants personal information

		Frequency	**Percentage**
Gender	Male	182	45.5
	Female	218	54.5
Age	15-20 years old	117	29.3
	21-25 years old	183	45.8
	25-30 years old	78	19.5
	30-up years old	22	5.5
Education	Associate Degree	9	2.3
	Bachelor Degree	337	84.3
	Master Degree	47	11.8

	Ph. D	0	0
	Others	7	1.8

Table 16: Respondent characteristic of using mobile devices

Mobile device usage	Yes	400	100
	No	0	0
Types (Using behavior)	Smart phone	91	22.8
	Smart phone and computer	224	56.0
	Smartphone, Computer, and Tablet	5	1.3
	Smartphone, Computer, Tablet, and Ipad	10	2.5
	Smartphone, Computer, Tablet, Ipad, and Kindle	1	0.3
	Smartphone, Computer, Tablet, Ipad, Kindle and VR	1	0.3
	Smartphone, Computer, Tablet, and others	1	0.3
	Smartphone, Computer, and Ipad	37	9.3
	Smartphone, Computer, Ipad, and Kindle	6	1.5
	Smartphone, Computer, Ipad, and VR	1	0.3
	Smartphone, Computer, Ipad, and Others	1	0.3
	Smartphone, Computer, and Kindle	4	1.0
	Smartphone, Computer, and VR	1	0.3
	Smartphone, Computer, and Others	4	1.0
	Smartphone and Tablet	2	0.5
	Smartphone and IPad	2	0.5
	Smartphone and Kindle	1	0.3
	Smartphone and Computer	2	0.5
	Computer	5	1.3
	Tablet	1	0.3
Experience	Less than 1 year	11	2.8
	1-3 years	92	23
	3-6 years	155	38.8
	6-9 years	104	26
	More than 9 years	38	9.5

Table 16 (Con't)

Frequency of Internet use	Once a week	4	1.0
	Twice a week	3	0.8
	Three Times a week	6	1.5
	Daily	387	96.8
Diversify of web-based usage purposes	Discussion list	12	3
	Discussion list and Web Browsing	9	2.3
	Discussion list, Web Browsing, and E-mail	11	2.8
	Discussion list, Web Browsing, E-mail, and down/uploading	35	8.8
	Discussion list, Web Browsing, E-mail, down/uploading, and chatting room	105	26.3
	Discussion list, Web Browsing, E-mail, down/uploading, chatting room, and others	31	7.8
	Discussion list, Web Browsing, E-mail, and chatting room	7	1.8
	Discussion list, Web Browsing, E-mail, and down/uploading	9	2.3
	Discussion list, Web Browsing, and down/uploading	17	4.3
	Discussion list, Web Browsing, down/uploading, and chatting room	15	3.8
	Discussion list, Web Browsing, down/uploading, and others	1	0.3
	Discussion list, Web Browsing, and chatting room	6	1.5
	Discussion list, Web Browsing, chatting room, and others	1	0.3
	Discussion list, Web Browsing, and others	3	0.8
	Discussion list and E-mail	3	0.8
	Discussion list, E-mail, and down/uploading	3	0.8
	Discussion list, E-mail,	2	0.5

Table 16 (Con't)

	down/uploading, and chatting room		
	Discussion list, E-mail, down/uploading, chatting room, and others	1	0.3
	Discussion list, E-mail, and chatting room	2	0.5
	Discussion list and down/uploading	6	1.5
	Discussion list, down/uploading, and chatting room	3	0.8
	Discussion list and chatting room	2	0.5
	Discussion list and others	1	0.3
	Web browsing	34	8.4
	Web browsing and E-mail	5	1.3
	Web browsing, E-mail, and down/uploading	12	3
	Web browsing, E-mail, down/uploading, and chatting room	11	2.8
	Web browsing, E-mail, down/uploading, chatting room, and others	2	0.5
	Web browsing, E-mail, and chatting room	1	0.3
	Web browsing and down/uploading	9	2.3
	Web browsing, down/uploading, and chatting room	6	1.5
	Web browsing and chatting room	1	0.3
	Web browsing and others	3	0.8
	E-mail	3	0.8
	E-mail and down/uploading	1	0.3
	E-mail and chatting room	2	0.5
	Down/uploading	4	1
	Down/uploading and chatting room	1	0.3
	Down/uploading, chatting room, and others	1	0.3
	Chatting room	3	0.8
	Chatting room and others	2	0.5
	Others	13	3.3

Table 16 (Con't)

Degree of Internet experience	Less than 1 year	35	8.8
	1-3 years	136	34
	3-6 years	147	36.8
	6-9 years	52	13
	More than 9 years	30	7.5
Degree of Internet accessing per week	Seldom	0	0
	Sometimes	11	2.8
	Often	67	16.8
	Everyday	322	80.5
Degree of Internet use per day	None	0	0
	Less than 2 hours/day	43	10.8
	2-5 hours/day	158	39.5
	5-8 hours/day	94	23.5
	8-12 hours/ day	69	17.3
	More than 12 hours/day	36	9
Availability of Internet (Internet Accessing)	Home	32	8
	Home and School	78	19.5
	Home, School, and Cyber coffee	107	26.8
	Home, School, Cyber coffee, and Others	71	17.8
	Home, School, and Others	11	2.8
	Home and Cyber coffee	12	3
	Home, Cyber coffee, and Others	10	2.5
	Home and Others	22	5.5
	School	18	4.5
	School and Cyber coffee	5	1.3
	School, Cyber coffee, and Others	1	0.3
	School and Others	1	0.3
	Cyber coffee	6	1.5
	Cyber coffer and Others	1	0.3
	Others	25	6.3
Frequency of using mobile device to learn per week	Once a week	16	4
	Twice a week	31	7.8
	Three Times a week	63	15.8
	Daily	290	72.5
Degree of attestation via mobile learning activities	Yes	400	100
	No	0	0

4.3 Descriptive statistics

In this study, the first objective aimed to determine the level of each variable that effected students' behavioral intention on using mobile learning in the construct. The levels of each factor will be interpreted by Mean (M) and Standard deviation (S.D)' s scores as shown in the following table:

Table 17: Summary Level of Each Variables in the Construct

Variables	M	S.D	Agreement level
Self-efficacy (SE)	3.16	1.01	Neutral
Mobile Anxiety (MA)	2.45	1.00	Disagree
Personal innovativeness (PI)	3.18	0.92	Neutral
Perceived enjoyment (PE)	3.11	0.97	Neutral
Social influence (SI)	3.44	0.94	Agree
Perceived ease of use (PEOU)	3.92	0.85	Agree
Perceived usefulness (PU)	3.90	0.98	Agree
Behavioral intention (BI)	3.96	0.83	Agree

n= 400

According to the table 16, it indicated the values of each factor which was considered influence on students' behavioral intention to use mobile learning in Tourism and Hospitality in Cambodia depending on the respondents' perception. Behavioral intention (BI) found the highest while Mobile anxiety (MA) was the lowest mean score, as demonstrated as 3.96 and 2.45, respectively. In addition, MA illustrated "Low" level and BI found "High" level.

Furthermore, among the five external factors (SE, MA, PI, PE, and SI), MA had the lowest mean score (M= 2.45) whereas Social influence was the highest (M= 3.44). In other words, MA was "Low" level, but SI was the highest mean compared to others, which are considered "High" level.

Finally, based on the core determinants of the construct as PEOU, PU, and BI, BI had the highest mean score. If we take a look at PEOU and PU, PEOU found a higher mean score (M= 3.92) than PU (M= 3.90). All of them stayed at "High" level.

4.4 Normality of the Data Testing

To analyze confirmatory factor analysis, firstly, the researcher had to check the normality of the data that focuses on Mean, Standard Deviation, Coefficient of Variation, Skewness, and Kurtosis as shown in Table 16.

Table 18: The Descriptive Statistics of All Indicators

	Variables	Acronym	M	S.D	C.V (%)	SK	KU
Self-efficacy- SE							
1.	I could complete my job using mobile learning for support my study if there was no one around to tell me what to do as I go.	SE1	3.23	1.113	34.458	`-.316	-.553
2.	I am able to attain my job using new mobile learning for studying application if I had never used like it before.	SE2	2.92	.964	33.014	-.099	-.382
3.	I could complete my job by using mobile app if I had the software manuals to use it for reference.	SE3	3.32	.962	28.976	-.395	-.005
Mobile Anxiety-MA							
4.	I feel apprehensive about using mobile learning would interrupt my studying performance.	MA1	2.77	1.083	39.097	.109	-.689
5.	It makes me thought that I could lose my studying performance or productivity by using mobile learning.	MA2	2.26	.972	43.009	.743	.305
6.	I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct.	MA3	2.44	.966	39.590	.411	-.162
7.	Using mobile learning in my studying is somewhat intimidating to me.	MA4	2.34	.995	42.521	.593	-.059
Personal Innovativeness-PI							
8.	Some people come to you for advice on how to use mobile learning for any online learning.	PI1	3.29	.842	25.593	-.165	.436
9.	It seems your friends are learning more about the new mobile learning application or platform by mobile phone.	PI2	3.50	.893	25.514	-.385	.313
10.	Generally, you are among the first in your circle of friends to acquire or know mobile app/ platform for learning when it appears through your mobile phone.	PI3	2.70	.987	36.556	.196	-.352
11.	You can operate new mobile high-tech products and service without any help from others.	PI4	3.02	.982	32.517	-.035	-.591

Table 18 (Con't)

12.	You keep up with latest learning mobile app or learning platforms development in your areas of interest.	PI5	3.32	.878	26.446	-.297	.183
13.	You enjoy the challenge of figure out mobile learning high-tech gadgets.	PI6	3.54	.883	24.944	-.524	.389
14.	You find you have fewer problems than other people in using mobile learning technology with your student performance.	PI7	2.89	.941	32.561	.021	-.414
Perceived Enjoyment-PE							
15.	I would find mobile learning enjoyable to use for study.	PE1	3.70	.855	23.108	-.806	1.246
16.	I would find mobile learning exciting to use for study.	PE2	3.37	.967	28.694	-.290	-.139
17.	I would find mobile learning **fun and** pleasant to use for study.	PE3	3.38	.956	28.284	-.362	.010
18.	I would find mobile learning very interesting to use.	PE4	3.46	.938	27.110	-.528	.194
19.	I would find mobile learning boring to use for study.	PE5	2.43	.976	40.165	.491	.005
20.	I would find mobile learning disgusting to use.	PE6	2.31	1.099	47.576	.582	-.440
Social Influence-SI							
21.	At university, my friends, who are important to me think that I should use mobile learning to support my studying.	SI1	3.56	.929	26.096	-.551	.268
22.	At university, my lecturers, think that I ought to utilize mobile learning to support my study.	SI2	3.75	.887	23.653	-.798	.832
23.	At home, my relatives or my parents think that I should use mobile learning to support my study.	SI3	3.01	.992	32.957	-.149	-.285
Perceived Ease of Use-PEOU							
24.	Utilizing mobile learning would be easy for me.**(Easy to learn)**	PEOU1	3.89	.844	21.697	-.842	1.364
25.	I would find it easy to use mobile learning to upload and download materials from the internet.	PEOU2	4.17	.823	19.736	-1.002	1.439

Table 18 (Con't)

26.	My interaction with mobile learning would be clear and understanding. **(Clear and understandable)**	PEOU3	3.76	.853	22.686	-.400	.087
27.	It is easy to be skillful in using mobile learning for study.**(easy to become skillful)**	PEOU4	3.78	.829	21.931	-.744	1.356
28.	It would be easy to access all learning materials from mobile learning. **(flexible)**	PEOU5	3.89	.893	22.956	-.861	1.150
29.	I would find mobile learning easy to use for study. **(easy to use)**	PEOU6	4.00	.830	20.750	-.691	.644
Perceived Usefulness-PU							
30.	Utilizing mobile learning would make my work done more easily and quickly. **(work more quickly)**	PU1	4.08	1.709	41.887	13.377	236.226
31.	**It would improve my study performance. (Job performance)**	PU2	3.89	.861	22.134	-.941	1.598
32.	**Mobile learning would increase my study productivities. (Increase productivity)**	PU3	3.85	.844	21.922	-.880	1.617
33.	It would improve my study effectiveness. **(Effectiveness)**	PU4	3.80	.852	22.421	-.687	.844
34.	Using mobile learning would give me total control in my learning process. **(Make Job easier)**	PU5	3.87	.802	20.724	-.704	1.092
35.	I would fine mobile learning useful for my study. **(useful)**	PU6	3.93	.810	20.611	-.752	1.129
Behavioral Intention-BI							
36.	I intend to use mobile learning for my study.	BI1	3.90	.894	22.923	-.863	.957
37.	I intent to use mobile learning for study purpose as much as possible.	BI2	3.88	.808	20.825	-.639	.920
38.	I intend to use mobile learning in the future for study.	BI3	4.01	.830	20.698	-.948	1.529
39.	I would adopt mobile learning for study.	BI4	4.04	.795	19.678	-.828	1.422

According to the Table: 18, the result of the descriptive statistics of 39 indicators categorized based on the observed variables namely as self-efficacy (SE), mobile anxiety (MA), personal innovativeness (PI), perceived enjoyment (PE), social influence (SI), perceived ease of use (PEOU), perceived usefulness (PU), and behavioral intention (BI) were shown as the below:

Self-efficacy (SE) was measured by three indicators which were put in order from the highest to the lowest mean score such as I could complete my job by using a mobile app if I had the software manuals to use it for reference (SE3), I could complete my job using mobile learning for support my study if there was no one around to tell me what to do as I go (SE1), and I can attain my job using new mobile learning for studying application if I had never used like it before (SE2). The mean scores are approximately ordered as 3.32, 3.23, and 2.92. Standard deviations are 0.962, 0.964, and 1.113 respectively.

