南華大學管理學院企業管理學系管理科學碩士班

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檢驗柬埔寨員工學習線上學習之意願：從價值增加模型，科技接受模型及自我決定理論觀點探討

Examining the Intention of E-Learning of Cambodia Employee by Extending Value--Based Adoption Model (VAM), Technology Acceptance Model (TAM) and Self-Determination Theory (SDT)

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Letter of Recommendation for ABT Masters

準碩士推薦函

本校企業管理學系管理科學碩士班研究生 吳帝賢 君在本系修業2年，已經完成本系碩士班規定之修業課程及論文研究之訓練。

1、在修業課程方面： 吳帝賢 君已修滿 39 學分，其中必修科目電子商務專題、企業倫理專題、策略管理專題、研究方法、管理科學等科目，成績及格(請查閱碩士班歷年成績)。

2、在論文研究方面： 吳帝賢 君在學期間已完成下列論文：

(1)碩士論文：檢驗柬埔寨員工學習線上學習之意願：從價值增加模型，科技接受模型及自我決定理論觀點探討

(2)學術期刊：

本人認為 吳帝賢 君已完成南華大學企業管理學系管理科學碩士班之碩士養成教育，符合訓練水準，並具備本校碩士學位考試之申請資格，特向碩士資格審查小組推薦其初稿，名稱：檢驗柬埔寨員工學習線上學習之意願：從價值增　加模型，科技接受模型及自我決定理論觀點探討，以參加碩士論文口試。

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107 學年度第 2 學期碩士論文摘要

論文題目：檢驗柬埔寨員工學習線上學習之意願：從價值增加模型，科技接受模型及自我決定理論觀點探討

研究生：吳帝賢　　指導教師：廖英凱　博士

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論文摘要內容:

由於柬埔寨人傾向於開始在互聯網上學習，本研究旨在探討相關構念間之互動關係。本研究採用創新科技，科技接受模型,價值增加模型及自我決定理論，並以主觀規範及感知覺風險作為調節效應來探討員工線上學習。本研究採取問卷調查，本研究適過個別報名及電子郵件共收集 369 位消費者之意見進行分析。研究之結果發現以上提到的三種理論具有相互關係，並間受到主觀規範和感知風險的調節。使用者在進行學習時，必須注意線上學習之重要性，而網站與應用程式的開發者應該考慮系統及網路的可靠性，知識的方便來吸引更多用戶使用。

關鍵詞：技術創新、感知利益、感知有用性、感知犧牲、態度、主觀規範、感知風險、行為意向

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Department: Master Program in Management Sciences, Department of Business Administration, Nanhua University

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ABSTRACT

Due to Cambodian tends to start to learn on the internet, this research aims to study the interrelationship between each research construct by using technology innovation, Technology Adoption Model (TAM), Value-based Adoption Model (VAM) and Self-Determination Theory (SDT) to determine the behavioral intention of the user in e-learning with subjective norm and perceived risk as the moderation effect. This study is conducted by using the quantitative method of surveying the questionnaire through the social application and e-mail with a total of 369 respondents who get employed in Cambodia. The results found that there is a relationship between the three theories that mentioned which had moderated affect by the subjective norm and perceived risk. It suggests the users need to be aware of the essential of studying on e-learning to adapt with the modern era while the developer of website and application should consider about the reliable system, accurate knowledge, and convenience way to attract the more user to use theirs.

Keywords: Technology Innovation, Perceived Benefit, Perceived Usefulness, Perceived Sacrifice, Attitude, Subjective Norm, Perceived Risk, Intention

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CHAPTER ONE
INTRODUCTION

1.1 Research Background and Research Motivation

In the last decade, the Information Technology (IT) proliferates with the various kind of field, especially, the online internet site that makes many users to use in their daily life. E-learning also starts to be a notable topic in many research in the last decade. Due to this trend, many internet users decide to study online by searching the knowledge that they want, many online service teaching courses, smartphone applications that contain the knowledge are available for people to study anywhere and anytime. This trend has caused the users likely to study online (e-learning) because it is easy for them to seek out the information that they want on the internet rather than finding the hard copy book by wasting much time to find. Moreover, they can also carry out some of their technology equipment (smartphone, tablet, and laptop) to study anywhere that they wish. People can access to reach their information of knowledge that they want to seek through the internet (Cidral, Oliveira, Di Felice & Aparicio, 2018). It is a convenience for them to be broader of their knowledge with the internet. Thus, the way that they study on the internet is called e-learning. Due to this is a technology-based era; there are many kinds of technology that competes with each other in order to get more users from innovation. Technology innovation can arouse the user to have the willingness to try out with the technology information (Alalwan, Baabdullah, Rana, Tamilmani & Dwivedi, 2018). Thus, the users have various kind of option to choose and test the new experience for using the technology for e-learning.

Simultaneously, growing the e-learning sector, the subjective norm and perceived risk have served as the promoting or inhibit factor for users to study

through e-learning context. Subjective norm can be the effect on the intention of the user to study through e-learning negatively or positively (Wan, Shen & Choi, 2017). Subjective norm is the primary source to persuade people to learn some new knowledge in e-learning. Also, perceived risk including security risk and privacy risk can inhibit people's willingness to study through e-learning (Chopdar, Korfiatis, Sivakumar & Lytras, 2018). Sometimes the users have the obstacle in searching the knowledge for what they want, and they may register some website in order to access the information. After they register, they may install an unrelated program; the virus invades in the computer. The users may face privacy risk when they study in e-learning. The third party may disclose some of their personal information; their account may be hacked by someone; their registered mail may get spam emails. Those obstacles influence the perception of their testing the new experience of surfing knowledge on the internet; hence, it may influence the value of their favor to study in e-learning.

According to many studies in this last decade, the technology has become the important topic that the researchers seek to find out with various kinds of their specific objective as well as the satisfaction, intention, actual use of people by using different kinds of theories to determine the adoption behavior of the user acceptance technology. Attributable to this trend, Technology Acceptance Model (TAM) conducted by Davis in 1989 using the "perceived usefulness" and "perceived ease of use" as two of the factors to measure the attitude of the user toward technology. With the supporting research of the TAM, attitude is a factor to examine the user desirable of using the technology (Ajzen, 1991). Consequently, this study combineed these theories to seek out the behavioral intention of e-learning.

Beside TAM and Value-Based Adoption Model (VAM) of Kim, Chan, and Gupta, (2007) illustrated some limitations of TAM, and used perceived

value and perceived preference as the significant variables to predict people behavior intention. VAM is another theory that measures the intention of the users by using “perceived benefit” and “perceived sacrifice” as the factors to examine, and this theory also studies with the same objective as TAM theory. Moreover, Self-Determination theory (SDT) argued that the psychological needs, comprised of perceived autonomy support, perceived competence, perceived relatedness (Ryan & Deci, 2000) is an important variable to predict people’s intention toward adoption e-learning. SDT focuses on the need for the motivation of the individual to decide to do a particular learning activity. In the latest research, the authors integrated TAM and SDT theory to discover the interrelationship between the components of SDT with the perceived usefulness and ease of use (Nikou & Economides, 2017). Thus, this study also integrated the TAM and SDT to find out the interrelationship between factors of SDT and TAM.

In many cases, the e-learning starts to be a hot topic and trend. Not only students that start to study online, even the people who are employed also prefer to study online. For those who want to be fast growth in soft skill, they try hard to study, and then they try to test to study on the internet, which is easy for them to study anywhere and anytime. For many company employees, they need to study after working time. However, scarce studies have focused on the relationship between technology innovation, perceived usefulness and perceived ease of uses. There are also less researches the interrelationship among technology innovation, perceived benefit and perceived sacrifice. Therefore, expanding the e-learning topic is able to be excellent research for other students as the base article to discover the e-learning intention trend in Cambodia.

This study contributes to those who want to study in e-learning and consider which factors of SDT, TAM and VAM and other factors could

motivate them to be energetic to study through e-learning. For website and application developer, it is essential to understand from the results of this study on how to develop their website or application for the user.

1.2 Research Objective

According to the above discussion, this study aimed to collect data from e-learning users who are employed that have interest in learning on the internet. The research objectives of this study were as follows:

(1) To scrutinize the interrelationships between factors of nine primary constructs: technology innovation, Self-Determination Theory, Value-based Theory, Technology Acceptance Theory, subjective norm, perceived risk and intention toward using e-learning.

(2) To scrutinize the effect of TAM and VAM theory that is in the relationship with the Intention of e-learning.

(3) To scrutinize the moderation effects of perceived risk and subjective norm of the influence of attitude in intention toward using e-learning.

(4) Discover the sources of constructs based on demographic characteristics such as gender, age, the frequency of using the internet, education level, occupation and type of industry.

1.3 Procedure and Research Structure

Firstly, this research stated the research background, objective, motivation and procedure for conducting this study. Then, the literature review defined each theory like Technology Adoption Model, Value-based Adoption Theory and Self-determination Theory. Beside those theories, it also defined the definition of other variables, such as technology innovation, subjective norm, and perceived risk. Thirdly, the study described the method

material that used to analyze the result of this research, and it stated the hypothesis of interrelationship and moderating effect of each construct. As well, it contained the questionnaire item that used to survey to the respondent that focus on the employed. The next step was the data analysis after surveying and explained the meaning of the result. The last step was to conclude the result of what the study finds out. The respondents are the people who have a job career ready in Cambodia.

The research methodology used some of these techniques:

- Quantitative Survey
- Data Analysis SPSS 20
- Data Analysis SPSS AMOS 22
- Data Analysis PLS 2
- Descriptive Analysis
- Factor Loading & Reliability Test
- ANOVA and Independent T-test
- Confirmatory Factor Analysis
- Partial Linear Square Regression

The content of this study separated into five chapters, which were describing as below:

Chapter 1 stated the research background, research objective, procedure and construct. Chapter 2 stated the theoretical background, term & definition of each construct and component that used in the study and research hypothesis. Chapter 3 showed the research framework, instrument, questionnaire item of each construct, translation procedure, and methodology that applied to analyze the data. Chapter 4 showed the result of data that found out after running the data and it also using the table of the result with the explanation of each finding. Those tables were related to the table of the Factor loading, reliability test, ANOVA and T-test, Partial Linear Square

Regression, and CFA. Moreover, it showed each interrelationship of each hypothesis. Chapter 5 summarized all the result into the context that try to find out. After that, it did the discussion and implication for future research.

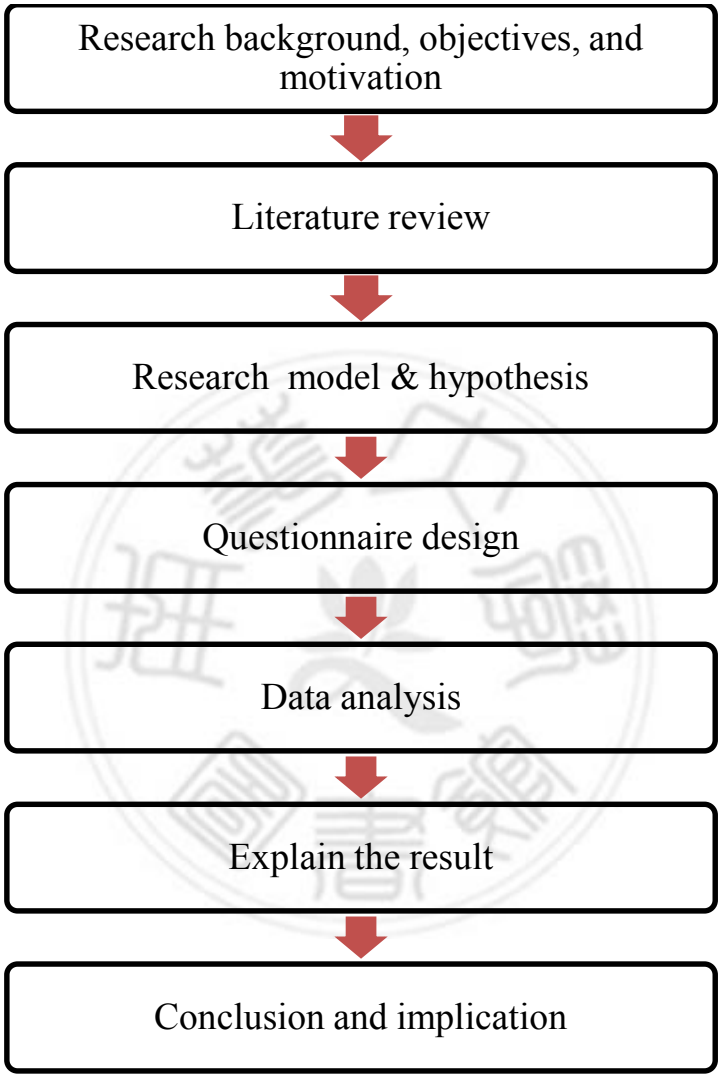

Figure 1.1 Research procedures

Source: Original study

CHAPTER TWO
LITERATURE REVIEW

2.1 Theoretical Background

2.1.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is the model that initialized by Davis (1989) in order to determine how users start to use the new technology or information system with the individual behavior of the users. TAM model was generated from the Theory of Reason Action (Fishbein & Ajzen, 1975) and it is also more explained and researched by Yoon (2018). In an empirical study, this model is a reliable to predict the individual behavior of new technology acceptance (Al-Gahtani, 2016; Surendran, 2012; Kim, Mirusmonov & Lee, 2010). TAM model has applied to various kind of technology field to describe the user's acceptance of new technology such as smartphone (Xia, Zhang & Zhang, 2018; Muñoz, Climent & Liébana, 2017), mobile internet (Alalwan et al., 2018), studying online (Liu, Chen, Sun, Wible & Kuo, 2010), mobile application payment (Kim et al., 2010), online shopping on website (Gefen, Karahanna & Straub, 2003). TAM is the kind of model that considers the behavioral of people to measure how they are interested and decide to use the new technology. According to this model, perceived ease-of-use, perceived usefulness and attitude are the most predictable factors to identify the intention of using the new technology (Fathema, Shannon & Ross, 2015; Park & Kim, 2014; Rauniar, Rawski, Yang & Johnson, 2014; Chen, Lin, Yeh & Lou, 2013; Abdullah, Ward & Ahmed, 2016; Selnathan, 2017). This study examined the perceived benefit, perceived usefulness, and attitude in order to measure the behavior of employee for their intention of how they perceived when they adopt the e-learning in this context.

2.1.2 Value-Based Adoption Model (VAM)

Value-based Adoption Model was proposed by Kim et al. (2007) in order to modify more variables that are related to Information and Communication Technology (ICT). VAM model used to predict the user's adoption of new technology; especially it is mobile internet (Kim et al., 2007; Roostika, 2012). VAM has proposed two measurements—perceived benefit and perceived sacrifice which give the result as the perceived value to the intention (Kim et al., 2007; Kim, Park & Choi, 2017). The benefit and sacrifice are the measurements that affect the users to perceive the value of their using the new technology (Chung & Koo, 2015). Therefore, this study also took the perceived benefit, perceived sacrificed and perceived value to measure how users are able to learn from the internet.

2.1.3 Self Determination Theory (SDT)

Self-Determination theory considered human behavior based on their psychological needs, which including perceived autonomy support, perceived competence, and perceived relatedness (Ryan & Deci, 2000, 2015). SDT focused on these three components as the psychological need to determine individual perception, feeling, and the requirement to predict their satisfaction of doing specific commitment (Ryan & Deci, 2000, 2015). Niemiec and Ryan (2009) argued that the Self Determination Theory dominates the source of the cause that drives the individual to be satisfied to study. According to the meta-analysis from Ng, Ntoumanis, Thøgersen, Deci, Ryan, Duda and Williams. (2012), people who enjoy the three psychological needs have a positive evaluation on adoption e-learning. In this study, it focused on perceived autonomy support, perceived competence and perceived relatedness which are the primary source of motivation to adopt the new technology on e-learning.

2.2 Term and Definition

2.2.1 Technology innovation

Midgley and Dowling (1978) defined innovation as the factor that makes people accept to try out the new concept and idea of technology. Agarwal and Prasad (1998) demonstrated that the source of technology innovation came from the way of people believe and the way that they received from the new technology. People is innovative when they participate in accepting of using the new idea of technology within the same context of their culture (Rogers, Medina, Rivera & Wiley, 2005). Innovation has measured as the concept that considers people start to adopt the new technology. When they increase the innovativeness, the user will be gain motivation for using and gain more benefit from using the new technology (Alalwan et al., 2018). When the innovation of one society is an increase, it means that the people start to absorb this opportunity to gain more experience to test the new thing and it also makes the people in that context come to be innovative.

2.2.2 Perceived ease of use

Davis (1989) defined perceived ease-of-use that "the degree an individual believes that using a particular system is free of effort.". Perceived ease-of-use drove the individual to free easy for the effort of using the new technology (Xia et al., 2018; Rauniar et al., 2014; Lin, Chen & Fang, 2011). Perceive ease of use has applied in various kind of adopting new technology study, such as e-learning, E-banking, social application, E-marketing and so on (Elkaseh, Wong & Fung, 2016). For example, the user studies on the internet will be easy to search and easy to understand what they want on the website or applications. In this study, it defined the ease of use could be the

way of how people feel that it is hard, complicated or not when they use the new kind of technology.

2.2.3 Perceived usefulness

Davis (1989) defined perceived usefulness that "the degree to which an individual believes that using a particular system enhance his or her productivity." Perceived usefulness describes the user believe that they can improve productivity and job performance (Park & Kim, 2014; Xia et al., 2018). It can relate to the productivity work that people can achieve after they use various kind of technology. For the previous study, they stated that students believe the usefulness of studying on the online study improve more their knowledge and extend their understanding of lesson beside their academic learning at school or university (Ángel. Agudo, Ángel, Félix & Pascual, 2014). On the other research, perceived usefulness can drive an individual to believe that e-learning can help them to reach their goal (Rauniar et al., 2014; Lin et al., 2011). In the previous study, Rauniar et al. (2014) have mentioned in the organization environment that perceived usefulness develop each employee to be more productive with their current job. In this study, it defined the perceived usefulness was perceived that employee develop themselves by increasing their job performance and efficiency in their work and personal context.

2.2.4 Attitude

Fathema et al. (2015) defined attitude as the factor that can arouse people to have the intention to use the new particular technology. Kim et al. (2007) defined the attitude as the variable that measures the satisfaction and dissatisfaction of the individual in using particular things (Kim et al., 2007; Kaplan, 1972). Attitude concerned the measurement of the degree of

preference from the user toward the new technology (Surendran, 2012). Tzeng (2011) and Moon and Kin (2001) found that attitude is the factor that makes people decide to do what they feel after they perceive from particular things. In the study of Shih (2004), the satisfaction of users drove the positive effect on an individual's attitude to the technology system. The positive attitude push the moral of the user to have the intention to use new things (Fathema et al., 2015). The study of this research considered attitude as the level of satisfaction of employee for what they receive from studying the e-learning.

2.2.5 Perceived benefit

Perceived Benefit came from the intrinsic and extrinsic motivation that drives the users perceived the degree of value of the new technology is (Kim et al., 2007). Intrinsic motivation is a kind of motivation that human has a voluntary commitment because of their preference inside their mind while extrinsic motivation is a kind of motivation that human tries to commit it in order to achieve their specific benefit (Kim et al., 2007). The perceived benefit will influence people to perceive the core value of what they will get from using the new technology (Kim et al., 2017). Chung and Koo (2015) use the information reliability and enjoyment component in order to measure the benefit that the user perceived from the social media of travel site. The perceived benefit in this study estimated by using the information reliability component which is the degree of accurate knowledge that the provider provides on the media.

2.2.6 Perceived sacrificed

In the previous study, Kim et al. (2007) defined technicality as the non-monetary sacrifice that raises the components of system reliability,

connectivity, and efficiency. Perceived sacrificed is the factor that influences their perception of the new technology (Kim et al., 2017). System reliability refers to how incessantly from system provider; connectivity refers to how uncomplicated access of system from system provider; efficiency refers to how quick of the system response and system loading from system provider (Kim et al., 2007; Roostika, 2012). Also proposed perceived sacrificed by considering time cost, effort cost, and conflict (Zeithaml, 1998; Lapierre, 2000). In this study, the perceived sacrificed studied on system reliability, connectivity and efficiency to consider the pressure for the employee when they are facing of study online. While system reliability refers to the interruption from other online advertising or unrelated content, Connectivity refers to the difficulty of access to reach that web site or application, and efficiency refers to how long the duration that the website or application loading to appear.

2.2.7 Perceived value

Perceived value defined as the evaluation of the user perception on what they get from and what the particulars of service or product that gave to them (Zeithaml, 1998). Perceived value mostly comes from the comparison of the advantages and disadvantages of a specific field (Roostika, 2012; Kim et al., 2007; Zeithaml, 1998). The users of e-learning will be active to study the new thing which is related to their knowledge was discovering when they perceived what they learn to meet their requirement (Roostika, 2012). Most of the studies showed that perceived value drives the individual to have the intention to use product and service when they get from it (Chen & Chen, 2010; Hajli, Shanmugam, Powell & Love, 2015). Perceived value is a crucial variable that was used to measure the behavior of the user (Yu, Lee, Ha & Zo, 2017). Gallarza and Gil-Saura (2006) defined the perceived value as the

user's perception of the new technology, and it is the value for how the users feel from their consumption. In this study, perceived value is the perception that the user gets from the benefit and sacrifice that they get from e-learning.

2.2.8 Perceived autonomy support

The perceived autonomy-supportive environment also considered as the psychological of the individual situation of their life, work, and study (Reeve, 2009). It is also related self-organize to commit their goal when they have willingness and reflection to involve committing one thing (Benita, Roth & Deci, 2014; Hafen, Allen, Gregory, Mikami, Hamre & Pianta, 2012, Reeve, 2009). People have strong willingness to do a specific thing when they want to be their own to handle themselves rather than get any assisted or controlled by other (Lee, Lee & Hwang, 2015; Ciani, Middleton, Summers, & Sheldon, 2010; Nikou & Economides, 2017). When the autonomy support increases, it drove people to be energized to develop their handling task to any environment (Ciani et al., 2010). Perceived autonomy support in this study defined as the user wants to be strong in self-development in order to be independent people rather than dependent on others.

2.2.9 Perceived competence

The need for the perceived component has defined as the individual get the thing done mastery to the environment they face effectively (Lee et al., 2015; Ryan & Deci, 2000). The perceived competence is the need of influent to the environment of dealing the thing by allowing showing and committing by using their skill and knowledge (Nikou & Economides, 2017; Deci & Ryan 2002). The perceived competence is higher when individual enjoy what they achieve is productivity to them (Niemiec & Ryan, 2009). Akbari, Pilot, and Simons, (2015) found that the students' competence is high when the

thing that they do fit with what they learn from the class. When the individual has the willingness to do something by their own their competence need will increase (Ciani et al., 2010). Perceived competence here defined as voluntarily learning the new thing of the user for their knowledge to adapt with various kind of problem in their opportunity context.

2.2.10 Perceived relatedness

Perceived Relatedness concerned the need from the supporting from people around them that can make them conduct one thing with more willingness (Nikou & Economides, 2017; Ryan & Deci, 2000; Baumeister & Leary, 1995). Perceived Relatedness provide to people not to hesitate to do something, and it is related to the interpersonal relationship that shape people to have more feel to do the task (Martin & Dowson, 2009). Perceived relatedness is the need from supporting the group of people that influence him or her to do a particular task effectively (Akbari et al., 2015). For those people with the less supporting from people around them, they will get low involvement with a particular task (Furrer & Skinner 2003). In this study, perceived relatedness defined as the closed interpersonal relationships with the employee, family, and friend that motivate them to try to study to discover the new things.

2.2.11 Subjective norm

Wan et al. (2017) and Ajzen (1991) defined subjective norm as the social pressure factor that affects the individual will or will not do the particular performance. People would or would not perform the particular thing according to the aspect that they face around them (Wan et al., 2017). The user will try to experience new things when they participate in using among their social group (Minton, Spielmann, Kahle & Kim, 2018). The

degree of subjective norm effect will depend on the view of their society and culture that they are in (Minton et al., 2018). Subjective norm not only focuses on society, but it also determines the interpersonal relationship people's view that may affect the individual decision making of using a particular technology (Ángel et al., 2014). Subjective norm could be described as the belief that they received from others suggestion or recommendation (Lee, 2010). In this study, the subjective norm is the society and culture psychology that put the pressure the users trying to learn from the internet.

2.2.12 Perceived risk

Perceived risk is the risk that will suffer and interrupt the desire of people in doing something (Pavlou, 2003). Perceived risk is the obstacle or stress that will affect the intention of the user to using the online application (Chopdar et al., 2018). Chopdar et al. (2018) found that the perceived risk will be more severe for those countries which consider the security of using the internet as the central role within their culture. Tsu, Marthandan, Chong, Ooi and Atumugam (2009) found that security and privacy risk impact the making decision of using technology. Siau and Shen (2003) also showed that security and privacy risk are the factors that make people have no more intention of using the technology application. In this study, it raised two components to measure the degree of perceived risk, security risk, and privacy risk. The security risk is the risk that is related to saving and transferring the information (Kolsaker & Payne, 2002). Privacy risk is the risk that caused the user to lose or not under control for any personal information (Chiu, Wang, Fang & Huang, 2014). In this study, it studied security risk and privacy risk. In this context, security risk refers to the interference of the virus or unwanted programmed or function appear on computer or smartphone. Privacy risk

refers to the personal information that gets on third-party hand; the personal account got hacked from others.