The result showed that the mean score of all observed indicators was at a high level and the value of the Coefficient of variance (C.V) of all observed indicators was also strong as they were 34.458, 33.014, and 28.976. In addition, the Skewness value of all was negative, which represented the mean level of data of these observed indicators that were relatively high. In short, we can conclude that all overserved indicators have a normal distribution and they are suitable for analyzing Self-Efficacy (SE).

About Mobile Anxiety (MA) was measured by four indicators which were arranged by the highest rank of mean score to the lowest one like: I feel apprehensive about using mobile learning would interrupt my studying performance (MA1), I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct (MA3), Using mobile learning in my studying is somewhat intimidating to me (MA4), and It makes me thought that I could lose my studying performance or productivity by using mobile learning (MA2). Moreover, the number of mean scores orderly is 2.77, 2.44, 2.34, and 2.26 respectively; and followed by Standard deviation: 1.083, 0.966, 0.995, and 0.972.

The third observed variable was Personal Innovativeness (PI) which was measured by seven indicators as ranking from the highest to the lowest of mean score

as shown: You enjoy the challenge of figure out mobile learning high-tech gadgets (PI6) (M= 3.54; SD= 0.883), It seems your friends are learning more about the new mobile learning application or platform by mobile phone (PI2) (M= 3.5; SD= 0.893), You keep up with latest learning mobile app or learning platforms development in your areas of interest (PI5) (M= 3.32; SD= 0.878), Some people come to you for advice on how to use mobile learning for any online learning (PI1) (M= 3.29; SD= 0.842), You can operate new mobile high-tech products and service without any help from others (PI4) (M= 3.02; SD= 0.982), You find you have fewer problems than other people in using mobile learning technology with your student performance (PI7) (M= 2.89; SD= 0.941), and Generally, you are among the first in your circle of friends to acquire or know mobile app/ platform for learning when it appears through your mobile phone (PI3) (M= 2.7; SD= 0.87).

Next, Perceived Enjoyment (PE) was measured by six indicators ranked by the highest mean to the lowest as shown: I would find mobile learning enjoyable to use for study (PE1) (M= 3.7; SD= 0.855), I would find mobile learning very interesting to use (PE4) (M= 3.46; SD= 0.938), I would find mobile learning boring to use for study (PE5) (M= 2.43; SD= 0.976), I would find mobile learning pleasant to use for study (PE3) (M= 3.38; SD= 0.956), I would find mobile learning exciting to use for study (PE2) (M= 3.37; SD= 0.967), and I would find mobile learning disgusting to use (PE6) (M= 2.31; SD= 1.099).

Then Social Influence was considered as observed variables which were measured by three main indicators as shown based on mean score: At university, my lecturers, think that I ought to utilize mobile learning to support my study (SI2) (M= 3.75; SD = 0.887), At university, my friends, who are important to me think that I should use mobile learning to support my studying (SI1) (M= 3.56; 0.929), and finally, At home, my relatives or my parents think that I should use mobile learning to support my study (SI3) (M= 3.01; SD= 0.992).

Another observed variable is Perceived Ease of Use (PEOU), which was measured by six indicators such as I would find it easy to use mobile learning to upload and download materials from the internet (PEOU2) (M= 4.17; SD= 0.823), I would find mobile learning easy to use for study (PEOU6) (M= 4; SD= 0.83), It would be easy to access all learning materials from mobile learning (PEOU5) (M=

3.89; SD= 0.893), Utilizing mobile learning would be easy for me (PEOU1) (M= 3.89; SD= 0.844), It is easy to be skillful in using mobile learning for study (PEOU4) (M= 3.78; SD 0.829), and My interaction with mobile learning would be clear and understanding (PEOU3) (M= 3.76; SD= 0.853).

Furthermore, Perceived Usefulness (PU), observed variables, was also determined by six indicators namely as Utilizing mobile learning would make my work done more easily and quickly (PU1) (M= 4.08; 1.709), I would find mobile learning useful for my study (PU6) (M= 3.93; SD= 0.81), It would improve my study performance (PU2) (M= 3.89; SD= 0.861), Using mobile learning would give me total control in my learning process (PU5) (M= 3.87; SD= 0.802), Mobile learning would increase my study productivities (PU3) (M= 3.85; SD= 0.844), and lastly, It would improve my study effectiveness (PU4) (M= 3.8; 0.852), classified by the highest mean score.

Last but not least, Behavioral Intention is the final observed variable; which was modified by four key indicators. All of them were: I would adopt mobile learning for study (BI4) (M= 4.04; SD= 0.795), I intend to use mobile learning in the future for study (BI3) (M= 4.01; SD= 0.83), I intend to use mobile learning for my study (BI1) (M= 3.9; SD= 0.894), and I intend to use mobile learning for study purpose as much as possible (BI2) (M= 3.88; SD= 0.808).

The result of data normality distribution of observed variables and indicators

The coefficient of covariation (C.V) of the data was closed which was between 19.678 to 47.576 indicated that the data distributions were medium. The indicators that had the highest coefficient of covariance were I would find mobile learning disgusting to use (PE6) and the lowest one was I would adopt mobile learning for study (BI4). Thus, the data was considered suitable for analyzing on Students' behavioral intention to use mobile learning.

Skewness and Kurtosis values of the indicators are between -3 to 3, which indicates that the data stays a in normal curve (Kline, 2005, p. 50). On the other hand, PU1 has Skewness, 13.377 and Kurtosis, 236. 226 as well as PEOU2 (SK= -1.002, KU= 1.439); they do not respond to the criteria. Thus, these indicators should be deleted from the questionnaire. The sample size of this study was big enough;

therefore, the data would be in a normal curve (Hair et al., 2014). In conclusion, depending on the descriptive result, all indicators were suitable for analyzing multigroup confirmatory factors analysis (Hair et al., 2014; Kline, 2005, p. 50).

4.5 The result of confirmatory factor analysis of the measurement model

The multilevel analysis in this study was the multiple confirmatory factor analysis of observed variables (38) among 8 latent variables namely as Self-efficacy (SE), Mobile Anxiety (MA), Personal Innovativeness (PI), Perceived Enjoyment (PE), Social Influence (SI), Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Behavioral Intention (BI) by employing AMOS 21.0. The result of confirmatory factor analysis (CFA) was separated into 8 models as shown in the following below:

Self-efficacy (SE) was measured by three main observed indicators, namely as SE1 to SE3. The confirmatory factor analysis and construct validity results were shown in table 19 and Figure 7.

Table 19: The result of confirmatory factor analysis of SE

Criteria Index	Model Fit Criteria	Scores	Results
Chi-square (χ^2)	p> .05	.956	Pass
χ^2/df	<=3	.003	Pass
GFI	>.9	1.000	Pass
AGFI	>.9	1.000	Pass
CFI	>.9	1.000	Pass
RMSEA	<=.05	.000	Pass
RMR	<=.08	.001	Pass

The table 19 showed that the model was well-fitted as χ^2 = .003, Degree of freedom (*df*)= 1, χ^2/df= .003, GFI= 1.000, AGFI= 1.000, CFI= 1.000, RMSEA= .000, and RMR= .001. Thus, it was found that this model had good construct validity and

associated with the empirical data because CFI is closed to 1, RMSEA was less than .05, and x^2/df value was lower than 3 (Byrne, 2016; Wheaton et al., 1977).

Table 20: The result of confirmatory factor analysis of SE

Indicators	Acronym	Result			
		.β	S.E	*t-value*	R^2
1. I could complete my job using mobile learning for support my study if there was no one around to tell me what to do as I go.	SE1	.633**	.125	9.093	.415
2. I could complete my job by using mobile app if I had the software manuals to use it for reference.	SE2	.720**	.135	8.304	.519
3. I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct.	SE3	.644**	-	-	.400

**p<.01

The above table (20) indicated that the standardized factor loading value (β) of the indicators were positively significant at level .01. They stayed between .633 to .720, and the coefficient prediction value (R^2) of all items ranged from 40% to 51.90%.

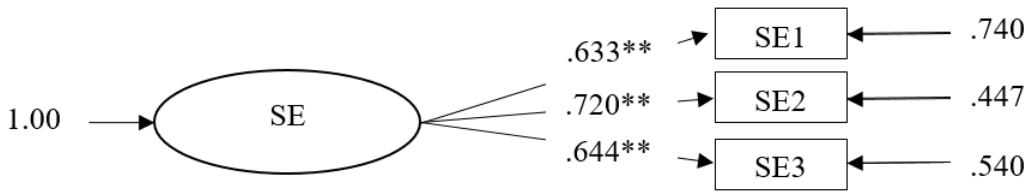

Figure 7: Confirmatory factor analysis of SE

Mobile Anxiety (MA) was determined by four indicators: MA1 to MA4. The result of confirmatory factor analysis and construct validity were indicated in table 21 and figure 8.

Table 21: The result of confirmatory factor analysis of MA

Criteria Index	Model Fit Criteria	Scores	Results
Chi-square (χ^2)	p> .05	.154	Pass
χ^2/df	<=3	1.871	Pass
GFI	>.9	.995	Pass
AGFI	>.9	.977	Pass
CFI	>.9	.996	Pass
RMSEA	<=.05	.047	Pass
RMR	<=.08	.016	Pass

Based on the table 21, the result pointed out that the model was well-fitted to the empirical data which considered from χ^2 = 3.742, Degree of freedom (*df)* = 2, χ^2/df = 1.871, GFI= .995, AGFI= .977, CFI= .996, RMSEA= .047, and RMR= .016. This measurement had good construct validity and consistency with the empirical data as it was followed the model fit criteria because the score of CFI is closed to 1, RMSEA score is less than .05, χ^2/df score is lower than 3 (Byrne, 2016; Wheaton et al., 1977).

Table 22: The result of confirmatory analysis of MA

Indicators	Acronym	Result			
		.β	S.E	*t-value*	R^2
4. I feel apprehensive about using mobile learning would interrupt my studying performance.	MA1	.679**	-	-	.495
5. It makes me thought that I could lose my studying performance or productivity by using mobile	MA2	.802**	.088	12.079	.395

learning.					
6. I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct.	MA3	.629**	.079	10.438	.643
7. Using mobile learning in my studying is somewhat intimidating to me.	MA4	.704**	.084	11.388	.461

**P<.01

According to Table 22 and figure 8, the result released that the standardized factor loading value (.β) of all 4 indicators were positively significant at level .01. The factor loading value of indicators was between .629 to .802. The coefficient prediction *(R^2)* was between 39.50% to 64.30%.

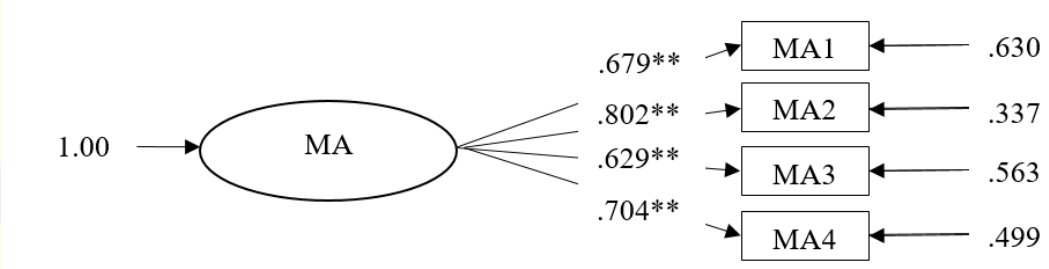

Figure 8: Result of confirmatory factor Analysis of MA

Personal Innovativeness (PI) was measured by 7 indicators, namely as PI1 to PI7. Confirmatory factor analysis and construct validity results were shown in detail in the Table 23 and Figure 9.

Table 23: The confirmatory factor analysis of PI

Criteria Index	Model Fit Criteria	Score		Results
		First	Modification	
Chi-square (χ^2)	p> .05	.000	.259	Pass
χ^2/df	<=3	5.679	1.350	Pass
GFI	>.9	.943	.997	Pass
AGFI	>.9	.887	.983	Pass

CFI	>.9	.847	.997	Pass
RMSEA	<=.05	.108	.030	Pass
RMR	<=.08	.052	.016	Pass

Seven indicators were utilized to estimate the personal innovativeness (PI) as mentioned above (see in Table 23). After initial estimation, the results of the CFA addressed the qualification of the model since the values of criteria index were shown Chi-square (χ^2) = .000, degree of freedom (df)= 14, χ^2 */df* = 5.769, GFI= .943, AGFI= .887, CFI= .847, RMSEA= .108, and RMR= .052. Thus, this construct could not provide fit; it needs further estimates.