2.2.13 Intention of e-learning

The intention is the degree of the purpose of using any things (Wakefield & Barnes, 1996; Mohseni, Jayashree, Rezaei, Kasim & Okumus, 2018). The individual intention is measured by the way that they are the pleasure of using it (Surendran, 2012). The intention of the user always measures what they need from using those new technologies (Ajzen, 1991; Alalwan, Dwivedi, & Rana, 2017). Hsu, Lu, and Hsu. (2007) and Moon and Kin (2001) found that the attitude influences the intention of mobile internet. The satisfaction of using mobile internet will make the user desire to use it (Deng, 2017). Many previous studies use TAM theory (Al-Gahtani, 2016; Xia et al., 2018; Alalwan et al., 2018; Fathema et al., 2015) and some of VAM theory (Roostika, 2012; Kim et al., 2017) to predict the behavior of people in using the new technology. In this study, the intention is the desire of the employee after they start to adapt their behavior with the e-learning and it used Technology Acceptance Model and Value-Based Adoption Model in order to measure the intention of an employee in using e-learning technology, and it is the desire of studying in e-learning.

2.3 Research Hypothesis

2.3.1 The effect of technology innovation on VAM

Due to the modern era, the technology innovation update day by day, and the users often want to test the new thing from the technology. At the same time, the exploited people can get the benefit from using the technology in the right way, yet some face the problem that struggle them. Wang, Dacko and Gad. (2008) studied the interrelationship between consumer

innovativeness and perceived benefit of the intention of new product and service adoption, and the results supported that technology innovation will result in higher perceived benefit. Dai et al., (2015) technology innovation is the factor that influences on perceived benefit to make the user enjoy using electronic mediated environment. Talukder, Quazi and Keating (2014) studied the virtual system in Australia by discovering the technical and quality that is related to the technicality of the system that provides to the users. The result of the study did not indicate any positive relationship between technicalities with the willingness of an individual to use the virtual system. Due to the study of Talukder et al. (2014), this study used the technical and quality system which meaning is the same with the technicality of perceived sacrifice with the empirical result as mentioned above. Thus, the interrelationship between perceived sacrifice and technology innovation tested in the e-learning context. Thus, the following hypotheses were developed:

Hypothesis H1a: *There is a significant effect of technology innovation on the perceived benefit of VAM.*

Hypothesis H1b: *There is a significant effect of technology innovation on perceived sacrifice of VAM.*

2.3.2 The effect of technology innovation on TAM

When the new technology releases, the users expect that thing that they use is easy and useful to use because people nowsaday just choose the thing that easy to understand the way of using and help them to get the good interest. Ngafeeson and Sun (2015) were conducted a study regarding the relationship between technology innovation and TAM in using e-textbook. The results contended that the university students had the willingness to try out the e-textbook in full implementation for users while they had the willingness to try out the e-textbook in partial implementation for ease of use.

Ngafeeson and Sun (2015) argued that technology innovation as the moderating for the influence of perceived usefulness, behavioral intention, and perceived ease of use toward using E-book for undergraduate students. The result seems to indicate that the moderating effect is not significant in those relationships. Chang, Hajiyev, and Su. (2017) studied the moderation of technology innovation, and the results support that technology innovation does moderate the alliance between perceived usefulness and intention while it does not support the relationship between the perceived ease of use and intention. Due to this, this study intended to verify the relationship between technology innovation on perceived usefulness further and perceived ease of use in in the e-learning context. Thus, the following hypotheses were developed:

Hypothesis H2a: *There is a significant effect of technology innovation onthe perceived usefulness of TAM.*

Hypothesis H2b: *There is a significant effect of technology innovation on perceived ease of use of TAM.*

2.3.3 The effect of SDT on TAM

Some people need different kind of motivation that make them to be more spirit in doing something. When people want to be independent to adapt the current environment, it can be the force to make them to study, and it can make them feel that it is useful and easy while their surrounded people support and motivate them to study. As the literature review, the study raises the three components in order to measure the motivation of the employees to use the e-learning—perceived autonomy, perceived competence, and perceived relatedness. In the empirical study, there were two studies that test the relationship between SDT and TAM; the first study was related the e-learning of the workplace that conducted by Roca and Gagne (2008), and the

second study was related to student's acceptance on the mobile-based assessment that conducted by Nikou and Economides (2017). In the first study, Roca and Gagne (2008) integrated the TAM theory and Self-Determination theory to seek out the intention of the e-learning context of the people in the workplace. They found that SDT influences the TAM component (perceived usefulness and perceived ease of use). When the three components of the Self-Determination Theory of increase, it would make the people enjoy their e-learning (Nikou & Economides, 2017).

a. Perceived Autonomy

Liaw and Huang (2011), perceived autonomy is the component that measures in e-learning. Perceived autonomy is a positive influence on perceived usefulness (Roca & Gagne, 2008). The students thought that their e-learning would be useful and easy when they perceived autonomy (Cheon, Lee, Crooks & Song, 2012).

Hypothesis H3a: *There is a significant effect of perceived autonomy of SDT on perceived usefulness of TAM.*

Hypothesis H3b: *There is a significant effect of perceived autonomy of SDT on perceived ease of use of TAM.*

b. Perceived Competence

Perceived competence effected on perceived usefulness in the e-learning context (Teo, Lee, Chai & Choy, 2009) while it effects on perceived ease of use (Sørebø, Halvari, Gulli & Kristiansen, 2009). Roca and Gagne (2008) found that perceived competence is significant on both factors. In the previous study, perceived competence was significant influence the perceived ease of use while it was not significant on the perceived usefulness even the study constructed the hypothesis that the perceived competence was positives effect on perceived usefulness (Nikou & Economides, 2017).

Hypothesis H3c: *There is a significant effect of perceived competence of SDT on perceived usefulness of TAM.*

Hypothesis H3d: *There is a significant effect of perceived competence of SDT on perceived ease of use of TAM.*

c. Perceived Relatedness

Nikou and Economides (2017) found that perceived relatedness is significant in both perceived usefulness and perceived ease of use. When the teacher and other people who are surrounding the student, it is the force of motivation for them to try to study on e-learning, and they feel more useful on their learning (Sørebø et al., 2009). Students who get involved with the closed people, they can feel that using e-learing is more usefule while they get motivated by those surrounded people (Venkatesh, 2000). The depedent students think that they can or cannot study e-learning by caring of their important people, and they feel more useful when those people support them to study (Punnoose, 2012). Thus, the following hypotheses were developed:

Hypothesis H3e: *There is a significant effect of perceived relatedness of SDT on perceived usefulness of TAM.*

Hypothesis H3f: *There is a significant effect of perceived relatedness of SDT on perceived ease of use of TAM.*

2.3.4 The effect of VAM on perceived value

Value is the main core of the judgment for the user when the degree of perception that they get is negative or positive. If the perception eaquals or over their expectation, the value that they define is valuable. If it contrasts with their expectation, they can quit using it. Based on the experience of previous studies, perceived benefit has a positive influence on perceived value while sacrifice has a negative influence on perceived value in Smart Home

Service (Kim et al., 2017), Media Tablet (Yu et al., 2017), Internet protocol television (Kim et al., 2012), Mobile Internet of University Students (Roostika, 2012). Perceived usefulness is significant on perceived value (Lin, Wu & Chou, 2012). Those are the latest study on the perceived benefit and perceived sacrifice on the perceived value. Thus, the following hypotheses were developed:

Hypothesis H4a: *There is a significant effect of the perceived benefit of VAM on perceived value.*

Hypothesis H4b: *There is a significant effect of the perceived sacrifice of VAM on perceived value.*

2.3.5 The effect of TAM on attitude

The degree of satisfaction of the user can be measured by how convenience, ease, useful that the particular thing provides to the consumer. As Lin (2011) and Elkaseh et al., (2016) found that both perceived ease of use and usefulness have a significant influence on attitude in continuance intention of e-learning. The users of Media Tablet increase their perceived value when the perceived usefulness is significant (Yu et al., 2017) under the setting of Mobile cloud service (Park & Kim, 2014). Fathema et al. (2015) conducted the intention in the Learning Management System of new teaching procedure, the study also found that perceived ease of use and usefulness have a significant influence on attitude. Thus, the following hypotheses were developed:

Hypothesis H5a: *There is a significant effect of perceived usefulness of TAM on attitude.*

Hypothesis H5b: *There is a significant effect of perceived ease of use of TAM on attitude.*

2.3.6 The effect of perceived value on attitude

The meaning of value that the user gets from their perception in using the particular technology can be the factor that makes them to accept or not, and it can be the degree of their pleasure when they use it. Aaker and Joachimsthaler (2000) claimed that the attitude of the users would be high when the degree of perceived value is increasing. Kim et al. (2017) studied the intention of Smart Home Service technology users, and it concluded that perceived value has a significant influence on attitude. Hsiao and Chen (2017) argued that users are willing to buy the e-book when they perceived the importance and interest that they can get from their reading and learn from it. Thus, the following hypothesis was developed:

Hypothesis H6: *There is a significant effect of perceived Value onattitude.*

2.3.7 The effect of attitude on behavioral intention

The high degree of the satisfaction can arouse the users feel more desire and intention to use the technology while Kim et al. (2017) found that the users of Smart Home Service's intention are higher when they are satisfied with using those technologies, which may come from the degree that they enjoy using that service. Elkaseh et al. (2016) also found a significant relationship between the attitude and intention of social media in the setting of higher education. The perceived value toward good e-learning service influenced the attitude toward using e-learning, which further motivates the user to purchase the service (Hsiao & Chen, 2017). If the producer can make the user feel more happy and pleased to use their service or product, it can make other people to be interested and discover it. Thus, the hypothesis was constructed:

Hypothesis H7: *There is a significant effect of attitude on intention.*

2.3.8 The moderating effect of subjective norm

People often follow by each other that make the norm or culture in one society. For example, one society tend to study the new thing in order to develop their family and society, so the young generation people will follow their elder at the same time, too. The subjective norm and intention had the interrelationship, and it is shown in the environment of using mobile payment application (Liébana, Sánchez & Muñoz, 2014). The adult will have the intention to start up the business as the entrepreneur when the subjective norm was the main factor for their desire (Kautonen, Gelderen & Fink 2015). The customers who have a keen awareness of disaster outcome, social acceptance, and social norms will persuade them to favor the green lodging field (Han, 2015). Sawang, Sun and Salim. (2014) conducted a study and discovered that there was a significant connection between consumers' attitude and their purpose of learning in e-learning of Chinese college students' context. Therefore, the subjective norm is the well measurement of intention in the Chinese context due to their collectivist culture. Subjective norm has a significant influence on the intention of using e-learning (Sawang et al., 2014). Tan, Ooi, Leong and Lin. (2014) argued that in the setting of the young age of users, the subjective norm does not show a significant effect on the intention of e-learning. Thus, the following hypothesis was developed:

Hypothesis H8: *The subjective norm will moderates the influence of attitude on behaviroal intention.*

2.3.9 The moderating effect of perceived risk

The consumer may face some problem when they use the internet because there are unrelated content or uncertainty issue could happen. For example, they install particular software to study in their laptop or computer, but the spyware, unlrelated software or virus automatically install or damage

their laptop or computer. In addition, other people personal mail account or information get known by the third party. Perceived risk has a negative sign on intention when the users have experience of using mobile online payment when their interests in doing online transaction are higher (Liébana et al., 2014). Perceived risk is the pressure factor that interrupts the intention of using e-learning. Therefore, perceived risk has a negative influence on intention (Martin, Oliveira & Popovič, 2014). Chiu et al. (2014) argued that perceived risk has an adverse effect on the intention of repeat purchasing due to the users had to experience purchasing in the B2C online shopping context. If the users had vast knowledge on the website brand and experience of online purchasing, their perceived risk would be reduced, and their intention to make the decision will be higher (Mohseni et al., 2018). It seems that perceived risk would serve as a pressure factor that would inhibit the influence of perceived value and attitude on intention toward using e-learning. Thus, the following hypothesis was developed:

Hypothesis H9: *The perceived risk will moderates the influence of attitude on behaviroal intention.*

CHAPTER THREE
RESEARCH METHODOLOGY

In this chapter, the study described the Hypothesis with the framework that raised nine constructs to study and discover. Besides, this chapter explained the method that used to determine and analyze in this study; it showed the questionnaire design to survey.

3.1 Research Model

According to Chapter two of the literature review and the hypothesis development, the statement of the hypothesis described as the below framework (Figure 3.1).

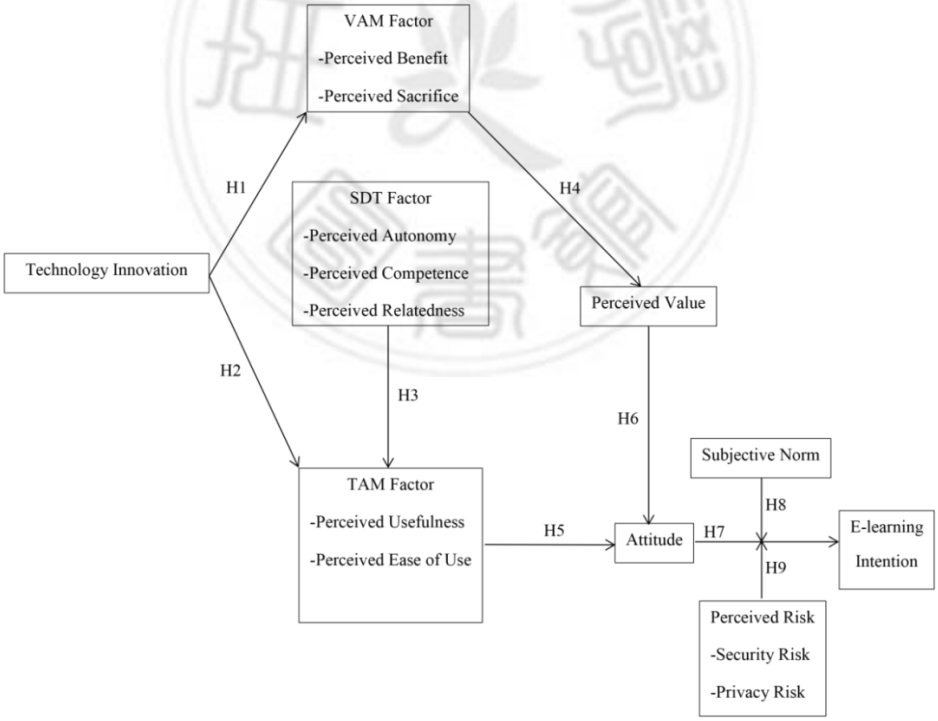

Figure 3.1 Research model

Hypothesis H1a: *There is a significant effect of technology innovation on the perceived benefit of VAM.*

Hypothesis H1b: *There is a significant effect of technology innovation on perceived sacrifice of VAM.*

Hypothesis H2a: *There is a significant effect of technology innovation on the perceived usefulness of TAM.*

Hypothesis H2b: *There is a significant effect of technology innovation on perceived ease of use of TAM.*

Hypothesis H3a: *There is a significant effect of perceived autonomy of SDT on perceived usefulness of TAM.*

Hypothesis H3b: *There is a significant effect of perceived autonomy of SDT on perceived ease of use of TAM.*

Hypothesis H3c: *There is a significant effect of perceived competence of SDT on perceived usefulness of TAM.*

Hypothesis H3d: *There is a significant effect of perceived competence of SDT on perceived ease of use of TAM.*

Hypothesis H3e: *There is a significant effect of perceived relatedness of SDT on perceived usefulness of TAM.*

Hypothesis H3f: *There is a significant effect of perceived relatedness of SDT on perceived ease of use of TAM.*

Hypothesis H4a: *There is a significant effect of the perceived benefit of VAM on perceived value.*

Hypothesis H4b: *There is a significant effect of the perceived sacrifice on VAM and perceived value.*

Hypothesis H5a: *There is a significant effect of perceived usefulness of TAM on attitude.*

Hypothesis H5b: *There is a significant effect of perceived ease of use of TAM on attitude.*

Hypothesis H6: *There is a significant effect of perceived value on attitude.*

Hypothesis H7: *There is a significant effect of attitude on intention.*

Hypothesis H8: *The subjective norm will moderates the influence of attitude on behaviroal intention.*

Hypothesis H9: *The perceived risk will moderates the influence of attitude on behaviroal intention.*

3.2 Instrument

The survey targeted on the people who have the job as the employee, and they can be the undergraduate or graduated people. The questionnaire survey was divided into two part, construct and demographics. The construct of technology innovation consisted of five items; VAM factors of perceived benefit five items, and perceived sacrifice with five items. TAM factor consists of perceived usefulness with five items and perceived ease of use with five items, SDT factor of perceived autonomy with five items, perceived competence with five items and perceived relatedness with five items. Furthermore, perceived value includes five items, attitude with five items, subjective norm with five items, perceived risk which are related to a security risk with five items and privacy risk with five items and intention with five items. Thus, the total items in this questionnaire have 76 items in order to measure the intention adoption of users who have desirable to study e-learning. The Demographic part includes the age, gender, age, type of industry, education level and frequency of using e-learning to measure the characteristics of the users.

The study adopted the five-point scale with “1” denoted as “strongly disagree,” “2” denoted as “disagree,” “3” denoted as “neutral,” “4” denoted as “agree” and “5” denoted as “strongly agree.” Thus, the scale was appeared in

the questionnaire survey by letting the respondent rates their perception of the items.

3.3 Construct Measurement

In this study, there are nine constructs to study. Those constructs are the technology innovation, Value-based Adoption Model, Technology Adoption Model, Self-Determination Theory, perceived value, attitude, subjective norm, perceived risk, and intention. Each construct has one or more factors and questionnaire items that were based on the previous study in order to establish the questionnaire items to study.

3.3.1 Technology innovation (TI)

Ngafeeson and Sun (2015) studied the technology innovation on a student in the e-textbook context, and the questionnaire of this study was based on Ngafeeson and Sun (2015) in order to measure the willingness of trying out the new technology in this construct. Thus, the item of the questionnaire are stated as below:

(TI1) If I see the new information technology related to e-learning, I would like to try it out.

(TI2) Among my surrounded people, I am usually the first person who tries out new technology related to e-learning.

(TI3) I like to be the first person who tries out the new information technology related to e-learning.

(TI4) I would like to have experience with a lot of new information technology related to e-learning.

(TI5) I have passion and willingness to discover the new thing which is related to the technology of e-learning.

3.3.2 VAM

In this study, the questionnaire of perceived benefit was based on Chung and Koo (2015) by considering the information reliability. Perceived sacrifice was based on Kim et al. (2007) study, that previous study combined the 3 components in one factor, which included the system reliability, connectivity and efficiency. The perceived sacrifice and benefits statement are listed as below:

a. *Perceived benefit (PB)*

(PB1) The information on the e-learning is helpful.

(PB2) The information on the e-learning is accurate.

(PB3) The information on the e-learning is up to date.

(PB4) The information on the e-learning is reliable.

(PB5) The information on the e-learning is concise.

b. Perceived Sacrifice (PS)

(PS1) The system of e-learning is reliable.

(PS2) The system of e-learning is not interrupted by other advertisements.

(PS3) The system of e-learning is not interrupted by unrelated contents.

(PS4) It takes a short time to load the content of knowledge.

(PS5) It is easy to access for all application and website.

3.3.3 TAM

In the context of e-learning, it mentioned two sub-variables in the chapter two. The perceived usefulness and perceived ease of use were based on the scale of measurement of those sub-variable of Fathema et al., (2015). The items of the questionnaire are stated below:

a. *Perceived usefulness (PU)*

(PU1) e-learning would improve my job performance.

(PU2) e-learning improves the effectiveness of my job.

(PU3) e-learning would improve my quality performance in the workplace.

(PU4) e-learning makes myself to be the productivity in the workplace.

(PU5) Overall, I found that e-learning is useful for my development.

b. *Perceived ease of use (PEOU)*

(PEOU1) e-learning requires the easy analyze effort to understand.

(PEOU2) e-learning is hard to interact with when I found that something wrong in the context.

(PEOU3) It is easy to find the various kind of explanation from e-learning.

(PEOU4) It is easy for me to search for the knowledge that I want from the website and application of e-learning.

(PEOU5) Overall, it is easy to use the website and application when I want to study on e-learning.

3.3.4 SDT

According to the SDT, this study took the study of perceived autonomy, perceived competence, and perceived relatedness. Nikou and Economides (2017) questionnaire were taken as the based items in this study. The perceived autonomy was considered the desirable of individual development in soft skill cause of perusing the independent way of people, and perceived competence was considered of voluntarily to learn the new various kind of knowledge in order to adapt and solve the environment of problem. Also, perceived relatedness was considered as the closed interrelationship like family, employee, and friend that motivate the individual to learn the new thing in e-learning. As the statement that the study already mentioned, the items of those three contexts are stated as below:

a. *Perceived autonomy (PAUT)*

(PAUT1) I automatically feel that study the new knowledge from e-learning would be great.

(PAUT2) I automatically feel that I am independent in perusing my soft skill when I study from e-learning.

(PAUT3) I automatically feel that I have the willingness to learn new knowledge from e-learning.

(PAUT4) I automatically feel that I would be better than others when I study from e-learning.

(PAUT5) I automatically feel that I need to be independent in my way by starting to study from e-learning.

b. *Perceived competence (PCOM)*

(PCOM1) I think that it would be good to learn e-learning.

(PCOM2) I think that it would be better than others when I study in e-learning.

(PCOM3) I feel competent after I study in e-learning.

(PCOM4) I feel that I adapt to various kind of problem when I study a lot in E-learning.

(PCOM5) I feel that I can solve some problems that I have learned from E-learning.

c. *Perceived relatedness (PREL)*

(PREL1) I have a chance to have much communication when I study in E-learning.

(PREL2) My family, friend or colleague is happy when I study in e-learning.

(PREL3) I feel connected with my colleague and others when I study in E-learning.

(PREL4) My family, friend or colleague motivates me to study the new thing.

(PREL5) I would have much connection between people when I study in E-learning.

3.3.5 Perceived Value (PV)

As the study mentioned about perceived value, the perception that individual perceived from the benefit and pressure from e-learning. Thus, the questionnaire were based on the study of Yu et al. (2017) to scrutinize the perceived value of the user of e-learning. The questionnaire items are stated as below:

(PV1) According to my effort, a study in e-learning is beneficial to me.

(PV2) According to my effort, a study in e-learning is value for me.

(PV3) According to the effort, a study in e-learning would be reliable and standard for me to use in the real situation.

(PV4) According to the effort, a study in e-learning would save my time to find the source of knowledge.

(PV5) Overall, a study in e-learning gives a good value to me.

3.3.6 Attitude (ATT)

As the study defined the attitude in this context, it was related to favorite and not favorite of using the e-learning. Questionnaire of this study was based on Hsiao and Chen (2017) research questionnaire items, and its items were shown in the following:

(ATT1) It is intelligent using e-learning.

(ATT2) It gives many benefits when I study in e-learning.

(ATT3) It is good to study in e-learning.

(ATT4) I have positive thinking toward the e-learning.

(ATT5) Overall, I like to study in e-learning.

3.3.7 Subjective Norm (SN)

The subjective norm defined as the thinking of society and culture that push the user to try to study the e-learning in this context. According to the

study of Wan et al., (2017), this study was based on this previous study of the questionnaire on measuring this issue by the following:

(SN1) Most people are essential to me to make me focus on e-learning.

(SN2) Most people think that e-learning is good.

(SN3) Most people also start to study in e-learning too.

(SN4) Most people often share e-learning material and context in Social Media too.

(SN5) Overall, Most people prefer to study in e-learning.

3.3.8 Perceived Risk

In the previous chapter, perceived risk was the pressure that could interrupt the willingness of study in e-learning, and this was related to security risk and the privacy risk. With these components of perceived risk, the study concerned the items were based on Chopdar et al. (2018) questionnaire by the following questionnaire below:

a. *Security risk (SECR)*

(SECR1) e-learning never gets interrupted by any advertisement when I study.

(SECR2) e-learning never gets interrupted from Virus when I study.

(SECR3) e-learning never makes my smartphone/computer operates slowly.

(SECR4) e-learning never loads the unrelated content when I study.

(SECR5) e-learning never makes my phone or computer to use much battery or electricity.

b. *Privacy risk (PVR)*

(PVR1) I think that e-learning provider would not send my personal information to the third party.

(PVR2) I think that e-learning provider may not send spam to my mail.

(PVR3) I think that my account may not hack by any e-learning website or application.

(PVR4) I think that some website or application may not let me register that I feel bored with accessing the e-learning

(PVR5) I think that some website or application may not let me download any program in order to access their site of e-learning.

3.3.9 Intention (BI)

The last construct that was the essential part of the finding was the intention of e-learning. It is the primary key role to measure the final decision of the user to decide to study in e-learning. This last construct of items were based on the questionnaire of Mohseni et al. (2018), and those items stated as below:

(BI1) I would like to study in e-learning.

(BI2) I would like to recommend the importance of e-learning.

(BI3) I am planning to continue to study at e-learning in the future.

(BI4) I would like to study in e-learning when I have free times.

(BI5) I would like to have a habit of study in e-learning.

3.3.10 Demographics

The purpose of demographic design was to investigate the characteristics and type of users in using the e-learning in this survey. According to the previous study in the e-learning context, this study measured the demographics variable:

(1) Genders

(2) Age

(3) The frequency of using the Internet

(4) Education level

(5) Occupation

(6) Type of industry

3.4 Translation

Due to the items of questionnaire were developed in English, and the survey was targeted the people who were employed in Cambodia. Therefore, conducting the questionnaire should be careful by translating into the Khmer language in order to be a convenience for the respondents to be easy to understand the question is talking about. The question sent to the professional translator center in Cambodia to make the questionnaire more professional and match with the meaning between English and Khmer version. After that, it was double check by using the questionnaire in the Khmer language to translate into English version in order to be transparent with these two languages version. Thus, the final version of Khmer language questionnaire confirmed after double checking the meaning of these two languages with some modification.

3.5 Sampling and Data Collection

The research was conducted using survey in Google Form, and the link was sent to social media, such as Facebook, LinkedIn, Gmail, Instagram…, etc. The respondents were asked for tick the five scales that state the questionnaire items, and 400 respondents were expected to obtain in this rearch. After collecting the data, it were explored using SPSS (.sav) software. The method of analyzing the data is stated in the Data Analysis Procedure part.