Intentionally, the modification result (CFA) released that the model of PI was accordingly fitted to the empirical data since the value of criterial index such χ^2 = .474, χ^2 /df= .956, GFI= .994, AGFI= .981, CFI= 1.000, RMSEA= .000, and RMR= .019. On the other hand, there were two observed indicators (PI1, PI2, and PI7) which were found their factor loading score was less than the acceptable (loadings < .5); it cannot interpret a construct significantly (Hair et al, 2013). Therefore, they have to be dropped out of the construct and re-estimate.

There were four observed indicators left for conducting further estimation. As a result, the new model fitted to the data and the new result revealed good model fit as the values of criteria index were: Chi-square (χ^2) = .2.701, Degree of freedom (*df*)= 2, χ^2*/df* = 1.350, GFI= .997, AGFI= .983, CFI= .997, RMSEA= .030, and RMR= .016. All values responsively fitted to Model fit criteria. However, factor loading still found less than .5; it must be re-analyzed.

Finally, PI3 was diminished. After re-analyzing, the result pointed out that there was a good model fit due to Chi-square (χ^2) = .006, Degree of freedom (*df*)= 1, χ^2*/df* = 1.000, GFI= 1.000, AGFI= 1.000, CFI= 1.000, RMSEA= .000, and RMR= .001. Moreover, it can be concluded that it had good construct validity and symmetricity with the quantitative data while the CFI value was 1, RMSEA score was less than .05, and χ^2 */df* was also less than 3.

Table 24: The Result of Confirmatory factor analysis of PI

Indicators	Acronym	Result			
		.β	S.E	*t-value*	R^2
8. You can operate new mobile high-tech products and service without any help from others.	PI4	.543**	-	-	.295
9. You keep up with latest learning mobile app or learning platforms development in your areas of interest.	PI5	.815**	.182	7.342	.665
10. You enjoy the challenge of figure out mobile learning high-tech gadgets.	PI6	.558**	.118	7.579	.292

**p<.01

Since the table 24 and Figure 9 confirmed to the result of the standardized factor loading value (β), all of 4 observed indicators were positively significant at level .01 and they stayed between .540 to .815 as well as coefficient prediction *(R^2)* of indicators were from 29.20% to 66.50%.

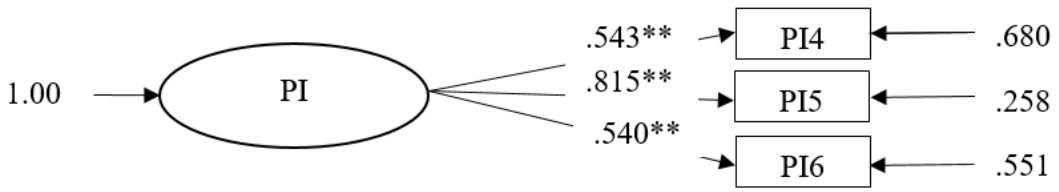

Figure 9: Confirmatory factor analysis of PI

Perceived Enjoyment (PE) was estimated by six indicators, namely as PE1 to PE6 and the result of either CFA, and construct validity were illustrated in the following tables.

Table 25: Confirmatory factor analysis of PE

Criteria Index	Model Fit Criteria	Score		Results
		First	Modification	
Chi-square (χ^2)	p> .05	.000	.368	Pass
χ^2/df	<=3	13.949	1.087	Pass
GFI	>.9	.912	.994	Pass
AGFI	>.9	.794	.981	Pass
CFI	>.9	.868	.999	Pass
RMSEA	<=.05	.180	.015	Pass
RMR	<=.8	.114	.020	Pass

Based on Table 25, the primary result of estimation of perceived enjoyment (PE) shown that it did not provide a good fit model because the Chi-square (χ^2) value was 125.545, Degree of freedom (*df*)= 9, Chi-square/*df*= 13.949, suggesting that the hypothesized model was not actually acceptable because of its value of AGFI= .794, CFI= .868, RMSEA= .180, except RMR= .114 and GFI= .912; therefore, the model required more modification to be fit.

On the other hands, the factor loading value of the construct, it revealed that there were serval observed items which illustrated low score and cannot provide any significant model of p-value criteria while Hair et al., (2013) mentioned that an observed indicator with .4 score of factor loading can positively interpret a significant construct. Factor loadings indicate the correlation and relative importance of each indicator with the composite (Anderson & Gerbing, 1988; Yoon, 2002). Consequently, PE5 and PE6 had been omitted from the construct in order to proceed with further estimation.

Since finishing modification, the new result from the model demonstration a successful model fit as criteria index were pointed out Chi-square (χ^2)= .437, Degree of freedom *(df)*= 1, χ^2/df= .437, GFI= .999, AGFI= .995, CFI= 1.000, RMSEA= .000, and RMR= .003. All of the indices crossed their minimum values to become a better model fit. In conclusion, the construct provided construct validity and consistent with

the quantitative data due to the CFI score were closed to 1, RMSEA value was less than .05, and χ^2/df was also lower than 3 (Byrne, 2016; Wheaton et al., 1977).

Table 26: The Result of Confirmatory factor analysis of PE

Indicators	Acronym	Result			
		.β	S.E	*t-value*	R^2
11. I would find mobile learning enjoyable to use for study.	PE1	.602**	.052	12.215	.733
12. I would find mobile learning exciting to use for study.	PE2	.778**	.054	17.075	.734
13. I would find mobile learning pleasant to use for study.	PE3	.857**	-	-	.606
14. I would find mobile learning very interesting to use.	PE4	.856**	.052	18.705	.363

**p<.01,

According to Table 26 and Figure 10, the result of the CFA of PE clarified that the standardized factor loading value (β). All of the four observed items were positively significant at level .01, which considerably ranked between .602 to .857. The coefficient prediction (R^2) score of the observed items was 36.30% to 73.40%.

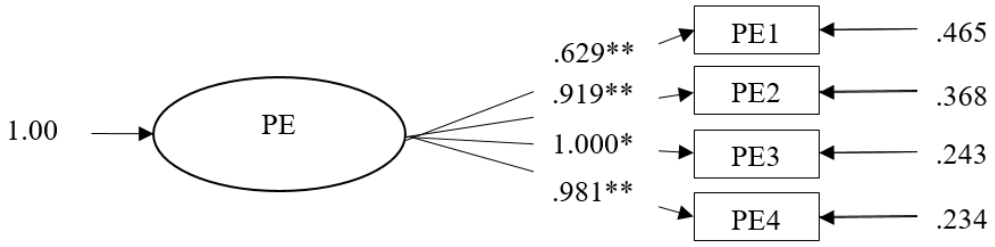

Figure 10: Confirmatory factor analysis of PE

Social Influence (SI) was modified by three indicators, called SI1 to SI3, and the result of CFA and construct validity of SI were mentioned clearly in the below tables 27.

Table 27: Confirmatory factor analysis of SI

Criteria Index	Model Fit Criteria	Scores	Results
Chi-square (χ^2)	p> .05	.004	Pass
χ^2 */df*	<=3	.004	Pass
GFI	>.9	1.000	Pass
AGFI	>.9	1.000	Pass
CFI	>.9	1.000	Pass
RMSEA	<=.05	.000	Pass
RMR	<=.08	.001	Pass

Depend on the table 27, the result of CFA showed that the model fitted well the empirical data which considered from χ^2 = .004, Degree of freedom *(df)* = 1, χ^2/df = .004, GFI = 1.000, AGFI= 1.000, CFI= 1.000, RMSEA= .000, and RMR= .001. Therefore, it found that the model had pretty good construct validity and consistency to the empirical data due to the CFI score was close to 1, RMSEA value was less than .05, and χ^2/df was also lower than 3 (Byrne, 2016; Wheaton et al., 1977).

Table 28: The Result of Confirmatory factor analysis of SI

Indicators	Acronym	Result			
		.β	S.E	*t-value*	R^2
15. At university, my friends, who are important to me think that I should use mobile learning to support my studying.	SI1	.856**	.076	15.793	.733
16. At university, my lecturers think that I ought to utilize mobile learning to support my study.	SI2	.751**	-	-	.564
17. At home, my relatives or my parents think that I should use mobile	SI3	.522**	.083	9.356	.273

learning to support my study.

**p<.01

Table 28 and Figure 11 showed that the value of standardized factor loading (β) of all indicators was affirmatively significant at level .01 once there ranked from .522 to .856, and coefficient prediction *(R^2)* was from 27.30% to 73.30%.

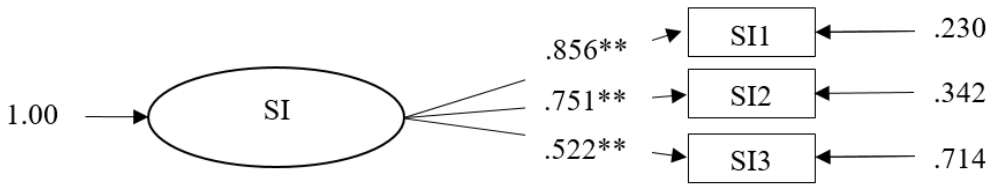

Figure 11: Confirmatory factor analysis of SI

Perceived Ease of Use (PEOU) was modified by six key observed items called PEOU1 to PEOU6 except for PEOU2 due to it was deleted, and the result of confirmatory factor analysis was indicated in the following table 29.

Table 29: The result of confirmatory factor analysis of PEOU

Criteria Index	Model Fit Criteria	Score		Results
		First	Modification	
Chi-square (χ^2)	p> .05	.000	.843	Pass
χ^2/df	<=3	6.965	.275	Pass
GFI	>.9	.967	.999	Pass
AGFI	>.9	.900	.996	Pass
CFI	>.9	.968	1.000	Pass
RMSEA	<=.05	.122	.000	Pass
RMR	<=.08	.024	.004	Pass

Five observed items were used to measure the latent variable, named Perceived Ease of Use (PEOU). After estimation, the confirmatory factor analysis

result showed the unqualified model while the value of x^2/df = 6.965 and RMSEA =.122 did not fit to the model fit criteria; it was greater than 3 with a degree of freedom (*df*= 5). Even though few criteria index values: GFI (.967), AGFI (.900), CFI (.968), and RMR (.024) were found fit, the model was still necessary to be modified.

After adjusting, the new results of confirmatory factor analysis of PEOU was demonstrated that the model was properly fit to Chi-square (χ^2= .825), degree of freedom (*df*= 3), χ^2/df= .275, GFI= .999, AGFI= .996, CFI= 1.000, RMSEA= .000, and RMR= .004. As a result, this model had good construct validity and consistency with the empirical data. The model fit criteria: CFI value was equally to 1 and RMSEA value less than .05 and χ^2 */df* also less than 3 (Byrne, 2016; Wheaton et al., 1977).

Table 30: The Result of Confirmatory factor analysis of PEOU

Indicators	Acronym	Result			
		.β	S.E	*t-value*	R^2
18. Utilizing mobile learning would be easy for me. **(Easy to learn).**	PEOU1	.762**	.056	15.903	.581
19. My interaction with mobile learning would be clear and understanding. **(Clear and understandable).**	PEOU3	.846**	-	-	.716
20. It is easy to be skillful in using mobile learning for study. **(Easy to become skillful)**	PEOU4	.710**	.056	14.639	.504
21. It would be easy to access all learning materials from mobile learning. **(Flexible)**	PEOU5	.633**	.063	12.432	.401
22. **I would find mobile learning easy to use for study. (Easy to use)**	PEOU6	.750**	.055	15.572	.562

**p<.01

Table 30 and Figure 12 showed that the standardized factor loading value (β) of all observed items found positively significant at level .01, classified from .633 to .846, and the coefficient prediction *(R^2)* scores considerably started from 40.10% to 71.60%.

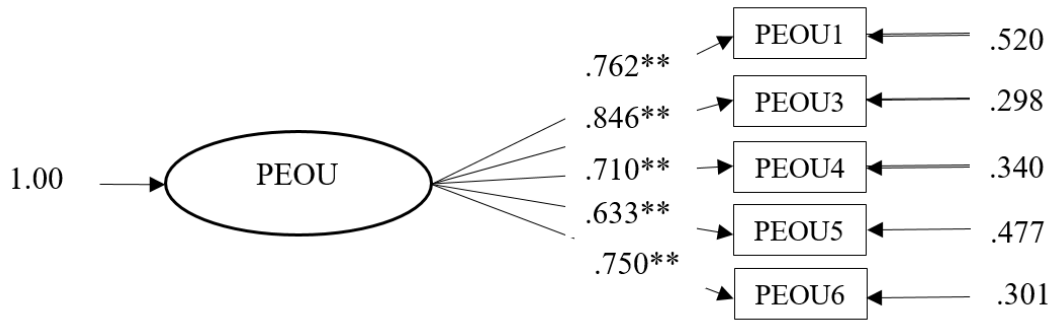

Figure 12: Confirmatory factor analysis result of PEOU

Another latent variable was Perceived Usefulness (PU). There also had six indicators but one observed item indicator (PU1) had been deleted as mentioned above section so that there were five main observed indicators for employing to measure the model fit, which were called PU2 to PU6 as clearly shown in detail in the table 31 and figure 13.

Table 31: The confirmatory factor analysis of PU

Criteria Index	Model Fit Criteria	Score		Results
		First	Modification	
Chi-square (χ^2)	p> .05	.000	.455	Pass
χ^2/df	<=3	4.659	.787	Pass
GFI	>.9	.975	.998	Pass
AGFI	>.9	.926	.988	Pass
CFI	>.9	.987	1.000	Pass
RMSEA	<=.05	.096	.000	Pass
RMR	<=.08	.015	.003	Pass

**p<.01

At first, the above table 31 (Confirmatory factor analysis of PEOU) demonstrated that the primary estimation results did not provide a well-fitted model since Chi-squared (x^2) = 23.293, Degree of freedom (*df*) = 5, x^2/df= 4.659, and RMSEA= .096 were not actually acceptable, except the value of GFI= .975, AGFI= .926, CFI= .987, and RMR= .015, which met the criteria to be fit. Thus, the model need re-analyzing in order to meet model fit criteria.

After re-running in order the to check its fit, the new result showed that there was a goodness of model fit because all criteria index values were fit to the model fit criteria as shown: Chi-square (χ^2) = 1.574, Degree of freedom (df)= 2, χ^2/df= .787, GFI= .998, AGFI= .988, CFI= 1.000, RMSEA= .000, and RMR= .003. All passed the minimum values to get better fit model. In short, this estimation of model had well-fit construct validity and consistence with the empirical data as its model fit criteria of CFI score was 1, RMSEA less than .05, and χ^2/df less than 3 (Byrne, 2016; Wheaton et al., 1977).

Table 32: The Result of Confirmatory factor analysis of PU

Indicators	Acronym	Result			
		.β	S.E	*t-value*	R^2
23. It would improve my study performance. **(Job performance)**	PU2	.870**	.037	25.593	.756
24. Mobile learning would increase my study productivities**. (Increase productivity)**	PU3	.935**	-	-	.875
25. It would improve my study effectiveness. **(Effectiveness)**	PU4	.838**	.039	23.453	.702
26. Using mobile learning would give me total control in my learning process. **(Make Job easier)**	PU5	.712**	.042	17.332	.507
27. I would fine mobile learning useful for my study. **(Useful)**	PU6	.679**	.043	16.075	.461

**p<.01

Table 32 pointed out that the standardized factor loading (β) score of PU was positively significant at level .01 while its scores were between .679 to .935, and coefficient prediction (R^2) value of the indicators was from 46.10% to 87.50%.

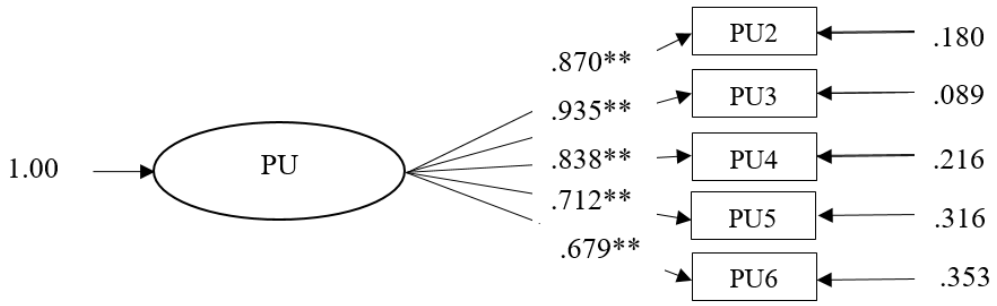

Figure 13: Confirmatory factor analysis result of PU

Behavioral Intention (BI) was determined by four indicators, namely BI1 to BI4. The table and figure of confirmatory factor analysis result were exhibited in the following Tables 33 and Figure 14 below:

Table 33: Confirmatory factor analysis of BI

Criteria Index	Model Fit Criteria	Score		Results
		First	Modification	
Chi-square (χ^2)	p> .05	.019	.110	Pass
χ^2/df	<=3	3.945	2.552	Pass
GFI	>.9	.990	.997	Pass
AGFI	>.9	.952	.968	Pass
CFI	>.9	.993	.998	Pass
RMSEA	<=.05	.086	.062	Pass
RMR	<=.08	.011	.006	Pass

Behavioral Intention (BI) was comprised of four observed indicators. Relying on the above table (Table 33), at first, the result of the estimation did not

show a good model fit because there were some values of criteria index did not respond to the minimum values of model fit criteria as illustrated: Chi-square *(x²)* = 7.890, Degree of freedom *(df)* = 2, x²/df = 3.945, GFI= .990, AGFI= .952, CFI= .993, RMSEA= .086, and RMR= .011. Neither Chi-square/df nor RMSEA result found that they did not fit the model fit criteria; as a result, this model needs re-modifying to make the criteria fit.

Finally, the new result came after remodifying; it revealed that there was a model fit very well with the Chi-square *(χ^2)* = 2.552, Degree of freedom *(df)* = 1, χ^2/df = 2.552, GFI= .997, AGFI= .968, CFI= .998, RMSEA= .062, and RMR= .006. Consequently, all the observed variables of BI were significantly related, and the model had good construct validity and consistency with the empirical data as CFI value was closed to 1 and RMSEA less than .05 as well as χ^2/df score less than 3 (Byrne, 2016; Wheaton et al., 1977).

Table 34: The Result of Confirmatory factor analysis of BI

Indicators	Acronym	Result			
		.β	S.E	*t-value*	R^2
28. I intend to use mobile learning for my study.	BI1	.731**	.056	15.723	.534
29. I intent to use mobile learning for study purpose as much as possible.	BI2	.759**	.050	16.564	.576
30. I intend to use mobile learning in the future for study.	BI3	.889**	-	-	.789
31. I would adopt mobile learning for study.	BI4	.802**	.047	18.265	.644

**p<.01

Table 34 talked about the result of Behavioral Intention (BI) CFA. It emphasized that the standardized factor loading (β) values were positively significant at level .01, which stayed from .731 to .889, and coefficient prediction *(R^2)* marks of all observed items ranked from 53.40% to 78.90%.

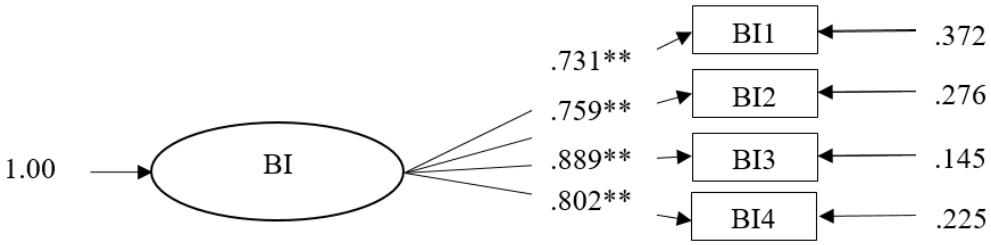

Figure 14: Confirmatory factor analysis result of BI

4.6 The Result of Testing Construct Validity

Overall Latent Variable CFA Model Test

The measurement model is concerned about the relationship between latent variables and observed variables, and a structural model presents the regression structure among latent variables (Byrne, 2013), which is where the interrelationship among latent variables is examined, and hypothesis are tested. The relevant paths include the test of the hypothesized relationship among latent variables and the overall fit of the proposed model to the data. The paths analysis in this research focused on exogenous variables to endogenous variables through the mediator variables. In addition, there were eight latent variables: 5 exogenous variables, 2 mediators, and 1 endogenous variable. As a result, there were 12 hypotheses proposed as mentioned in chapter 2. Similarly, in the regression analysis, R^2 was employed to determine how much the variance in the dependent variable explained by the independent variables. The contribution of each independent variable was evaluated with the resultant standardized coefficients (β). The hypotheses were tested the absolute t-values. Regression paths were deemed statistically significant when t-value were greater than 1.96 (p> .05), 2.58 (p> .01), or 3.29 (p> .000).

Before determining the overall latent variable measurement testing, each individual had been investigated and examined separately to make sure whether each one had good model fit to the empirical data or not. According to the goodness of fit indices and modification indices, the measurement of each model was employed since they are being used to confirm the correlation of the empirical data that has been collected to the theory developing the model fit (P. Lee, 2006). The measurement

models test how well manifest variables are linked to their underlying latent variables (Bollen, 1989; Byrne, 2013). The result of CFA is an indication of the effects of latent variables on observed items. Overall, there were 39 observed indicators for conducting on each construct testing. To achieve a good fit model, there was one observed items removed from the constructs as mentioned detail in the previous sections. Aa a result, there were 31 observed indicators, which were measured the overall model and structural model testing. All of them are shown as: SE (3 items: SE1-SE3), MA (4 items: MA1-MA4), PI (3 items: PI4-PI6, due to PI3, its factor loading falls below the less conservative .5; thus, it is omitted.), PE (4 items: PE1-PE4), SI (3 items: SI1-SI3), PEOU (6 items: except PEOU2), PU (5 items: PU2-P6), and BI (4 items: BI1-BI4). Those remaining observed items have conceptual and theoretical background that explain the latent variables.

The modification indices reveal that the model could be a good fit if the high correlated indicators are modified; so that, the correlation also improves within the constructs as the correlating within factor error is easier to justify than across latent constructs (Hooper, Coughlan, & Mullen, 2008). However, the correlated error terms should have a theoretical justification to make it valid (Jöreskog & Sörbom, 1996). Thus, to improve model fit, some error indicators have been correlated within the constructs since high inter-item correlation illustrates a strong relationship to the latent construct and probably measuring the similar thing (Yoon, 2002).

Table 35: Confirmatory factor analysis result of the overall construct

Criteria Index	Model Fit Criteria	Score		Results
		First	Modification	
Chi-square (χ^2)	p> .05	.000	.000	Pass
χ^2/df	<=3	2.080	1.348	Pass
GFI	>.9	.883	.927	Pass
AGFI	>.9	.857	.902	Pass
CFI	>.9	.935	.981	Pass
RMSEA	<=.05	.052	.030	Pass
RMR	<=.08	.041	.033	Pass

**p> .01

The overall model illustrated that did not provide a good fit since some criteria index values do not reach to the minimum standard of model fit criterial. The values are described as the following: Chi-square *(χ²)*= 844.430, Degree of freedom *(df)*= 406, *χ²/df*= 2.080, GFI= .883, AGFI= .857, CFI= .935, RMSEA= .052, and RMR= .041. Therefore, this construct needs further re-running data in order to get fit.

Similarly, the new result released that there was good model fit with the empirical data due to all criteria index value met the model fit criteria as shown: Chi-square *(χ^2)* = 494.614, Degree of freedom *(df)* = 367, *χ^2/df* = 1.348, GFI= .927, AGFI= .902, CFI= .981, RMSEA= .030, and RMR= .033. In short, this measurement model had good construct validity and consistence with the empirical data since CFI score (.981) was closed to 1, RMSEA score was less than .05 and *χ^2/df* was lower than 3 (Byrne, 2016; Wheaton et al., 1977).

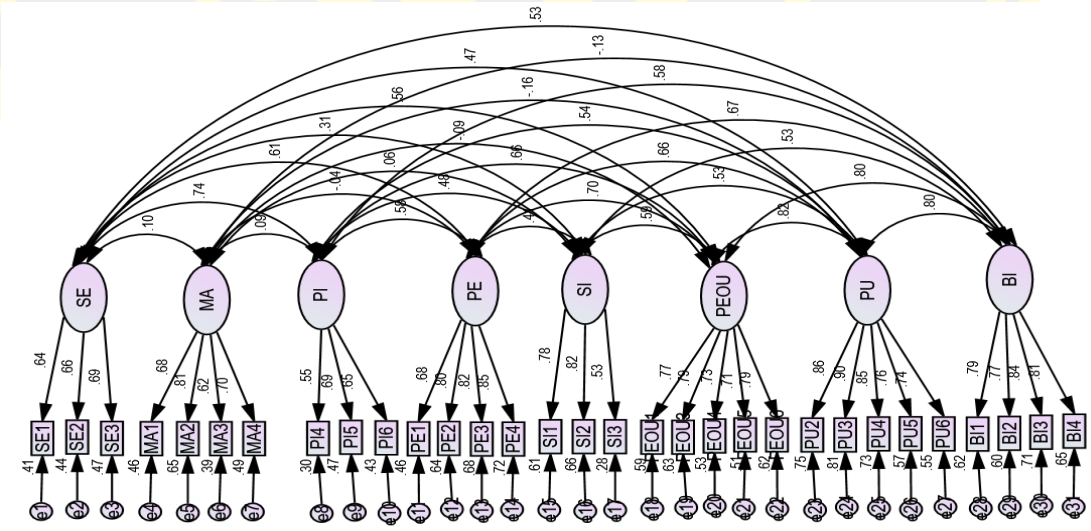

Figure 15: Overall construct testing

Table 36: Reliability and Validity of the Constructs

Construct	Items	Loading	t-value	AVE	CR
Self-efficacy (SE)	SE1	.637**	10.103	0.45	0.71
	SE2	.671**	9.887		
	SE3	.712**	-		
Mobile Anxiety (MA)	MA1	.676**	12.491	0.49	0.79
	MA2	.787**	-		
	MA3	.631**	11.501		
	MA4	.700**	12.662		
Personal Innovativeness (PI)	PI4	.512**	9.083	0.47	0.72
	PI5	.808**	-		
	PI6	.695**	9.761		
Perceived Enjoyment (PE)	PE1	.783**	14.360	0.66	0.89
	PE2	.763**	17.903		
	PE3	.828**	19.657		
	PE4	.877**	-		
Social Influence (SI)	SI1	.775**	13.370	0.51	0.75
	SI2	.815**	-		
	SI3	.526**	9.988		
Perceived Ease of Use (PEOU)	PEOU1	.772**	16.742	0.57	0.70
	PEOU3	.797**	-		
	PEOU4	.744**	15.834		
	PEOU5	.679**	14.274		
	PEOU6	.787**	16.925		
Perceived Usefulness (PU)	PU2	.867**	25.606	0.68	0.91
	PU3	.908**	-		
	PU4	.851**	24.647		
	PU5	.752**	19.498		
	PU6	.725**	18.411		
Behavioral Intention (BI)	BI1	.767**	17.685	0.63	0.87
	BI2	.769**	17.568		
	BI3	.842**	-		
	BI4	.801**	18.601		