3.6 Pilot test

The trial test was conducted by collecting the answer from 100 respondents, and the questionnaire was created through Google form. Then, the form of the questionnaire was sent as the link to Facebook, LinkedIn, Gmail, Instagram…, etc. Due to the requirement of the questionnaire reliability, Cronbach's Alpha of each factor needed to be higher than 0.6. The Cronbach's Alpha of each factor were higher than 0.6 which could indicate that the questionnaire was able to continue to conduct because of the questionnaire were understood by the respondents.

3.7 Data Analysis Procedure

The research used SPSS version 20 in order to conduct the data analysis, and it used the methodological technique and tools such as:

- Quantitative Survey
- Data Analysis SPSS 20
- Data Analysis SPSS AMOS 22
- Data Analysis PLS 2
- Factor Loading
- Descriptive Analysis
- ANOVA and Independent T-test
- Reliability Test
- Confirmatory Factor Analysis
- Partial Linear Square Regression

3.7.1 Factor Loading & Reliability Test

In order to verify the reliability of the research constructs, the study discussed about the several criteria processes, including factor analysis,

correlation analysis, and Cronbach's alpha were conducted. The purposes of factor analysis are to identify the dimensionality of each research construct, to eliminate the questionnaire items with low factor loadings, and to differentiate the selected items with items suggested theoretically. Item-to-total correlation and coefficient alpha were assessed to identify the internal consistency and reliability of the constructs. According to Yong and Pearce. (2013), the eigenvalues is used to scrutinize the number of dimensions to be extracted from the principal component factor analysis. Following criteria including factor loading >0.6; Eigenvalue >1, accumulated explained variance >0.6, Item-to-total correlation >0.5, and coefficient alpha (α) > 0.7 adopted in this study. Those questionnaire items that did not fulfill these criteria were deleted by using SPSS 20.

3.7.2 ANOVA and Independent T-test

ANOVA tests differences of mean value more than two groups, and T-test tests the diferrence of mean value for two groups. According to Welch (1947), for t-test, the critical value is 1.96, and p-value is 0.05. For the ANOVA test, F value is calculated and followed by Duncan method.

3.7.3 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is used to identify the research. According to Hair, Ringle and Sarstedt. (2011) in the CFA, the loading should be higher than 0.6. Goodness of fit (GFI) higher than 0.9 indicates that the fit between data and model is fitted. Root mean square residual error (RMSEA) less than 0.08 indicates that the error of the model is acceptable. To conducte CFA, the research used SPSS Amos 22.

3.7.4 Partial Linear Square Regression

Since Partial Linear Square Regression (PLS) is less restrictive regarding its standard distribution assumption, sample size restriction, and multicollinearity situation than other options, this study adopt PLS to test on hypothesis. The primary criterion for the PLS model assessment is the R square, which represents the amount of explained variance of each endogenous latent variable. The second crucial global criterion is the goodness-of-fit (i.e., the GoF index), which is the geometric mean of the average commonality and the models' average R^2 value. According to Schroer and Herterl (2009), R^2 value with more than 0.67 is considered to be substantial; 0.33 is described as moderate, while 0.19 is described as weak. According to Vinzi, Chin and Henseler (2010), the goodness of fit index (GoF) greater than 0.36 is considered to be large; 0.25 is described as medium, while 0.10 is described as small.

The average variance extracted (AVE) is another criterion used to assess the convergent validity, which should be greater than 0.5 to assure the latent variables can describe more than 50% of the variance of the indicators on average. The composite reliability (CR) should be bigger than 0.6 to confirm that the variance shared by the respective indicators is robust (Henseler, Rigle & Sinkovics, 2009). Above criteria can verfie the reliability and validity of the measurement model. When the measurement and structural model are reliable, then the coefficients of the path parameters used to test the hypotheses as developed in this study. The PLS procedure was implemented using Smart PLS software package.

CHAPTER FOUR
DATA ANALYSIS AND RESULTS

In this chapter, it interpreted the result of data that surveyed from the respondents. As the final survey from the internet, the total valid respondents was 369 samples that equalled 92.25% of respondents rate after sending to 400 questionnaires. For the first section, it described the descriptive analysis which demonstrated the statistical amount of respondents. The second section indicated the factor loading and reliability of the items of the questionnaire in order to measure the questionnaire that answered by the respondents. The third section revealed the CFA to double check the factor loading of each item; then the next step discussed the T-test and ANOVA analysis between the groups of demographics. The last part manifested the path of the coefficient of determination and exhibit the hypothesis that the study has mentioned.

4.1 Description Analysis

For the descriptive analysis part, it presented the characteristics of the respondents by recognizing the necessary information from them; moreover, it also displayed the mean and standard deviation of all items in the survey questionnaire.

4.1.1 Characteristic of Respondents

After collecting the data from respondents, and the survey also requires characteristaic of respondents were presented. Table 4.1 displayed the statistics of demographic of respondents which described the characteristic of gender, age, educational level, occupation level, type of industry and frequency of using the Internet.

Table 4.1 Characteristic of Respondents (n=369)

Item	Description	Frequency	%
Gender	Male	215	58.3%
	Female	154	41.7%
Age	<20 years old	27	7.3%
	21-30 years old	206	55.8%
	31-40 years old	104	28.2%
	41-50 years old	19	5.1%
	>50 years old	13	3.5%
Educational Level	Fresh Graduate from High School	34	9.2%
	Bachelor	277	75.1%
	Master	49	13.3%
	PhD	9	2.4%
Occupation Level	Front-line staff	92	24.9%
	Back office staff	167	45.3%
	Middle management staff	71	19.2%
	Executives (Top management)	39	10.6%
Type of Industry	Production/Manufacturing Industry	153	41.5%
	Service Industry	216	58.5%
Frequency of using Internet	< 1 hour/day	43	11.7%
	1 to >2 hour(s)/day	212	57.5%
	2 to >3 hours/day	78	21.1%
	more than 3 hours	36	9.8%

Source: Original study

Table 4.1 shows that there are 58.3% of male and 41.7% of females. Among five categories of people who are in the age section; there are 7.3% of

employees who are under 20 years old, 20-30 years old employees are 55.8%, 31-40 years old respondents stand for 28.2%, 5.1% are people in the age of 41-50, respectively. There are only 2.4% of the employees who are the Ph.D., 13.3% are the master, 75.1% are the bachelor, and 9.2% are a fresh graduate from high school. For the occupation level, the front-line staff accounted for 24.9%, back office staffs are 45.3%, 19.2% are employees in the position of middle management, and 10.6% are the top management staffs of respondent in this study. Service industry staffs participate in this survey which accounted for 58.5%, and the staffs that work for production and manufacturing industries are 41.5%. People in Cambodia tend to require using the internet, especially the people who are working. For those who use the internet less than one hour accounted for 11.7%; 57.5% of respondents who use the internet around 1 hour; respondents who use the internet around 2 hours per day are 21.1%, and 9.8% of respondents who use the internet over 3 hours.

4.1.2 Measurement Results for Relevant Research Variables

Table 4.2 demonstrates the mean and standard deviation of each item of the constructs. The table stated five items of technology innovation, five items of perceived benefit, five items of perceived sacrifice, five items of perceived usefulness, five items of perceived ease of use, five items of perceived autonomy, five items of perceived competence, five items of perceived relatedness, five items of perceived value, five items of attitude, five items of subjective norm, five items of security risk, five items of privacy risk and five items of behavioral intention. Table 4.2 stated the mean and standard deviation of items which were answered by the target respondents were be described in Table 4.2 as below.

Table 4.2 Descriptive Analysis for Questionnaire Items

Item	Description	Mean	Standard Deviation
Technology Innovation			
TI1	If I see the new information technology related to e-learning, I would like to try it out.	4.68	0.643
TI2	Among my surrounded people, I am usually the first person who tries out new technology related to e-learning.	4.67	0.625
TI3	I like to be the first person who tries out the new information technology related to e-learning.	4.64	0.644
TI4	I would like to have experience with a lot of new information technology related to e-learning.	4.70	0.626
TI5	I have passion and willingness to discover the new thing which is related to the technology of e-learning.	4.70	0.574
Perceived Benefit			
PB1	The information on the e-learning is helpful.	4.63	0.664
PB2	The information on the e-learning is accurate.	4.60	0.697
PB3	The information of the e-learning is up to date.	4.66	0.657

Table 4.2 Descriptive Analysis for Questionnaire Items (Continue)

Item	Description	Mean	Standard Deviation
PB4	The information on the e-learning is reliable.	4.67	0.603
PB5	The information of the e-learning is concise.	4.67	0.603
Perceived Sacrificed			
PS1	The system of e-learning is reliable.	3.95	0.836
PS2	The system of e-learning is not interrupted by other advertisements.	4.04	0.953
PS3	The system of e-learning is not interrupted by unrelated contents.	4.04	0.861
PS4	It takes a short time to load the content of knowledge.	4.11	0.878
PS5	It is easy to access for all application and website.	4.04	0.876
Perceived Usefulness			
PU1	e-learning would improve my job performance.	4.67	0.612
PU2	e-learning improves the effectiveness of my job.	4.69	0.582
PU3	e-learning would improve my quality performance in the workplace.	4.63	0.687
PU4	e-learning makes myself to be the productivity workplace.	4.68	0.623

Table 4.2 Descriptive Analysis for Questionnaire Items (Continue)

Item	Description	Mean	Standard Deviation
PU5	Overall, I found that e-learning is useful for my development.	4.69	0.624
Perceived Ease of Use			
PEOU1	e-learning requires the easy analyze effort to understand.	4.68	0.618
PEOU2	e-learning is hard to interact with when I found that something wrong in the context.	4.66	0.674
PEOU3	It is easy to find the various kind of explanation from e-learning.	4.70	0.619
PEOU4	It is easy for me to search for the knowledge that I want from the website and application of e-learning.	4.69	0.636
PEOU5	Overall, it is easy to use the website and application when I want to study on e-learning.	4.66	0.713
Perceived Autonomy			
PAUT1	I automatically feel that study the new knowledge from e-learning would be great.	4.79	0.562
PAUT2	I automatically feel that I am independent in perusing my soft skill when I study from -learning.	4.79	0.532
PAUT3	I automatically feel that I have the willingness to learn new knowledge from e-learning.	4.73	0.643

Table 4.2 Descriptive Analysis for Questionnaire Items (Continue)

Item	Description	Mean	Standard Deviation
PAUT4	I automatically feel that I would be better than others when I study from e-learning.	4.79	0.550
PAUT5	I automatically feel that I need to be independent in my way by starting to study from e-learning.	4.76	0.582
Perceived Competence			
PCOM1	I think that I would be good to learn e-learning.	4.79	0.559
PCOM2	I think that I would be better than others when I study in e-learning.	4.76	0.546
PCOM3	I feel competent after I study in e-learning.	4.75	0.638
PCOM4	I feel that I adapt to various kind of problem when I study a lot in e-learning.	4.75	0.569
PCOM5	I feel that I can solve some problem that I have learned from e-learning.	4.72	0.600
Perceived Relatedness			
PREL1	I have a chance to have much communication when I study in e-learning.	4.88	0.478
PREL2	My family, friend or colleague is happy when I study in e-learning.	4.83	0.508
PREL3	I feel connected with my colleague and others when I study in e-learning.	4.79	0.567

Table 4.2 Descriptive Analysis for Questionnaire Items (Continue)

Item	Description	Mean	Standard Deviation
PREL4	My family, friend or colleague motivates me to study the new thing.	4.80	0.594
PREL5	I would have much connection between people when I study in e-learning.	4.82	0.546
Perceived Value			
PV1	According to my effort, a study in e-learning is beneficial to me.	4.65	0.700
PV2	According to my effort, a study in e-learning is value for me.	4.63	0.726
PV3	According to the effort, a study in e-learning would be reliable and standard for me to use in the real situation.	4.59	0.758
PV4	According to the effort, a study in e-learning would save my time to find the source of knowledge.	4.64	0.728
PV5	Overall, a study in e-learning gives a good value to me.	4.66	0.653
Attitude			
ATT1	It is intelligent using e-learning.	4.61	0.765
ATT2	It gives many benefits when I study in e-learning.	4.67	0.678
ATT3	It is good to study in e-learning.	4.66	0.724
ATT4	I have positive thinking toward the e-learning.	4.67	0.655

Table 4.2 Descriptive Analysis for Questionnaire Items (Continue)

Item	Description	Mean	Standard Deviation
ATT5	Overall, I like to study in e-learning.	4.69	0.652
Subjective Norm			
SN1	Most people are essential to me to make me focus on e-learning.	4.75	0.593
SN2	Most people think that e-learning is good.	4.72	0.613
SN3	Most people also start to study in e-learning too.	4.67	0.632
SN4	Most people often share e-learning material and context in Social Media too.	4.67	0.646
SN5	Overall, Most people prefer to study in e-learning.	4.71	0.603
Security Risk			
SECR1	e-learning never gets interrupted by any advertisement when I study.	3.83	1.073
SECR2	e-learning never gets interrupted by the Virus when I study.	3.94	1.138
SECR3	e-learning never makes my smartphone/ computer operates slowly.	3.93	1.073
SECR4	e-learning never loads the unrelated content when I study.	4.00	1.102
SECR5	e-learning never makes my phone or computer to use much battery or electricity.	3.95	1.075
Privacy Risk			

Table 4.2 Descriptive Analysis for Questionnaire Items (Continue)

Item	Description	Mean	Standard Deviation
PVR1	I think that e-learning provider would not send personal information to the third party.	3.84	1.064
PVR2	I think that e-learning provider may not send spam to my mail.	3.95	1.129
PVR3	I think that my account may not hack by any e-learning website or application.	3.95	1.050
PVR4	I think that some website or application may not let me register that I feel bored about accessing the e-learning.	4.01	1.080
PVR5	I think that some website or application may not let me download any program in order to access their site of e-learning.	3.96	1.052
Behavioral Intention			
BI1	I would like to study in e-learning.	4.61	0.765
BI2	I would like to recommend the importance of e-learning.	4.67	0.678
BI3	I am planning to continue to study in e-learning in the future.	4.66	0.724
BI4	I would like to study in e-learning when I have free times.	4.67	0.655
BI5	I would like to have a habit of study in e-learning.	4.69	0.652

Source: Original study

4.2 Factor Analysis and Reliability

To check the reliability of each item, the research used the factor and reliability technique to observe the items of the survey questionnaire. The first analysis examined the factor loading by considering:

- Factor loading should be equal to or higher than 0.6
- KMO is higher than 0.5
- The eigenvalue is higher than 1
- Item-to-total correlation and communalities are equal to or higher than 0.5.
- Cumulative explained variance higher than 70%

The second analysis examined the Cronbach's Alpha using the minimum criteria of 0.7 to measure the reliability of the factors.