As shown in Table 36, the t-value for standardized factor loadings of the items of each construct ranging from 9.083 to 25.606 found to be significant at level .01 ($p<.01$). Moreover, the standardized factor loadings stayed between .512 to .908**.** Factor loading of observed indicators of the construct is significant and it can be proof of the convergent validity of the construct (Yoon, 2002). In addition, Fornell and Larcker (1981) and Hair et al., (2010) suggested that the Construct Reliability (CR)

should be higher than 0.7 and the Average Variance Extracted (AVE) is greater than 0.5. Although if the AVE score is less than 0.5, which is 0.4, CR is greater than 0.7; it can be proofed the convergent validity of the construct. The AVE of Self-efficacy (SE), Mobile Anxiety (MA), Personal Innovativeness (PI), Perceived Enjoyment (PE), Social Influence (SI), Perceived ease of use (PEOU), Perceived Usefulness (PU), and Behavioral Intention (BI) were as ordered 0.45, 0.49, 0.47, 0.66, 0.51, 0.57, 0.68, and 0.63, respectively or ranged from 0.45 to 0.68. The CR values of the construct were 0.71, 0.79, 0.72, 0.89, 0.75, 0.70, 0.91, and 0.87 or ranked from 0.71 to 0.91. Thus, this construct can provide adequate evidence of convergent validity even though the AVE of SE, MA, and PI were lower than the criterion 0.5 since their CR scores were higher than 0.7 (Hair et al., 2010).

Furthermore, discriminant validity clarifies the level of uniqueness of construct from other constructs (Yoon, 2002). Discriminant validity can be identified by Fornell and Larcker (1981) formula. It is confirmed in case the average variance extracted (AVE) is higher than the average share variance (ASV) and maximum shared variance (MSV). In other words, ASV and MSV must be lower than AVE; the discriminant validity would be available. Wherefore, it can be proved support while AVE construct value is higher than the square of the correlation (Hair et al., 2010). Similarly, there are two criteria test of discriminant validity. The correlation coefficient between the two dimensions should be lower than one, and the correlation coefficient of the two dimensions should be lower than Cronbach's Alpha reliability coefficient; therefore, the discriminant validity can occur (Gaski & Nevin, 1985).

Table 37: Correlation Coefficient Matrix of Constructs

Construct	Construct Correlation Matrix							
	SE	MA	PI	PE	SI	PEOU	PU	BI
Self-efficacy (SE)	1							
Mobile Anxiety (MA)	.078	1						
Personal Innovativeness (PI)	.521**	.068	1					
Perceived	.479**	-.027	.452**	1				

Table 37 (Con't)

Enjoyment (PE)								
Social Influence (SI)	.216**	.065	.306**	.362**	1			
Perceived Ease of Use (PEOU)	.443**	-.070	.493**	.625**	.478**	1		
Perceived Usefulness (PU)	.387**	-.141**	.425**	.614**	.450**	.747**	1	
Behavioral Intention (BI)	.415**	-.110*	.442**	.610**	.452**	.698**	741**	1

Note: X^2= 494.614, df= 367, X^2/df= 1.348, p-value = .000, GFI= .927, AGFI= .902, CFI= .981, RMSEA= .030, RMA= .033

** Correlation is significant at the 0.01 level.
* Correlation is significant at the 0.05 level.

According to Table 37, the correlation among constructs was significant between the 0.05 and 0.01 levels. The correlation coefficient in the constructs was ranged from -.027 to .747. These values were not only less than one but also lower than their individual Cronbach's Alpha (see Table. 9 in Chapter 3).

Table 38: Discriminant Validity Test

Correlation between each construct		Correlation	Highest correlation value	MSV	ASV	AVE
SE	↔ MA	.078	.521	0.271	0.153	0.454
	↔ PI	.521				
	↔ PE	.479				
	↔ SI	.216				
	↔ PEOU	.443				
	↔ PU	.387				
	↔ BI	.415				
MA	↔ SE	.043	.068	0.005	0.007	0.491
	↔ PI	.068				
	↔ PE	-.027				
	↔ SI	.065				
	↔ PEOU	-.070				
	↔ PU	-.141				
	↔ BI	**-.110**				
PI	↔ SE	.479	.493	0.243	0.164	0.466
	↔ MA	-.027				
	↔ PE	.452				
	↔ SI	.306				

Table 38 (Con't)

	↔ PEOU	.493				
	↔ PU	.425				
	↔ BI	.442				
PE	↔ SE	.479	.625	0.391	0.244	0.662
	↔ MA	-.027				
	↔ PI	.452				
	↔ SI	.362				
	↔ PEOU	.625				
	↔ PU	.614				
	↔ BI	.610				
SI	↔ SE	.216	.478	0.228	0.130	0.514
	↔ MA	.065				
	↔ PI	.306				
	↔ PE	.362				
	↔ PEOU	.478				
	↔ PU	.450				
	↔ BI	.452				
PEOU	↔ SE	.443	.747	0.558	0.301	0.573
	↔ MA	-.070				
	↔ PI	.493				
	↔ PE	.625				
	↔ SI	.478				
	↔ PU	.747				
	↔ BI	.698				
PU	↔ SE	.387	**.**747	0.558	0.291	0.678
	↔ MA	-.141				
	↔ PI	.425				
	↔ PE	.614				
	↔ SI	.450				
	↔ PEOU	**.747**				
	↔ BI	.741				
BI	↔ SE	.415	.741	0.549	0.285	0.633
	↔ MA	**-.110**				
	↔ PI	.442				
	↔ PE	.610				
	↔ SI	.452				
	↔ PEOU	.698				
	↔ PU	.741				

The table above (Table 38) pointed out that both MSV and ASV values of each construct correlation were lower than the AVE value (Hair et al., 2010). Thereupon, the test provided significant evidence of discriminant validity.

4.7 Structural Equation Model and Hypothesis Testing

Structural Equation Model Measurement

After finishing the validity and reliability test in the CFA model, the step is path analysis of the structural equation modeling, used to test the hypotheses to confirm the relationship and influence among the latent variables in the structural model. Path analysis (SEM) is a bit different from regression since it can conduct either multiple regression analysis or overall assessment model fit that depends on the Chi-square statistic (Singh & Wilkes, 1996). The relationship between the constructs can be identified by determining the path coefficient (Parameter value) of every hypothesis, and each estimated path coefficient can be analyzed in its respective statistical significance for the hypotheses' relationship including standard errors and t-values (Yoon, 2002). The chi-square value the traditional measure for the sample and fitted covariance matrix. A fit model would address a significant threshold of Chi-square/df, GFI, AGFI, CFI, RMSEA, and RMR. Thus, it can be established at an acceptable threshold level consistently.

Table 39: The Result of the Structural Model fit Indices

Criteria Index	Model Fit Criteria	Score		Results
		First	Modification	
Chi-square (χ^2)	p> .05	.000	.025	Pass
χ^2/df	<=3	2.110	1.152	Pass
GFI	>.9	.879	.939	Pass
AGFI	>.9	.855	.916	Pass
CFI	>.9	.932	.992	Pass
RMSEA	<=.05	.053	.020	Pass
RMR	<=.08	.042	.031	Pass

There were 8 latent variables, including 31 observed indicators, which were used to test the structural equation model in this study. The primary result illustrated that it did not provide the goodness of fit in the model while some criteria index did not meet the model fit criteria. They were shown as Chi-square (χ^2)= 875.464, Degree

of freedom *(df)*= 412, x^2/df= 2.125, GFI= .879, AGFI= .854, CFI= .931, RMSEA= .053, and RMR= .042. Therefore, this construct needs further re-estimating the model to get fit.

Consequently, the structural model estimation found the goodness of model fit since all criteria index reached the standard of the model fit criteria as indicated: Chi-square *(x^2)*= 413.596, Degree of freedom *(df)*= 359, x^2/df = 1.152, GFI= .939, AGFI= .916, CFI= .992, RMSEA= .020, and RMR= .031. Therefore, this structural model provided a goodness of model fit.

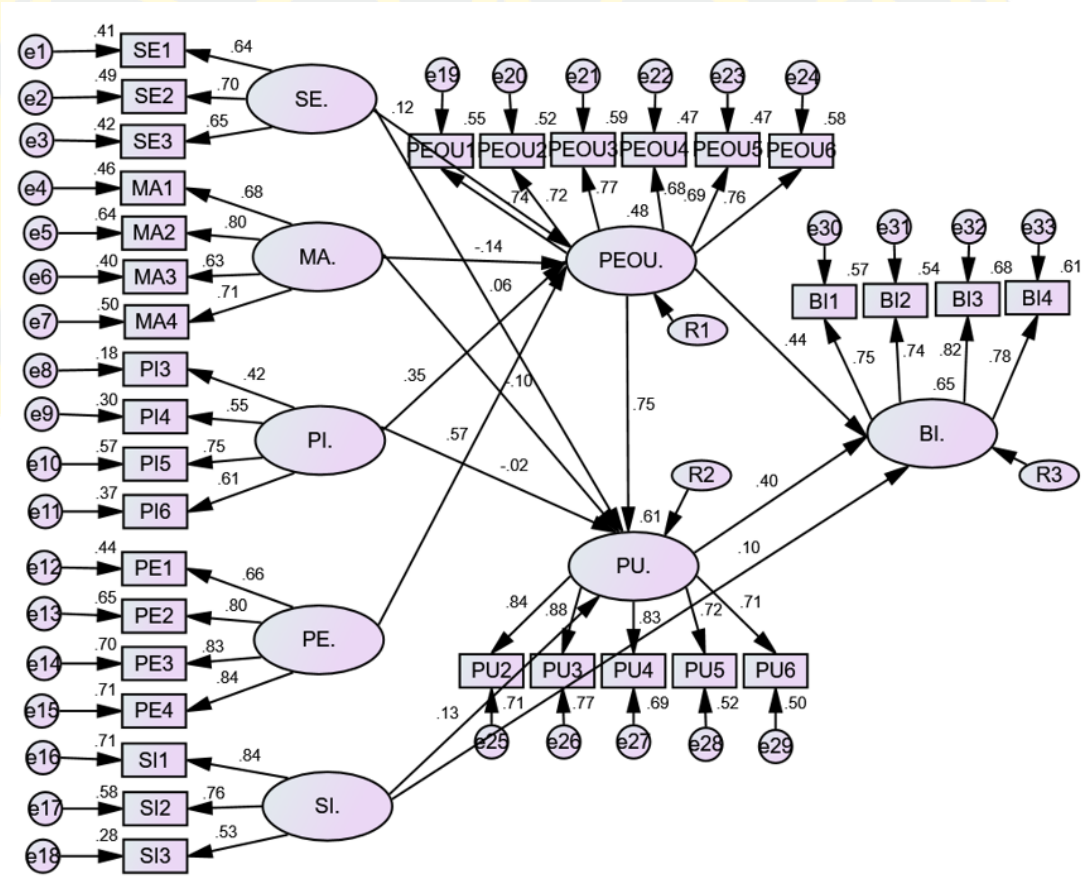

Figure 16: Structural equation model testing

Hypothesis Testing

There were 12 hypotheses which were tested in order to check how significant they are. As a result, there were 7 hypotheses providing support the model

in the study. They were illustrated as the following: (H1)- Self-efficacy positively predicts perceived ease of use of using mobile learning by students (β = -.752, *t-value* = -2.854, *p* = .004). (H5)- Personal innovativeness positively predicts perceived ease of use toward to using mobile learning by students (β= 1.170, *t-value*= 4.142, *p*= .000). (H7)- Perceived enjoyment positively predicts perceived ease of use of using mobile learning by students (β= .444, *t-value*= 4.514, *p*= .000). (H8)- Social influence positively predicts perceived usefulness of using mobile learning by students (β = .247, *t-value* = 1.971, *p* = .049). (H10)- Perceived ease of use positively predicts perceived usefulness to use mobile learning by students (β = .913, *t-value* = 5.782, *p* = .000). (H11)- Perceived ease of use positively predicts behavioral intention to use mobile learning by students (β = .388, *t-value* = 4.411, *p* = .000). Lastly, (H12)- Perceived usefulness positively predicts behavioral intention to use mobile learning by students (β = .459, *t-value* = 5.548, *p* = .000). In conversely, there were 5 hypotheses which could or could not find significant and were not support the model. Those were such the shown as in the following: (H2)- Self-efficacy positively predicts perceived usefulness of using mobile learning by students (β = .670, *t-value* = 1.930, *p* = .054). (H3)- Mobile anxiety negatively predicts perceived ease of use of using mobile learning by students (β = -.082, *t-value* = -1.055, *p* = .291). (H4)- Mobile anxiety negatively predicts perceived usefulness of using mobile learning by students (β = -.099, *t-value* = -1.474, *p* = .141). (H6)- Personal innovativeness positively predicts perceived usefulness toward to using mobile learning by students (β= -.808, *t-value* = -1.706, *p* = .088) and finally, (H9)- Social influence positively predicts the behavioral intention to use mobile learning by students (β = .055, *t-value* = 1.097, p = .273).

Table 40: Summary of Hypothesis Testing

Hypotheses	**Paths**	**β**	**S.E**	***t-value***	***p-value***	***Decision***
H1	SE → PEOU	-.752	.272	-2.854	0.004*	Yes
H2	SE → PU	.670	.380	1.930	0.054**	No
H3	MA → PEOU	-.082	.069	-1.055	0.291	No
H4	MA → PU	-.099	.064	-1.474	0.141	No
H5	PI → PEOU	1.170	.396	4.142	0.***	Yes
H6	PI → PU	-.808	.705	-1.706	0.088**	No
H7	PE → PEOU	.444	.081	4.514	0.***	Yes

Table 40 (Con't)

H8	SI → PU	.247	.125	1.971	0.049**	Yes
H9	SI → BI	.055	.049	1.097	0.273	No
H10	PEOU → PU	.913	.168	5.782	0.***	Yes
H11	PEOU → BI	.388	.092	4.411	0.***	Yes
H12	PU → BI	.459	.081	5.548	0.***	Yes

*p<.01, **p<.05, p<.001***, R^2 (PEOU)=.783, R^2(PU)=.770, and R^2(BI)=.717

4.8 Direct and Indirect Effect Estimation of Model

As shown in Table 41 and Figure 17 below, the result showed that three main variables have a direct effect on each other in the construct; they were PEOU, PU, and BI. In addition, PEOU and PU worked as moderators between exogenous (I.V) variables and endogenous variable (D.V) in the construct. Those of the effect illustrated in the following:

SE found a negative direct effect on PEOU (-.752), but it was a positive direct effect on PU (.670) while there was a negative indirect effect on BI (-.300). Identically, PI also addressed a positive direct effect on PEOU (1.170) while it was a negative effect on PU (-.808) as it released a positive indirect effect on BI (.573). Likewise, PE indicated an affirmative direct effect on PEOU (.444) as well as positive indirect effect both PU (.406) and BI (.359). Similarly, SI pointed out a positive direct effect on PU (.247) and it found directly (.055) as well as indirectly (.113) influenced BI (.168 in total effect). Additionally, PEOU revealed not only a direct effect on PU (.913) but also either positive direct (.388) or indirect effect (.419) on BI (.807 as total). The final direct effect was PU on BI (.459), respectively.

Table 41: Direct and Indirect Effect Matrix of Model

D.V		**PEOU**			**PU**			**BI**	
I.V	**T.E**	**D.E**	**I.E**	**T.E**	**D.E**	**I.E**	**T.E**	**D.E**	**I.E**
SE	-.752 (.272)	-.752 (.272)	-	-.017 (.380)	.670 (.380)	-.687	-.300	-	-.300
PI	1.170 (.396)	1.170 (.396)	-	.260 (.705)	-.808 (.705)	1.068	.573	-	.573
PE	.444 (.081)	.444 (.081)	-	.406	-	.406	.359	-	.359
SI	-	-	-	.247 (.125)	.247 (.125)	-	.168 (.049)	.055 (.049)	.113
PEOU	-	-	-	.913 (.168)	.913 (.168)	-	.807 (.092)	.388 (.092)	.419

Table 41 (Con't)

PU	-	-	-	-	-	-	.459 (.081)	.459 (.081)	-
R-square	.783			.770			.717		
Chi-square (χ^2)=413.596, *df*=359, p=.025, χ^2/df=1.152, GFI=939, AGFI=916, CFI=992, RMSEA=.020, RMR=.031									

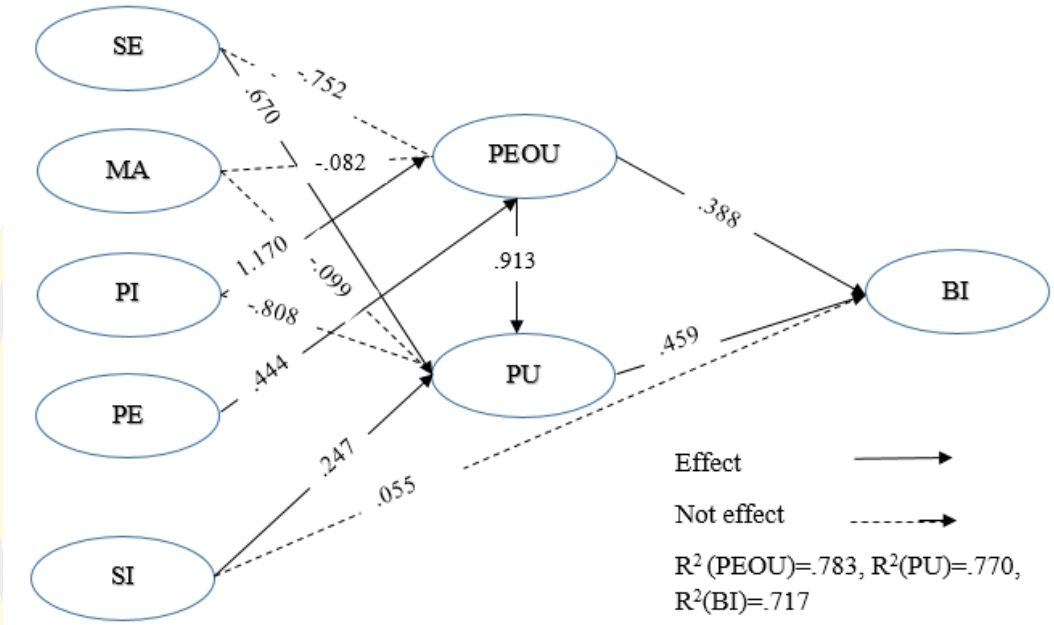

Figure 17: Factors Effecting on BI

CHAPTER 5

CONCLUSION, DISCUSSION, AND RECOMMENDATION

This section addressed the summary of the research results from the previous chapters. Moreover, the objectives of the research were discussed, which were followed by practical implication, recommendation, limitation, and Suggestion for future research, and conclusion as listed below:

Summary of Findings

Discussion

Managerial Implication

Recommendation

Limitation and Suggestion for Future research

Final Conclusion

5.1 Summary of Findings

This section exhibits the conclusion of the finding in the study. The researcher will briefly demonstrate some key areas such things as the demographic profile of the respondents, SEM analysis including CFA of the structural model on students' behavioral intention (BI), hypothesis testing, and effecting level on BI. 420 students were studying in Tourism and Hospitality selected to survey in this study through a quota sampling method from four universities in Phnom Penh, and 105 students were questioned in each university. 420 questionnaires were self-distributed once there were 400 returned, and they were completely useable with 95.24% response rates.

About demographic information, more than half of the respondents were female, 218 equal to 54.50% while the male was 182, equal to 45.50%. Among them, mostly they were 21-25 years old (n=183; 45.8%) followed by the age 15-20 year old (n=117; 29.3%) and the least one is 30-up (n=22; 5.5%). Additionally, most of them

are studying Bachelor's Degree (n=337; 84.3%) stayed next to by Master Degree (n=47; 11.8%) while the lowest one was Other Degree (=7; 1.8%) except Ph.D. Degree was zero. All of them completely used mobile devices (100%). Even though they used different type of mobile device for their academic purpose, Smartphone and Computer were considered the most popular use (n=224; 56%) stand nearby Smart use only (n=91; 22.8%) and the least one used Smartphone, Computer, Tablet, iPad, and Kindle; Smartphone, Computer, Tablet, iPad, Kindle and VR; Smartphone, Computer, Tablet, and others; Smartphone, Computer, iPad, and VR; Smartphone, Computer, iPad, and Others; Smartphone, Computer, and VR; Smartphone and Kindle; and Tablet (n= 1; 0.3%). Likewise, most of them have experienced 3-6 years (n= 155; 38.8%) of using electronic mobile devices followed by 6-9 years (n=104; 26%) and the least one was less than 1 year (<1year) (n= 11; 2.8%), respectively. About frequency of internet-based mobile usage indicated that almost respondents connected to the internet everyday as daily (n=387; 96.8%) and the lowest one was once a week (n= 4; 1%). In addition to, they browsed to diversify web engine within different purposes as most of them used it for Discussion, Web-browsing, E-mail, Down/uploading, and Chatting room (n= 105; 26.3%) and the lowest one is Discussion list, Web Browsing, Down/uploading, and others; Discussion list, Web Browsing, chatting room, and others; Discussion list, E-mail, Down/uploading, chatting room, and others; Discussion list and others; Web browsing, E-mail, and chatting room; Web browsing and chatting room; E-mail and Down/uploading; Down/uploading and chatting room; and Down/uploading, chatting room, and others (n= 1; 0.3%). There was 36.8% (n= 147) that had internet experience 3-6 years followed by 6-9 years (n= 104; 26%) and the least one was 9 year-up (n= 30; 7.5%). Along with this, they frequently accessed to the internet per week was different degree while Everyday access was the highest (n= 322; 80.5%) and Sometimes was the smallest (n= 11; 2.8%). Identically, all connect to the internet everyday as they spent 2-5 hours per day, which was the largest (n= 158; 39%) stood by 5-8 hours (n= 94; 23.5%) and the less than 2 hours/day was the lowest, 9% only. There was 26.8% (n= 107) accessed internet from Home, School, and Cyber coffee and 19.5% (n= 78) used Home and School internet while the rest was 0.3% (n= 1) selected all.

Furthermore, more half of respondents employed mobile learning as daily (n= 290; 72.5%) followed by three times/week (n= 63; 15.8%) and once time/week was the least (n= 16; 4%). Specifically, all students were intentional to the knowledge acquired via mobile learning (n=400; 100%).

Descriptive statistic

The result of the measurement level of each factor in the construct released that Behavioral intention (BI) found the highest performance while Mobile anxiety (MA) was the lowest one, as demonstrated as M= 3.96; S.D= 0.83 and M= 2.45; S.D= 1.00, respectively. In addition, MA illustrated at "Low" level, and BI found at "High" level. Furthermore, among the exogenous variables (SE, MA, PI, PE, and SI), MA had the lowest mean score (M= 2.45; S.D= 1.00); whereas, Social influence was the highest (M= 3.44; S.D= 0.94). It would be described that MA was at "Low" level, but SI was the highest one, compared to others, as M= 3.44, which considered at "High" level. Lastly, by determining the levels of the core construct of TAM as PEOU, PU, and BI, BI had the highest mean score. However, between mediators: PEOU and PU, PEOU had a higher mean score than PU as they were M= 3.92; S.D= 0.85 and M= 3.90; S.D= 0.98. All of them stayed at "High" level.

The result of data normality distribution of observed variables

The coefficient of variation (C.V) of the data was closed to each other, from 19.678 to 47.576. It illustrated that the normality of data distribution was medium while the highest C.V of observed indicators was (PE6)-I would find mobile learning disgusting to use; whereas, the lowest one was (BI4)-I would adopt mobile learning form study. Therefore, the data was considered reasonable for predicting the students' behavioral intention of using mobile learning. Conversely, PEOU2 and PU1 were eliminated due to their Skewness and Kurtosis scores (see in table 18). Consequently, the values of the data provided a normal curve as well as distribution. Thus, the data was finally fit for further conducting CFA.

The result of CFA on each construct testing

The multiple analysis in the research was multiple confirmatory factor analysis of 8 latent variables, namely as: Self-Efficacy (SE), Mobile Anxiety (MA), Personal Innovativeness (PI), Perceived Enjoyment (PE), Social Influence (SI), Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Behavioral Intention (BI). The results were demonstrated as shown in the below:

Self-efficacy (SE) consisted of 3 observed items. The factor loading of SE indicated that the standardized factor loading (β) values of all 3 observed items were positively significant at .01 level. The highest one was .720, namely as SE2-I could complete my job by using a mobile app if I had the software manuals to use it for reference followed by SE3- I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct (β=.644), and the lowest one is SE1 (β=.633), namely as I could complete my job using mobile learning form support my study if there was no one around to tell me what to do as I go.

Mobile anxiety (MA) was measured by 4 indicators. Its standardized factor loading (β) scores were found positively significant at .01 level. They were put in order from the highest to the lowest, which started from MA2-It makes me thought that I could lose my studying performance or productivity by using mobile learning, MA4-Using mobile learning in my studying is somewhat intimidating to me, MA1-I feel apprehensive about sung mobile learning would interrupt my studying performance, and MA3-I hesitate to use mobile learning in my study for fear of making mistakes I cannot correct. The factor values were .802, .704, .679, and .629, respectively.

There were 3 useable indicators which were employed to measure the construct validity of Personal Innovativeness (PI) while the standardized factor loading (β) values addressed positively significant at .01 level as shown orderly: (PI5)-You keep up with latest learning mobile app or learning platforms development in your areas of interest, (PI4)-You can operate new mobile high-tech products and service without any help from others, and (PI6)-You enjoy the challenge of figure out

mobile learning high-tech gadgets. They were equal in number as .815, .543, and .540, respectively.