4.2.1 Technology Innovation

After conducting the factor analysis and reliability test, the five items of technology innovation were better than the requirement that mention above. KMO of technology innovation was 0.879; eigenvalue was 3.6. Moreover, technology innovation had the accumulated a total of 71.991% which showed these were critical underlying factors for this construct. The loadings of each item was bigger than 0.6. Also, all items-to-total correlation of technology innovation was above 0.5, and the Cronbach's Alpha (0.903) was also greater than 0.7. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.3 Result of FL and Reliability of Technology Innovation

Research Construct	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.879	TI1	0.841	**3.60**	**71.99%**	0.748	**0.903**
	TI2	0.861			0.773	

Table 4.3 Result of FL and Reliability of Technology Innovation (Continue)

Research Construct	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
	TI3	0.848			0.757	
	TI4	0.865			0.779	
	TI5	0.827			0.727	

Note: TI=Technology Innovation
Source: Original study

4.1.2 Perceived Benefit

The KMO of this five items of perceived benefit in Table 4.4 were better than the requirement of 0.50, eigenvalue was 3.727. The perceived benefit had the accumulated a total of 74.538% which showed these are important underlying factors for this construct. The loadings of items were above 0.6. Besides, all items-to-total correlations of perceived benefit were above 0.5, and the Cronbach's Alpha (0.915) was also bigger than 0.7. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.4 Result of FL and Reliability of Perceived Benefit

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.888	PB1	0.856	**3.727**	**74.54%**	0.773	**0.915**
	PB2	0.876			0.798	
	PB3	0.865			0.784	
	PB4	0.877			0.800	
	PB5	0.841			0.751	

Note: PB= Perceived Benefit
Source: Original study

4.2.3 Perceived Sacrifice

The KMO of this five items of perceived sacrifice in Tabel 4.5 were better than the requirement of 0.50, eigenvalue was 3.509. The perceived sacrifice had the accumulated a total of 70.174% which showed that these are important underlying factors for this construct. The loadings of items were not lower than 0.6. The PS1 equaled 0.81, PS2 equals 0.86, PS3 equaled 0.892, PS4 equaled 0.856,and PS5 equaled 0.765. Furthermore, all items-to-total correlation of perceived sacrifice was not lower than 0.5, and the Cronbach's Alpha (0.893) was not smaller than 0.7. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.5 Result of FL and Reliability of Perceived Sacrifice

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.86	PS1	0.810	**3.509**	**70.17%**	0.700	**0.893**
	PS2	0.860			0.767	
	PS3	0.892			0.814	
	PS4	0.856			0.764	
	PS5	0.765			0.646	

Note: PS= Perceived Sacrifice
Source: Original study

4.2.4 Perceived Usefulness

The KMO of this five items of perceived usefulness in Table 4.6 were better than the requirement of 0.50; eigenvalue was 3.564. Perceived usefulness had the accumulated a total of 71.276% which show that these are important underlying factors for this construct. Factor loading of each item is greater than 0.6. Additionally, all items-to-total correlation of perceived usefulness was not lower than 0.5, and the Cronbach's Alpha (0.899) was not

smaller than 0.7 with the value 0.899. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.6 Result of FL and Reliability of Perceived Usefulness

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.846	PU1	0.841	**3.564**	**71.276%**	0.746	**0.899**
	PU2	0.842			0.745	
	PU3	0.867			0.783	
	PU4	0.853			0.759	
	PU5	0.817			0.716	

Note: PU= Perceived Usefulness
Source: Original study

4.2.5 Perceived Ease of Use

The KMO of this five items of perceived ease of use in Table 4.7 were better than the requirement of 0.50, eigenvalue was 3.720. Perceived ease of use had the accumulated a total of 74.403% which showed that these were important underlying factors for this construct. Factor loadings of each item were greater. Additionally, all items-to-total correlation of perceived ease of use was not lower than 0.5, and the Cronbach's Alpha (0.954) was not smaller than 0.7. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.7 Result of FL and Reliability of Perceived Ease of Use

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.898	PEOU1	0.839	**3.720**	**74.403%**	0.749	**0.954**
	PEOU2	0.880			0.805	
	PEOU3	0.841			0.751	

Table 4.7 Result of FL and Reliability of Perceived Ease of Use (Continue)

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
	PEOU4	0.874			0.797	
	PEOU5	0.877			0.800	

Note: PEOU= Perceived Ease of Use
Source: Original study

4.2.6 Perceived Autonomy

The KMO of this five items of perceived autonomy in Table 4.8 were better than the requirement of 0.50, and its eigenvalue was 4.363. Perceived autonomy had the accumulated a total of 87.266% which showed that these are important underlying factors for this construct. The loading of each item was not lower than 0.6 with the highest value of PAUT1=0.946, and the lowest point was PAUT5=0.907. Besides, all items-to-total correlation of perceived autonomy in this analysis was not lower than 0.5, and the Cronbach's Alpha (0.963) was not smaller than 0.7 with its value of 0.963. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.8 Result of FL and Reliability of Perceived Autonomy

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.83	PAUT1	0.946	**4.363**	**87.27%**	0.913	**0.963**
	PAUT2	0.937			0.897	
	PAUT3	0.936			0.898	
	PAUT4	0.945			0.912	
	PAUT5	0.907			0.858	

Note: PAUT= Perceived Autonomy
Source: Original study

4.2.7 Perceived Competence

After conducting the factor analysis and reliability test, the five items of perceived competence were better than the requirement that mentioned above. KMO of perceived competence was 0.822; and its eigenvalue was 4.278. Perceived competence had the accumulated a total of 85.561% which showed that these are important underlying factors for this construct. The loading of items were not smaller than 0.6, and all items-to-total correlation of perceived competence was not lower than 0.5, and the Cronbach's Alpha (0.958) was not smaller than 0.7. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.9 Result of FL and Reliability of Perceived Competence

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.82	PCOM1	0.930	**4.278**	**85.56%**	0.892	**0.958**
	PCOM2	0.935			0.894	
	PCOM3	0.922			0.876	
	PCOM4	0.937			0.897	
	PCOM5	0.901			0.845	

Note: PCOM= Perceived Competence
Source: Original study

4.2.8 Perceived Relatedness

The KMO of this five items of perceived relatedness in Table 4.10 were better than the requirement of 0.50, and its eigenvalue was 4.181. The loading of each item was greater than 0.6, and all items-to-total correlation of perceived relatedness was not lower than 0.5, and the Cronbach's Alpha (0.951) was not smaller than 0.7. Perceived relatedness had the accumulated a total of 83.616% which showed that these are important underlying factors for

this construct. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.10 Result of FL and Reliability of Perceived Relatedness

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.87	PREL1	0.850	**4.181**	**83.62%**	0.774	**0.951**
	PREL2	0.940			0.904	
	PREL3	0.952			0.920	
	PREL4	0.909			0.857	
	PREL5	0.918			0.869	

Note: PREL= Perceived Relatedness
Source: Original study

4.2.9 Perceived Value

After conducting the factor analysis and reliability test, the five items of perceived value were better than the requirement that mentioned above. KMO of perceived competence was 0.904, and its eigenvalue was 4.045. The loading of each item was not lower than 0.5, and the Cronbach's Alpha (0.941) was not smaller than 0.7, the the item-to total correlation were also meet the criteria. The perceived value had the accumulated a total of 80.901% which showed that these are important underlying factors for this construct. Based on all requirement, it inferred that the reliability and internal consistency are suitable..

Table 4.11 Result of FL and Reliability of Perceived Value

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.9	PV1	0.878	**4.045**	**80.9%**	0.811	**0.941**
	PV2	0.910			0.855	

Table 4.11 Result of FL and Reliability of Perceived Value (Continue)

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
	PV3	0.913			0.860	
	PV4	0.923			0.874	
	PV5	0.872			0.802	

Note: PV= Perceived Value
Source: Original study

4.2.10 Attitude

After conducting the factor analysis and reliability test, the five items of attitude were better than the requirement that mentioned above. KMO of perceived competence was 0.896, and its eigenvalue was 3.967. The loading of each item was bigger than 0.6. All items-to-total correlation of attitude was greater than 0.5, and the Cronbach's Alpha (0.935) was also greater than 0.7. Attitude had the accumulated a total of 79.342% which showed that these are important underlying factors for this construct and all of the results matched with the requirement. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.12 Result of FL and Reliability of Attitude

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.89	ATT1	0.896	**3.967**	**79.3%**	0.834	**0.94**
	ATT2	0.875			0.804	
	ATT3	0.916			0.864	
	ATT4	0.905			0.846	
	ATT5	0.860			0.783	

Note: ATT= Attitude
Source: Original study

4.2.11 Subjective Norm

After conducting the factor analysis and reliability test, the five items of subjective norm were better than the requirement that mentioned above. KMO of perceived competence was 0.901, and its eigenvalue was 4.399. The loading of each item was greater than 0.6; all items-to-total correlation of subjective norm was above 0.5, and the Cronbach's Alpha (0.966) was also above 0.7. Subjective norm had the accumulated a total of 87.973% which showed that these are important underlying factors for this construct. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.13 Result of FL and Reliability of Subjective Norm

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.9	SN1	0.927	**4.399**	**87.97%**	0.886	**0.966**
	SN2	0.951			0.921	
	SN3	0.947			0.917	
	SN4	0.946			0.915	
	SN5	0.917			0.872	

Note: SN= Subjective Norm
Source: Original study

4.2.12 Security Risk

The KMO of this five items of security risk in Table 4.14 were better than the requirement of 0.50, and its eigenvalue was 4.096. Factor loading of each item was greater than 0.6; all items-to-total correlation of security risk was greater than 0.5, and the Cronbach's Alpha (0.945) was 0.945 which is greater than 0.7. Security risk had the accumulated a total of 81.916% which showed that these are important underlying factors for this construct. Based

on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.14 Result of FL and Reliability of Security Risk

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.89	SECR1	0.900	**4.096**	**81.92%**	0.841	**0.945**
	SECR2	0.909			0.854	
	SECR3	0.934			0.892	
	SECR4	0.915			0.864	
	SECR5	0.867			0.795	

Note: SECR= Security Risk
Source: Original study

4.2.13 Privacy Risk

After conducting the factor analysis and reliability test, the KMO of perceived competence was 0.891, and its eigenvalue was 4.066. Factor loading of each item was greater than 0.6. All items-to-total correlation of privacy risk was greater than 0.5, and the Cronbach's Alpha was 0.942 which is greater than 0.7. Privacy risk had the accumulated a total of 81.32% which showed that these are important underlying factors for this construct. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.15 Result of FL and Reliability of Privacy Risk

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.89	PVR1	0.898	**4.066**	**81.32%**	0.838	**0.942**
	PVR2	0.906			0.850	

Table 4.15 Result of FL and Reliability of Privacy Risk (Continue)

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
	PVR3	0.931			0.887	
	PVR4	0.911			0.858	
	PVR5	0.861			0.786	

Note: PVR= Privacy Risk
Source: Original study

4.2.14 Behavioral Intention of e-learning

After conducting the factor analysis and reliability test, the five items of perceived competence were better than the requirement that mentioned above. KMO of perceived competence was 0.896, and its eigenvalue was 3.967. Factor loading of each item was greater than 0.6. All items-to-total correlation of intention of e-learning was greater than 0.5, and the Cronbach's Alpha was 0.935 which is greater than 0.7. The intention of e-learning had the accumulated a total of 79.342% which showed that these are important underlying factors for this construct. Based on all requirement, it inferred that the reliability and internal consistency are suitable.