Additionally, perceived enjoyment (PE) was estimated by 4 suitable observed indicators. The factor loading result expressed that the standardized factor loading (β) scores of all the indicators were affirmatively significant at .01 level as orderly illustrated: PE3-I would find mobile learning pleasant to use form study, PE4-I would find mobile learning very interesting to use, PE2-I would find mobile learning exciting to use for study, and PE1-I would find mobile learning enjoyable to use for study. Their values were ranked as .857, .856, .778, and .602, respectively.

Social Influence, SI, was predicted by 3 main observed items. Moreover, the value of its standardized factor loading (β) was all considerably significant at .01 level. They were namely as SI1-At university, my friends, who are important to me think that I should use mobile learning to support my studying (β=.856), SI2-At university, my lecturers think that I ought to utilize mobile learning to support my study (β=.751), and SI3-At home, my relatives or my parents think that I should use mobile learning to support my study (β=.522), respectively.

Perceived ease of use (PEOU) was modified by 5 indicators. The output of factor loading showed that the standardized factor loading (β) of all the indicators found positively significant at .01 level. They were orderly categorized from highest to the lowest as PEOU3-My interaction with mobile learning would be clear and understanding, PEOU1- Utilizing mobile learning would be easy for me, PEOU6-I would find mobile learning easy to use for study, PEOU4-It is easy to be skillful in using mobile learning for study, and PEOU5-It would be easy to access all learning materials from mobile learning, as equally number as .846, .762, .750, .710, and .633.

Five observed indicators were used to investigate the perceived usefulness (PU) variable. The result revealed that the standardized factor loading (β) scores of all were positively significant at .01 level. They were mentioned as PU3-Mobile learning would increase my study productivities, PU2-It would improve my study performance, PU4-Using mobile learning would give me total control in my learning

process, and PU6-I would find mobile learning useful for my study. The values of standardized factor loading were .935, .870, .838, .712, and .679, respectively.

Finally, Behavioral intention, BI, was measured by 4 observed indicators and its factor loading finding released that the values of all standardized factor loading (β) provided positively significant at .01 level as orderly demonstrated BI3-I intent to use mobile learning in the future for study, BI4-I would adopt mobile learning for study, BI2-I intent to use mobile learning for study purpose as much as possible, and BI1-I intent to use mobile learning for my study. In numeric value, they were .889, .802, .759, and .731, respectively.

The result of overall construct testing

The result of the model fit of multiple confirmatory factor analysis of students' behavioral intention with empirical data from 8 latent variables equal to 31 observed indicators was estimated. It provided well-fitted with the empirical data and reflected the acceptable consistency of the value's index.

The overall model testing result exhibited that there was a good model fit with the empirical data because of all criteria index values: Chi-square (χ^2) = 494.614, Degree of freedom (*df*) = 367, χ^2/df = 1.348, GFI = .927, AGFI = .902, CFI = .981, RMSEA = .030, and RMR = .033. In conclusion, the measurement model found good construct validity and consistence with the empirical data due to CFI value was closed to 1, RMSEA value was also less than .05, and χ^2/df was lower than 3.

Moreover, this model passed the convergent validity criteria since the standardized factor loading values stayed between .512 to .908, and its t-values were in the rank 9.083 to 25.606 found significant at .001 level. Similarly, the AVE of SE, MA, PI, PE, SI, PEOU, PU, and BI were 0.45, 0.49, 0.47, 0.66, 0.51, 0.57, 0.68, and 0.63, staying between 0.45 to 0.68 while its CR values were 0.71, 0.79, 0.72, 0.89, 0.75, 0.70, 0.91, and 0.87, which was between 0.71 to 0.91, respectively.

Along with this, the construct can provide enough evidence of discriminant validity, and its correlation coefficient values were between -.027 to .747 (see in Table 38), reflected significant at .01 and .05 level. Due to these values less than one

as well as lower than their Cronbach's Alpha score, this discriminant validity was established.

The result of structural model

The result of structural model testing showed that the goodness of model fit was established because all criteria index passed the minimum standard of the model fit criteria as illustrated: Chi-square (χ^2) = 413.596, Degree of freedom (*df*) = .359, χ^2/df = 1.152, GFI= .939, AGFI= .916, CFI= .992, RMSEA= .020, and RMR= .031. Thus, this model provided a well-fit model with the empirical data since the CFI value was closed to 1, the RMSEA value was also less than .05, and χ^2/df was lower than 3.

Table 42: Summary of Findings

	Result Interpretation
Descriptive statistics	- Female, 54.5% (n=218) - Age**,** 21 to 25 years old, equal to 45.8% (n= 183) followed by 15-20 years old (n=117; 29.3%). - Bachelor's degree (337; 84.3%), while 11.8% (n=47) was a Master's degree.
	- All of them used mobile devices (n=400; 100%) with different types as well as quantities while smartphone and computer was the most popular use (n=224; 56%) - Experienced between 3 to 6 years with using mobile devices, as equal to 38.8% (n=155) and almost of them responded Daily (n=387, 96.8%) of internet-based mobile use while 26.3% (n=105) used it for Discussion list, Web-browsing, E-mail, Down/uploading, and Chatting room purposely. - About Internet usage, nearly half of them had 3 to 6 years experience (n= 147; 36.8%) and 9 years up was 7.5% (n=30). - Accessed to the internet all most every day (n=322; 80.5%) as mostly, they spent 2 to 5 hours per day, 39% (n=158) in equally and 9% was less than 2 hours - There was 26.8% (n=107) mostly access to the internet at home,

Table 42 (Con't)

	school, and cyber coffee while 19.5% can access the internet at home and School. - More than half of students (n= 290; 72.5%) daily use mobile learning and the least one is once time/week (n= 16; 4%). - Finally, all respondents are intentional to the knowledge acquired via mobile learning activities while the statistic is shown 100%
Objective (1)	- BI found the highest level, while MA was the lowest one. - Among the 5 exogenous variables, SI was the highest level, and the lowest one was MA. - Between the two mediators, PEOU found higher level than PU in the constructs.
Objective (2)	- The structural model testing showed that the goodness of model fit due to Chi-square (χ^2) = 413.596, Degree of freedom (*df*) = .359, χ^2/df = 1.152, GFI= .939, AGFI= .916, CFI= .992, RMSEA= .020, and RMR= .031. - Among the 12 hypothesis, there were 7 (H1, H5, H7, H8, H10, H11, and H12) hypotheses confirmed a positive relationship while the other 5 (H2, H3, H4, H6, and H9) were not supported. - SE found a negative direct effect on PEOU (-.752), but it was a positive direct effect on PU (.670) while there was a negative indirect effect on BI (-.300). - PI also addressed a positive direct effect on PEOU (1.170) while it was a negative effect on PU (-.808) as it released a positive indirect effect on BI (.573). - PE indicated an affirmative direct effect on PEOU (.444) as well as positive indirect effect both PU (.406) and BI (.359). - SI pointed out a positive direct effect on PU (.247) and it found directly (.055) as well as indirectly (.113) influenced BI (.168 in total effect). - PEOU revealed not only a direct effect on PU (.913) but also either positive direct (.388) or indirect effect (.419) on BI (.807 as total).

- The final direct effect was PU on BI (.459), respectively.

5.2 Discussion

This study aimed to measure the level of each factor in the construct as well as to determine the factors affecting the students' behavioral intention to use mobile learning studying tourism and Hospitality major at higher education in Phnom Penh, Cambodia by the extending the TAM to the other related factors. The perceived ease of use and perceived usefulness were considered the main factors for predicting the students' behavioral intention to use mobile learning since they have a straightforward impact on the student's behavioral intention as mediators of other external factors: exogenous variables known as self-efficacy, mobile anxiety, personal innovativeness, perceived enjoyment, and social influence. A few previous type of research will be employed to discuss students' perceptions regarding the adoption of mobile learning.

Finding was discussed based on exogenous variables influence on students' behavioral intention to use Mobile learning as summarized in Table 40: Summary of hypothesis testing as well as the result of model fit on multiple confirmatory factor analysis of BI that shown well-fit model with the empirical data. It highlighted that there were 7 hypotheses confirmed a positive relationship while the other 5 were not supported. Moreover, their relationship will present through the result of SEM in the hypotheses, and the proposed model hypotheses addressed in the context of the Cambodian norm. Among the twelve hypotheses, 7 hypotheses support with the data collected from the target respondents. The result of path analysis demonstrated goodness of model fit as the criteria index reached the minimum standard of model fit criteria as shown: Chi-square (x^2)= 413.596, Degree of freedom *(df)*= 359, x^2/df = 1.152, GFI= .939, AGFI= .916, CFI= .992, RMSEA= .020, and RMR= .031.

Self-efficacy (SE) between Perceived ease of use (PEOU) and Perceived usefulness (PU)

The result of self-efficacy in the study found unsupported perceived usefulness whereas it found negative effect on perceived ease of use. It was defined as

the student's belief in themselves to be able to learn and employ mobile devices in their learning concept. If they can adopt high-tech or electronic devices for themselves as well as find it both easily to use and useful, they will intend to use it. Identically, even though they found it difficult to adopt, they may not quit it easy if they found it useful. Hence, they will intentionally keep learning about it step by step. In addition, the more students feel self-efficacy, the more likely they commit to use mobile learning as consistent with Hsia and Tseng (2008a) and Ifinedo (2006) identified that computer self-efficacy had a positive significant effect on perceived ease of use and perceived usefulness. Moreover, Al-Ammary et al. (2014) also mentioned that self-efficacy was a principal determinant for adopting new technology since it affected personal capability as well as time to complete specific duties. As a result, it could influence students' decision on what they should accept or reject mobile learning.

However, our studying illustrated that self-efficacy had a negative significant effect on perceived ease of use; whereas, most of the other previous studies confirmed it had a positive significant effect on perceived ease of use. As mentioned in this study, self-efficacy was defined as a personal opinion of his or her own ability to implement a specific job via mobile learning. The user may intend to employ mobile learning in case they find it easy to use. In contrast, they will avoid it if they find it difficult. In addition, the Cambodian government has recently proposed an e-learning policy as the platform is under progress, and it needs more and more reforming to make the users feel easy to adopt because it may affect the perceived ease of use among the users negatively. Particularly, it seems to be a new platform for students, so they need time to get used to this new trend. For other reasons, once students have high self-efficacy, they likely accept to take e-learning; however, the low ones they may reject to use it (Yuen & Ma, 2008). Along with this, Igbaria and Iivari (1995) interpreted that computer self-efficacy can influence human behavioral intention to use computers if they think that it is not easy or complicated to use; therefore, they will intentionally reject it. Consistently, Richardson (2011) confirmed in his article, Challenges of Adopting the Use of Technology in Less Developed Countries: The Case of Cambodia based on the theory of the diffusion of innovation,

that the main obstacles of applying new technology in education were complexity, language barriers, untrained teacher and especially, unable to absorb the benefits of the technology effectively. He further explained that the complexity was the main determinants of the trainers as well as end-users' decision for employing specific technology in Cambodia. Moreover, Y. C. Cheng and Townsend (2000) identified that barriers of adopting ITC in education centers in the Asia-Pacific region are to link ICT with curriculum development due to technology improvement is the norm, which makes curriculum developers hard to follow.

Mobile anxiety between Perceived ease of use and Perceived usefulness

As identified in chapter 2 through other previous studies, researchers hypothesized mobile anxiety had a negative influence on both perceived ease of use and perceived usefulness. In contrast, the results exhibited that there was no significant effect between the two constructs. Thus, mobile anxiety cannot be considered as a variable to determine the students' behavioral intention to use mobile learning in Cambodia since it found at "Low" level. In contrast, they intended to adopt mobile since the BI level exhibited at "High" level as well (see in Table 17). This result reflected that almost Cambodian students considered Mobile anxiety does not make them in troubles. Fortunately, the finding was consistent with the results of Ifinedo (2006) illustrated that computer anxiety was not a significant impact on perceived ease of use and perceived usefulness in terms of acceptance and continuance intention of web-based learning tools in the context of a country in EE. For an instant, Shih and Huang (2009) identified computer anxiety was not influent either perceived ease of use or perceived usefulness on the actual usage of ERP system. On the other hand, the illustration of the research result did not look strange as it sounded suitable for the Cambodian students' concept as similar to what the researcher had anticipated. Similarly, it could be confirmed in the respondent's information profile because 100% of the students were intentional to knowledgeable acquire via mobile learning. Consequently, they might not negatively feel bad and fear or hesitate to utilize mobile learning.

Personal innovativeness between Perceived ease of use and Perceived usefulness

In this study, the personal innovativeness result released that it was a significant impact on and leverage perceived ease of use due to its high factor loading scores between the constructs; however, it found unsupported perceived usefulness. In addition, it was extremely direct effect perceived ease of use, compared to perceived usefulness in the constructs. As mentioned in the literature review, personal innovativeness is the desire of students to accept the new technology or mobile devices for improving their learning process to add up to the traditional class. Once the students have highly affirmative personal innovativeness, they would explore to as well adore to learn the new thing without hesitation, and they might be able to deal with the degree of suspicion and improve positive intentions towards acceptance. Agree to this result, there are some previous studies found consistent with this study. For example, Lu et al. (2005) found that personal innovativeness had a relationship with both perceived ease of use and perceived usefulness for employing wireless internet service via mobile technology. Likewise, Jackson et at. (2013) also clarified that personal innovativeness had an impact on behavioral intention of a personal trait for accepting the e-buying system through the ease of use and usefulness.

It looked a bit different from other studies since this study found that personal innovativeness harmed perceived usefulness. A highly innovative human might be more critical than low innovative human onwards technology used due to they clearly understand and up-to-date to technology and easy to quit all even if it meets their needs. As consistently discussed, Turan, Tunç, and Zehir (2015) argued to personal innovativeness and user involvement through applying the theory of acceptance and use of technology. They identified a highly innovative person could be adapting quickly and intend to use the system faster than the poor innovative person. On the other hand, the system's structure, design, and functionality will strictly limit their task implementation. Either it is easy to use or useful; it should fit users' task needs as well as consider to innovative person's desires. Consequently, no matter how useful the users get, they might not get involved in if the system cannot make them satisfied, they may avoid using. Aligned with this Walczuch et al. (2007)

also claimed that innovativeness affected usefulness negatively. Similarly, Richardson (2011) explained that based on the context of technology adopters in Cambodia by grouping and discussing their innovation characteristics via the model of diffusion on innovation. He claimed that each group had a different level of benefit from using ICT. For example, early adopters paid much attention to the relevant benefits. Late adopters were ample to learn if they found it less complex, and reinvent adopters tried to deal with the complexity. However, discontinuers and rejecters thought they were unable to generate any benefits from using ICT. In other words, the users are not capable enough to generate advantages of technologies. Hence, they may feel it is not useful.

Perceived enjoyment and Perceived ease of use

The finding pointed out that perceived enjoyment positively affected perceived ease of use since its factor loading value was directly high support to the construct and indirectly affected students' behavioral intention to use mobile learning. The student will preferably participate in class activities; in case, they feel easy and happy through the platform. In contrast, they might incorporate if they found it not interesting as well as difficult. Consistent with other previous literature, T. Teo and Noyes (2011) indicated that perceived enjoyment had a strong relationship with perceived ease of use on the intention to use technology among pre-service teachers. The researchers also explained that pre-service teachers found it easy to adopt new technology as they prefer to apply it. Identically, Al-Gahtani (2016) illustrated computer enjoyment found a significant relationship with perceived ease of use. Agudo-Peregrina et al. (2014a) also explained that the intrinsic motivational elements for heightened enjoyment could build up more user-friendly. Lastly, computer playfulness had a positive relationship with perceived ease of use of the virtual worlds (Shen & Eder, 2009). Zare and Yazdanparast (2013) identified perceived enjoyment positively influenced perceived usefulness.

Social influence between Perceived usefulness and Behavioral intention

Based on the analyzed result, social influence had a positive straightforward effect on perceived usefulness due to its factor loading also highly supported the construct. As addressed in the previous section, social influence refers to pressures that students perceive from the external environment, and it can impact their decision as well as behavior, too. Piccoli, Carnaghi, Grassi, Stragà, and Bianchi (2020) claimed that informational social influence that someone gets from the other sources, it will lead to taking a consideration since he/she considers it as a valid interpretation of reality. In general, no matter what pressures the users get from their surrounding environment for adopting new technology or social platform, much or less they will intentionally accept to utilize it since they find it useful. As consistent with this idea, Davis (1985) presented that social influence indirectly affected student's behavior intention via perceived usefulness in the TAM. Similar to this, Al-Ammari and Hamad (2008) exhibited that social influence indirectly impact on behavioral intention towards perceived usefulness. In addition, it was also identified positively effect on perceived usefulness by (Park, Son, & Kim, 2012b).

Otherwise, it found not a directly significant relationship with students' behavioral intention to use mobile learning. Not surprisingly, depending on the demographic profile shown that all of the students were utilizing the mobile devices, and more than double of them consumed it for academic purposes between 3-to-6-years experiences. Therefore, the influencers might not the main obstacle for them to accept or to use mobile learning or technology because they have deeply learned as well as linked to a long experience. In other words, the more experience and knowledge the users have, the less scary they have. As a result, no one can make them feel the pressure. Consistently, Sarosa (2019) identified that social influence did not impact student's acceptance of the iPad due to the users' experience of utilizing mobile devices.

Correlation of Perceived ease of use, Perceived usefulness, and Student's behavioral intention

Perceived ease of use and perceived usefulness were considered the main determinants that predict the relationship of student behavioral intention towards TAM. The result presented that either perceived ease of use or perceived usefulness positively affected student's behavioral intention to use mobile learning because their factor loading scores were high, too. When the users perceive useful and find it easy to use the new technology or platform, they will intentionally accept and use it. Connectedly to this result, Park et al. (2012b) found both perceived ease of use and perceived usefulness positively direct related to users' satisfaction to use Web-based Training. In addition, Hsia and Tseng (2008b) confirmed that both perceived ease of use and perceived usefulness had affirmatively straightforward influence behavioral intention to use e-learning. Linked to this, Al-Ammary et al. (2014) declared perceived ease of use and perceived usefulness significantly related to behavioral intention to use social networking as a learning tool at the University of Bahrain.

Table 43: Result of Hypotheses Testing

	Hypotheses	Result
H1	Self-efficacy positively affects perceived ease of use towards student's behavioral intention to use mobile learning.	Support
H2	Self-efficacy positively affects perceived usefulness towards student's behavioral intention to use mobile learning.	Not support
H3	Mobile Anxiety negatively affects perceived ease of use towards student's behavioral intention to use mobile learning.	Not support
H4	Mobile Anxiety negatively affects perceived usefulness towards student's behavioral intention to use mobile learning.	Not support
H5	Personal innovativeness positively affects perceived ease of use towards student's behavioral intention to use mobile learning.	Support
H6	Personal innovativeness positively affects perceived usefulness towards student's behavioral intention to use mobile learning.	Not support
H7	Perceived enjoyment positively affects perceived ease of use towards student's behavioral intention to use mobile learning.	Support
H8	Social influence positively affects perceived usefulness towards student's behavioral intention to use mobile learning.	Support
H9	Social influence positively direct affects student's behavioral intention to use mobile learning.	Not support
H10	Perceived ease of use positively affects perceived usefulness towards student's behavioral intention to use mobile learning.	Support

Table 43 (Con't)

H11	Perceived ease of use positively direct affects student's behavioral intention to use mobile learning.	Support
H12	Perceived usefulness positively direct affect student's behavioral intention to use mobile learning.	Support

5.3 Managerial Implication

Tourism literature

The research has adopted a few theories based on the topic and then started finalizing the theory of the technology acceptance model (TAM). In employing TAM in the mobile learning context, the researcher extended the theory and determined the relationship of external determinants on behavioral intention towards the three core constructs of TAM. Therefore, a new conceptual framework was set up for this research depended on the Cambodian context. A few main external variables for determining a student's behavioral intention was proposed. There was self-efficacy, mobile anxiety, personal innovativeness, perceived enjoyment, and social influence. The result also leveraged the literature. In addition, some research methods were employed as structural equation modeling (SEM) for determining the relationship between constructs and measuring the model, too. The measurement items of each construct need revising to get a more significant effect. Otherwise, the results importantly contribute to the knowledge of student's behavioral intention to use mobile learning or adopt technology for their study context in the technology age. Fortunately, the proposed model would be fit to Cambodia as well as other countries.

Educational Centers and Policymakers

The samples were withdrawal from the target population, which was relatively representative of students studying the Tourism and Hospitality field through randomly select with multiple processes in this research. Whenever people do something, they always expect the result. Not different from this, while the students consume mobile learning, they could consider both negative and positive effects of using it. The students might recognize the advantages of using it, including self-improvement, better task performance, increase learning productivity, or future study progression; it might make them feel pressure or anxiety as well as complicated. Thus, educational managers or policymakers should compose techniques to address

the benefits of utilizing it to motivate student performance. The educational managers or policymakers can set it up as an effective means for the student to accomplish their goals. Once they use it and noticeably perceive benefits, they definitely accept and use it. As indicated in the findings, all of the respondents had mobile devices. They experienced within using mobile devices between 3 to 6 years, and they were also young, 15-25 years old, categorized in Generation Z. They were born in technology advancement, considered digital-centric and technology. They have potential competency that can easily adapt and learn new things, especially technology. Therefore, either educational centers or policymakers should start applying technology into teaching methods and curriculum to make more convenient, attractive, and sustainable for both students (demanders) and educational institutions or policymakers (suppliers). Traditional class is still important but modern class, mobile learning, is also needed since mobile learning can compromise trainers and students to keep in touch with each other permanently no matter where they are. Especially, students can access many diversities of learning materials on the internet. Fortunately, the research finding found associated with this idea, too. The main determinant result was released pretty well since the negative variables as social influence, self-efficacy, personal innovativeness, and mobile anxiety were found irrelevant to behavioral intention. Therefore, most of the students did not feel anxiety with mobile learning, and social influence also did not affect their intention to accept or to use mobile learning. However, if they find it difficult as well as complicated, they will reject using mobile learning since they negatively judge they are incapable of using it. In short, a high probability of success applies mobile learning in Cambodian education since students show their high intention. Even though the research result showed positively, educational centers or policymakers are necessary to formulate and reform.

Educational centers should:

- Equip with learning materials needed for conducting mobile learning to the trainer or educators in their places since some educational centers found shortage.

- Provide adequate training to trainers frequently to keep them up-to-date to mobile learning technology and built their capacity to reduce any complexity according to rapid technological advancements.
- Offer pre-class or short courses and promote sharing culture about an innovative technology to students as well as trainers for improving their self-efficacy.

Policymakers (Cambodian government) should:

- Propose policy which is related to mobile learning that can be implemented for all stakeholder, especially educational centers both private and public centers.
- Apply ICT skills into the curriculum since primary school to higher education to make them improved their innovative characteristics.
- Motivate and promote all stakeholders to participate in conducting training via mobile learning by compromising with internet suppliers to support and to increase its capacity to cover the whole country even in rural areas.
- Provide training programs relating to the use of the internet or computers for those who lack sufficient qualifications in other areas, too.
- Corporate and provide exchange program opportunities with other international universities in or out of the region to students and trainers in purposely learning from others.

5.4 Limitation and Recommendation for Future Research

This study provides contribution insight in understanding student's behavioral intention to use mobile learning in Tourism and Hospitality field in the Cambodian context, and it has several limitations set. Firstly, 420 sample sizes are considered less amount that cannot represent Cambodian students, especially in SEM. Therefore, further research should employ a larger sample size than this based on the geographical locations as well as take into account the composition of the research subjects. Secondly, depending on the Extension to Technology Acceptance Model developed by (Venkatesh & Davis, 1996) in this study, the researcher has adopted few external factors that consider affecting student behavioral intention to use mobile learning. However, other determinants should be suggested for future research as the

design of learning content, perceived interaction, perceived mobile quality. Consequently, we will deeply and accurately understand the user's perception of using it. Finally, the quantitative method was employed in this research. The next study should be combined with both quantitative and qualitative approaches to understand and interpret the student's behavioral intention to use mobile learning since this mixed-method might complement each other in the context of student preferences.

5.6 Final Conclusion

In the technology age, human lives and lifestyles have completely altered due to it has closely connected to our part of our life, including traveling, communicating, doing business, learning, educating, and other purposes (Pathak, 2011). Moreover, Bukharaev and Altaher (2017) it mentioned that there were several benefits of technology in educational systems since the users can keep accessing it no matter when or where they are. Therefore, it is a great opportunity for developing countries to take it as a consideration to apply it to the educational system, especially Cambodia because the research result was found well due to the student's intention to accept and using mobile learning.

The main purpose of this study is to determine the factors that influence student's behavioral intention on using mobile learning in Tourism and Hospitality majors in Phnom Penh, Cambodia. There were two main objectives as shown: 1)- to measure the level of each variable in the construct towards student's behavioral intention to use mobile learning and 2)- to identify the relationship of the factors in the construct-TAM model.

Among the five exogenous variables, Social influence (SI) had the highest levels; whereas, Mobile Anxiety (MA) was the lowest.

There were five main external variables used for estimating the relationship to three core variables in the TAM model as illustrated: self-efficacy, mobile anxiety, personal innovativeness, perceived enjoyment, and social influence. The quantitative method was used, and the research instrument was also developed based on the

literature review due to the operational definition of the main determinants. Besides, the researcher applied self-administered techniques for conducting data collection with a 420 questionnaire distributed at the target population places.

In the study, the result showed that there were 7 hypotheses found related to the student's behavioral intention to use mobile learning, except 5 found no significant relationship. Major distributions were briefly exhibited in the below:

- These results pointed out that how personal innovativeness impacts student's behavior intention towards accepting or utilizing mobile learning so that mobile learning platforms should be concerned with innovative content and features to make the users found it useful and ease.

- Personal innovativeness had the most significant negative direct effect on perceived usefulness towards the student's behavioral intention to use mobile learning.

- Mobile anxiety did not provide any significant negative effect on either perceived ease of use or perceived usefulness toward using mobile learning.

- Social influence presented a positively significant direct effect on perceived usefulness, but it did not show any direct effect on the student's behavioral intention to use mobile learning.

Finally, the study also contributed an ample and meaningful implication for practitioners due to the result illustrated. More or less, this result will be participated in to solve the problems in the educational system in Cambodia.

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