Table 4.16 Result of FL and Reliability of Intention of e-learning

Research Constructs	Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
KMO=0.896	BI1	0.896	**3.967**	**79.34%**	0.834	**0.935**
	BI2	0.875			0.804	
	BI3	0.916			0.864	
	BI4	0.905			0.846	
	BI5	0.860			0.783	

Note: BI= Behavioral Intention
Source: Original study

4.3 Independent Sample T-test

To verify whether threre is a difference of technology innovation (TI), perceived benefit (PB), perceived sacrifice (PS), perceived usefulness (PU), perceived ease of use (PEOU), perceived autonomy (PAUT), perceived competence (PCOM), perceived relatedness (PV), attitude (ATT), subjective norm (SN), security risk (SECR), privacy risk (PVR) and behavioral intention (BI) between (1) gender, (2) type of industry, and this study conducted a t-test.

4.3.1 Gender

In Table 4.17 showed the mean value of PS (Perceived Sacrifice), SECR (Security Risk) and PVR (Privacy risk) between male and females. The result showed that these variable are significant which the score of female group are higher than male group. However, there were no any p-value significant, and the t-value of PS (Perceived Sacrifice), SECR (Security Risk) and PVR (Privacy risk) factor were greater than 1.96. It indicated that there is not evident to show that the mean variable of these variables are significantlt different beside the above variables.

Table 4.17 Result of Independent T-test with Gender

Factor	**Male**	**Female**	**t-value**	**p-value**
	n=154	**n=215**		
TI	4.6948	4.6670	.499	.618
PB	4.6416	4.6335	.134	.894
PS	3.9234	4.1098	-2.333	.020
PU	4.6247	4.7051	-1.444	.150
PEOU	4.6688	4.6837	-.250	.802
PAUT	4.7610	4.7795	-.327	.744
PCOM	4.7312	4.7693	-.671	.503

Table 4.17 Result of Independent T-test with Gender (Continue)

Factor	Male	Female	t-value	p-value
	n=154	n=215		
PREL	4.8130	4.8335	-.394	.694
PV	4.5870	4.6660	-1.167	.244
ATT	4.6299	4.6847	-.838	.403
SN	4.6636	4.7340	-1.150	.251
SECR	3.7701	4.0437	-2.537	.012
PVR	3.7844	4.0577	-2.591	.010
BI	4.6299	4.6847	-.838	.403

Note: *p<.05, **p<.01, ***p<.001
Source: Original study

4.3.2 Type of Industry

In Table 4.17 showed the mean value of PS (Perceived Sacrifice) and SN (Subjective norm) between production industry and service industry. The result showed that these variable are significant which the score of service industry are lower than service production manufacting in perceived sacrifice and, and bigger than service industry in subjective norm. However, there were no any p-value significant, and the t-value of PS (Perceived Sacrifice) and SN (subjective norm) factor were greater than 1.96. It indicated that there is not evident to show that the mean variable of these variables are significantlt different beside the above variables.

Table 4.18 Result of Independent T-test with Type of Industry

Factor	Production Industry	Service Industry	t-value	p-value
	n=153	n=216		
TI	4.6392	4.7065	-1.206	.229

Table 4.18 Result of Independent T-test with Type of Industry (Continue)

Factor	Production Industry	Service Industry	t-value	p-value
	n=153	n=216		
PB	4.6026	4.6611	-.970	.333
PS	4.1307	3.9620	2.176	.030
PU	4.6275	4.7028	-1.351	.178
PEOU	4.6261	4.7139	-1.407	.160
PAUT	4.7072	4.8176	-1.903	.058
PCOM	4.7059	4.7870	-1.391	.165
PREL	4.7948	4.8463	-.967	.335
PV	4.5961	4.6593	-.932	.352
ATT	4.6366	4.6796	-.657	.511
SN	4.6261	4.7602	-2.109	.036
SECR	4.0458	3.8472	1.908	.057
PVR	4.0497	3.8685	1.774	.077
BI	4.6366	4.6796	-.657	.511

Note: *p<.05, **p<.01, ***p<.001
Source: Original study

4.4 One-way Analysis of Variance ANOVA

In this part, the researchers analyzed the differences of mean variables of group in terms of age, educational level, occupation level, frequency of usinginternet. These variables are technology innovation (TI), perceived benefit (PB), perceived sacrifice (PS), perceived usefulness (PU), perceived ease of use (PEOU), perceived autonomy (PAUT), perceived competence (PCOM), perceived relatedness (PV), attitude (ATT), subjective norm (SN), security risk (SECR), privacy risk (PVR) and behavioral intention (BI).

4.4.1 Age

In the Table 4.19, the difference of the mean values of the above 14 factors were tested using ANOVA as a statistical total. Subjective norm (SN) factor had three groups. Technology Innovation (TI) and Perceived benefit (PB) had one groups. Perceived benefit (PB), perceived sacrifice (PS), perceived ease of use (PEOU), perceived autonomy (PAUT), perceived competence (PCOM), perceived relatedness (PREL), perceived value (PV), attitude (ATT), security risk (SECR), privacy risk (PVR) and behavioral intention (BI) had two groups. Based on the result shown in Table 4.19, the mean values of PU (perceived usefulness) and PEOU (perceived ease of use) for the group of <20 years old or >50 years old are significantly lower than those group of 21-30 year old, 31-40 years old, and 41-50 years old.

Table 4.19 Result of One Way ANOVA of Age

Factor	<20 years old (1)	21-30 years old (2)	31-40 years old (3)	41-50 years old (4)	>50 years old (5)	F-Value	P-Value	Duncan
	n=27	n=206	n=104	n=19	n=13			
TI	4.47	4.72	4.637	4.75	4.631	1.76	0.137	(15324)
PB	4.42	4.69	4.58	4.68	4.63	1.74	0.141	(13542)
PS	4.39	3.88	4.14	4.32	4.48	6.78	0.000	(23,3415)
PU	4.53	4.74	4.61	4.66	4.31	3.34	0.011	(51,1342)
PEOU	4.42	4.76	4.60	4.71	4.52	3.37	0.010	(1534,5342)
PAUT	4.64	4.85	4.69	4.72	4.49	3.16	0.014	(5134,1342)
PCOM	4.65	4.84	4.68	4.60	4.42	3.91	0.004	(5413,4132)
PREL	4.72	4.90	4.76	4.85	4.45	3.93	0.004	(5,1342)
PV	4.45	4.74	4.56	4.45	4.26	3.77	0.005	(5143,1432)
ATT	4.47	4.75	4.59	4.64	4.34	2.92	0.021	(5134,1342)

Table 4.19 Result of One Way ANOVA of Age (Continue)

Factor	<20 years old (1)	21-30 years old (2)	31-40 years old (3)	41-50 years old (4)	>50 years old (5)	F-Value	P-Value	Duncan
	n=27	n=206	n=104	n=19	n=13			
SN	4.44	4.82	4.66	4.45	4.08	9.26	0.000	(5,143,32)
SECR	4.39	3.75	4.05	4.28	4.35	4.95	0.001	(234,3451)
PVR	4.41	3.77	4.04	4.34	4.35	4.99	0.001	(23,3451)
BI	4.47	4.75	4.59	4.64	4.34	2.92	0.021	(5134,1342)

Note: *p<.05, **p<.01, ***p<.001
Source: Original study

4.4.2 Education Level

In the Table 4.20, the difference of the mean values of the above 14 factors were tested using ANOVA as a statistical total. Moreover, technology innovation (TI), perceived benefit (PB), perceived ease of use (PEOU) factor had only one group. Perceived autonomy (PAUT), perceived competence (PCOM) and attitude (ATT), perceived sacrifice (PS), perceived usefulness (PU), perceived relatedness (PREL), perceived value (PV), subjective norm (SN), security risk (SECR) and behavioral intention (BI) had the two groups that were the difference. Furthermore, privacy risk (PVR) had three groups that differed from each other. Based on the result shown in Table 4.20, the mean values of PU (perceived usefulness), PEOU (perceived ease of use), PAUT (perceived autonomy), PCOM (perceived competence), PREL (perceived relatedness), PV (perceived value), ATT (attitude), SN (subjective norm) and BI (behavioral intention) for group fresh graduate from high school and Ph.D. are significantly lower than other group.

Table 4.20 Result of One Way ANOVA of Education Level

Factor	Fresh Graduate from High School (1)	Bachelor (2)	Master (3)	Ph.D. (4)	F-Value	P-Value	Duncan
	n=34	n=277	n=49	n=9			
TI	4.60	4.69	4.69	4.60	0.359	0.783	(4123)
PB	4.56	4.66	4.60	4.60	0.398	0.754	(1341)
PS	4.23	3.96	4.22	4.60	4.716	0.003	(231,314)
PU	4.65	4.69	4.65	4.18	2.871	0.036	(4,312)
PEOU	4.55	4.72	4.58	4.42	2.237	0.084	(4132)
PAUT	4.75	4.80	4.75	4.27	2.934	0.033	(4,312)
PCOM	4.76	4.78	4.67	4.27	3.250	0.022	(4,312)
PREL	4.80	4.85	4.81	4.20	5.317	0.001	(4,132)
PV	4.68	4.58	4.53	4.04	3.505	0.016	(4,312)
ATT	4.59	4.69	4.65	4.13	2.580	0.053	(4,132)
SN	4.57	4.79	4.46	3.98	2.580	0.053	(4,312)
SECR	4.23	3.85	4.045	4.60	11.033	0.000	(231,314)
PVR	4.25	3.86	4.10	4.60	3.298	0.021	(231,314)
BI	4.59	4.69	4.65	4.13	3.704	0.012	(4,132)

Note: *p<.05, **p<.01, ***p<.001
Source: Original study

4.4.3 Occupation Level

In the Table 4.21, the difference of the mean values of the above 14 factors were tested using ANOVA as a statistical total. Perceived benefit (PB), perceived value (PV), attitude (ATT) and security risk (SECR) had one group with the same idea of factors. Perceived autonomy (PAUT), perceived competence (PCOM), perceived relatedness (PREL) and perceived value (PV) had three different groups. Thus, the rest of the factors had two groups. Based

on the result shown in Table 4.21, the mean values of PU (perceived usefulness), PAUT (perceived autonomy), PCOM (perceived competence), PREL (perceived relatedness), PV (perceived value), ATT (attitude), SN (subjective norm) and BI (behavioral intention) of group middle management and executive staff are lower than the group of front line and back office staff.

Table 4.21 Result of One Way ANOVA of Occupation Level

Factor	Front-line staff (1)	Back Office staff (2)	Middle mgt. staff (3)	Executives (Top mgt.) (4)	F-Value	P-Value	Duncan
	n=92	n=92	n=71	n=39			
TI	4.77	4.68	4.51	4.76	3.663	0.013	(32,241)
PB	4.74	4.67	4.39	4.69	5.791	0.001	(3,241)
PS	3.77	4.06	4.25	4.15	6.699	0.000	(1,243)
PU	4.76	4.72	4.47	4.63	4.915	0.002	(34,421)
PEOU	4.76	4.73	4.45	4.68	4.996	0.002	(3,421)
PAUT	4.90	4.82	4.54	4.70	7.385	0.000	(34,42,21)
PCOM	4.90	4.79	4.53	4.64	7.834	0.000	(34,42,21)
PREL	4.94	4.85	4.65	4.76	5.016	0.002	(34,42,21)
PV	4.76	4.72	4.34	4.51	8.015	0.000	(34,42,21)
ATT	4.79	4.69	4.45	4.62	4.536	0.004	(34,421)
SN	4.85	4.77	4.52	4.41	9.092	0.000	(43,21)
SECR	3.55	4.05	4.10	3.97	6.295	0.000	(1,423)
PVR	3.60	4.05	4.09	4.03	5.212	0.002	(1,423)
BI	4.79	4.69	4.45	4.62	4.536	0.004	(34,421)

Note: *p<.05, **p<.01, ***p<.001

Source: Original study

4.4.4 Frequency of Using the Internet

In the Table 4.21, the difference of the mean values of the above 14 factors were tested using ANOVA as a statistical total. Moreover, there was only technology innovation (TI) had two different groups. Based on the result shown in Table 4.22, the mean values of PS (perceived sacrifice), PU (perceived usefulness), PAUT (perceived autonomy), PCOM (perceived competence), PREL (perceived relatedness), PV (perceived value), SN (subjective norm), SECR (security risk) and PVR (privacy risk) of group <1 hour/day are lower than the group of 2 to <3 hours/day and >3 hours/day.

Table 4.22 Result of One Way ANOVA of Frequency of Using Internet

Factor	<1 hour/day (1)	2 to <3 hours/day (2)	>3 hours/day (3)	F-Value	P-Value	Duncan
	n=43	n=290	n=36			
TI	4.76	4.69	4.52	2.109	0.123	(32,21)
PB	4.68	4.65	4.52	0.871	0.419	(321)
PS	4.00	4.01	4.27	2.132	0.120	(123)
PU	4.66	4.67	4.66	0.021	0.979	(123)
PEOU	4.70	4.69	4.56	0.864	0.422	(321)
PAUT	4.71	4.78	4.76	0.399	0.672	(132)
PCOM	4.65	4.77	4.72	1.054	0.350	(132)
PREL	4.75	4.84	4.78	0.78	0.460	(132)
PV	4.57	4.64	4.63	0.26	0.769	(132)
ATT	4.65	4.67	4.65	0.02	0.984	(312)
SN	4.57	4.72	4.71	0.02	0.984	(132)
SECR	3.87	3.90	4.24	1.28	0.279	(123)
PVR	3.89	3.91	4.24	1.99	0.138	(123)
BI	4.65	4.67	4.65	1.87	0.156	(312)

Note: *p<.05, **p<.01, ***p<.001

Source: Original study

4.5 Evaluation of the Measurement Model

In this section, the analysis conducted the CFA by using the SPSS Amos to double check with the items and its component. In this analysis the component, TI denoted as technology innovation. PB denoted as perceived benefit. PS denoted as perceived sacrifice. PAUT denoted as perceived autonomy. PCOM denoted as perceived competence. PREL denoted as perceived relatedness. PU denoted as perceived usefulness. PEOU denoted as perceived ease of use. PV denoted as perceived value. ATT denoted as attitude. SECR denoted as security risk. PVR denoted as privacy risk. SN denoted as subjective norm, and BI denoted as behavioral intention. The loadings for all construct were all higher than the cut off criteria of 0.6.

Based on all requirement, it is inferred that the reliability and internal consistency are suitable.

Table 4.23 Result of Confirmatory Factor Analysis

			Loading				**Loading**
Technology Innovation				Perceived Ease of Use			
TI5	<---	TI	0.826	PEOU5	<---	PEOU	0.88
TI4	<---	TI	0.862	PEOU4	<---	PEOU	0.871
TI3	<---	TI	0.846	PEOU3	<---	PEOU	0.834
TI2	<---	TI	0.859	PEOU2	<---	PEOU	0.881
TI1	<---	TI	0.848	PEOU1	<---	PEOU	0.845
Perceived Benefit				Perceived Value			
PB5	<---	PB	0.841	PV5	<---	PV	0.871
PB4	<---	PB	0.877	PV4	<---	PV	0.923
PB3	<---	PB	0.863	PV3	<---	PV	0.912
PB2	<---	PB	0.874	PV2	<---	PV	0.911
PB1	<---	PB	0.861	PV1	<---	PV	0.879

Table 4.23 Result of Confirmatory Factor Analysis (Continue)

Perceived Sacrifice			
PS5	<---	PS	0.777
PS4	<---	PS	0.826
PS3	<---	PS	0.896
PS2	<---	PS	0.835
PS1	<---	PS	0.841
Perceived Autonomy			
PAUT5	<---	PAUT	0.907
PAUT4	<---	PAUT	0.944
PAUT3	<---	PAUT	0.936
PAUT2	<---	PAUT	0.937
PAUT1	<---	PAUT	0.946
Perceived Competence			
PCOM5	<---	PCOM	0.899
PCOM4	<---	PCOM	0.934
PCOM3	<---	PCOM	0.925
PCOM2	<---	PCOM	0.933
PCOM1	<---	PCOM	0.932
Perceived Relatedness			
PREL5	<---	PREL	0.918
PREL4	<---	PREL	0.91
PREL3	<---	PREL	0.952
PREL2	<---	PREL	0.94
PREL1	<---	PREL	0.848
Perceived Usefulness			
PU5	<---	PU	0.82

Attitude			
ATT5	<---	ATT	0.86
ATT4	<---	ATT	0.905
ATT3	<---	ATT	0.916
ATT2	<---	ATT	0.876
ATT1	<---	ATT	0.896
Security Risk			
SECR5	<---	SECR	0.861
SECR4	<---	SECR	0.899
SECR3	<---	SECR	0.929
SECR2	<---	SECR	0.897
SECR1	<---	SECR	0.903
Privacy Risk			
PVR5	<---	PVR	0.856
PVR4	<---	PVR	0.895
PVR3	<---	PVR	0.926
PVR2	<---	PVR	0.895
PVR1	<---	PVR	0.901
Subjective Norm			
SN5	<---	SN	0.918
SN4	<---	SN	0.947
SN3	<---	SN	0.948
SN2	<---	SN	0.95
SN1	<---	SN	0.925
Behavioral Intention			
BI5	<---	BI	0.861

Table 4.23 Result of Confirmatory Factor Analysis (Continue)

Perceived Usefulness				Behavioral Intention			
PU4	<---	PU	0.85	BI4	<---	BI	0.904
PU3	<---	PU	0.869	BI3	<---	BI	0.916
PU2	<---	PU	0.84	BI2	<---	BI	0.875
PU1	<---	PU	0.841	BI1	<---	BI	0.896

Source: Original study

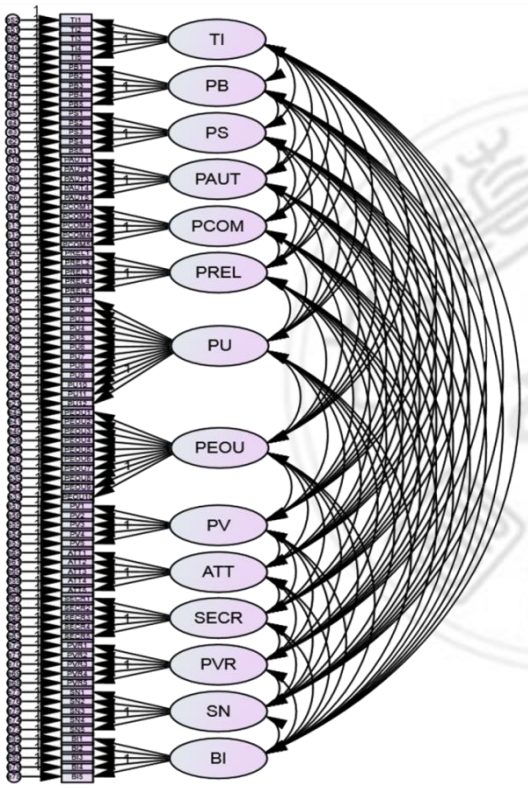

Figure 4.1 Confirmatory Factor Analysis (CFA)

Source: Original study

4.6 Evaluation of the Strutural Model

To evaluate the structural model, the research conducted the analysis through Smart PLS. When the research analyzed the hypothesis and model, it used the PLS algorithm; moreover, the moderation effect test was analyzed by

PLS bootstrapping and creating the multiplying between the independent construct and moderator construct to test.

According to Hair et al. (2011), several criteria are adopted to justify the goodness of the fit of the research model: (1) coefficienct of determination (R^2) > 0.33; (2) Goodness-of-fit (GoF) > 0.25; (3) Average variance extracted (AVE) > 0.5; (4) Cronbach's Alpha coefficient > 0.7; (5) Composite reliability (CR) > 0.6. According to Schroer and Herterl (2009), R^2 value with more than 0.672 is considered substantial, 0.33 values is moderate and lower than 0.19 is considered weak value. As the Table 4.24, the R^2 of endogenous latent variables of perceived benefit was 0.777; perceived usefulness was 0.799, perceived ease of use was 0.751, attitude was 0.84, behavioral intention was 0.98, subjective norm 0.88 and perceived risk was 0.804. Those latent variables were the substantial value for the research. Also, the coefficient of determination value of perceived sacrifice was 0.17 which was considered to be weak. It can be concluded that most of the R square are considered to be substantial or moderate. The Cronbach's Alpha value should be greater 0.7 as mentioned above. The Cronbach's Alpha for the research constructs ranged from 0.899 to 0.973. The CR should be greater than 0.6 as the requirement, and the results of the CR value were ranged from 0.92 to 0.976 which should be considered as robust. The AVE construct were ranged from 0.699 to 0.88 ehich is greater than 0.6 as the cutoff. Based on the above result, it could be summed up that the reliability and convergent validity of the research model were acceptable, which was possible to proceed to an evaluation of the structural model.

Table 4.24 Evaluation of the Measurement Model

Construct	AVE	CR	Cronbach's Alpha	R square
Technology Innovation	0.72	0.928	0.903	-

Table 4.24 Evaluation of the Measurement Model (Continue)

Construct	AVE	CR	Cronbach's Alpha	R square
Perceived Benefit	0.745	0.936	0.915	0.777
Perceived Sacrifice	0.699	0.92	0.893	0.17
Perceived Usefulness	0.713	0.925	0.899	0.799
Perceived Ease of Use	0.744	0.936	0.914	0.751
Perceived Autonomy	0.873	0.972	0.963	-
Perceived Competence	0.856	0.967	0.958	-
Perceived Relatedness	0.836	0.962	0.951	-
Perceived Value	0.809	0.955	0.941	0.617
Attitude	0.793	0.95	0.935	0.84
Behavioral Intention	0.793	0.95	0.935	0.98
Subjective Norm	0.88	0.973	0.966	-
Perceived Risk	0.804	0.976	0.973	-

Source: Original study

The result of table 4.25 showed that technology innovation has significant and prestige influence on the perceived benefit (β=0.881; t-value=21.272), perceived usefulness (β=0.294; t-value=3.73) and perceived ease of use (β=0.452; t-value=6.811), but as a significant and negative influence on perceived sacrifice (β=-0.411; t-value=15.325). Moreover, perceived autonomy has a significant effect on perceived usefulness (β=0.187; t-value=1.404) and perceived ease of use (β=0.055; t-value=0.594). At the same time, perceived competence was significant influence on perceived usefulness (β=0.193; t-value=2.364) and perceived ease of use (β=0.046; t-value=0.624). Perceived relatedness was significant influence on perceived usefulness (β=0.288; t-value=2.168) and perceived ease of use (β=0.372; t-

value=3.586). In addition, perceived benefit had significant influence on perceived value (β=0.774; t-value=14.527), and perceived sacrifice had significant but negative influence on perceived value (β=-0.057; t-value=1.864). Furthermore, perceived usefulness has a significant influence on attitude (β=0.555; t-value=8.862), and perceived ease of use has significant influence on attitude (β=0.127; t-value=2.087). Perceived value has significant influence on attitude (β=0.291; t-value=3.655), and attitude has significant influence on behavioral intention (β=0.914; t-value=894.288).

The moderating effected of subjective norm has a significant and positive impact for the influence of the attitude on behavioral intention (β=0.12; t-value=0.407). Moreover, the moderating effected of perceived risk has significant and negative impact fornthe influence of the attitude on behavioral intention (β=-0.09; t-value=0.671). In conclusion, the goodness-of-fit (GoF) of this structural model is 0.74 which is higher than 0.36 and is considered to be large. This result confirmed that the structural model is appropriate with predictive power. The overall hypotheses testing is shown in Figure 4.2.

Table 4.25 Evaluation of Structural Model and Hypothesis Testing

Hypo	**Construct**	**Standardize Estimate**	**t-value**	**p-value**
H1a	Technology Innovation to Perceived Benefit	0.881	21.272	.000***
H1b	Technology Innovation to Perceived Sacrifice	-0.411	15.325	.000***
H2a	Technology Innovation to Perceived Usefulness	0.294	3.73	.000***
H2b	Technology Innovation to Perceived Ease of Use	0.452	6.811	.000***

Table 4.25 Evaluation of Structural Model and Hypothesis Testing (Continue)

Hypo	Construct	Standardize Estimate	t-value	p-value
H3a	Perceived Autonomy to Perceived Usefulness	0.187	5.404	.047*
H3b	Perceived Autonomy to Perceived Ease of Use	0.155	4.594	.000***
H3c	Perceived Competence to Perceived Usefulness	0.193	2.364	.000***
H3d	Perceived Competence to Perceived Ease of Use	0.146	2.624	.007**
H3e	Perceived Relatedness to Perceived Usefulness	0.288	2.168	.000***
H3f	Perceived Relatedness to Perceived Ease of Use	0.372	3.586	.000***
H4a	Perceived Benefit to Perceived Value	0.774	14.527	.000***
H4b	Perceived Sacrifice to Perceived Value	-0.157	6.864	.000***
H5a	Perceived Usefulness to Attitude	0.555	8.862	.000***
H5b	Perceived Ease of Use to Attitude	0.127	2.087	.000***
H6	Perceived Value to Attitude	0.291	3.655	.000***
H7	Attitude to Behavioral Intention	0.914	894.288	.000***
H8	Attitude* Subjective Norm=> Behavioral Intention	0.12	3.407	.003**

Table 4.25 Evaluation of Structural Model and Hypothesis Testing (Continue)

Hypo	Construct	Standardize Estimate	t-value	p-value
H9	Attitude* Perceived Risk=> Behavioral Intention	-0.19	2.671	.034*

Note: *p<.05, **p<.01, ***p<.001

Source: Original study

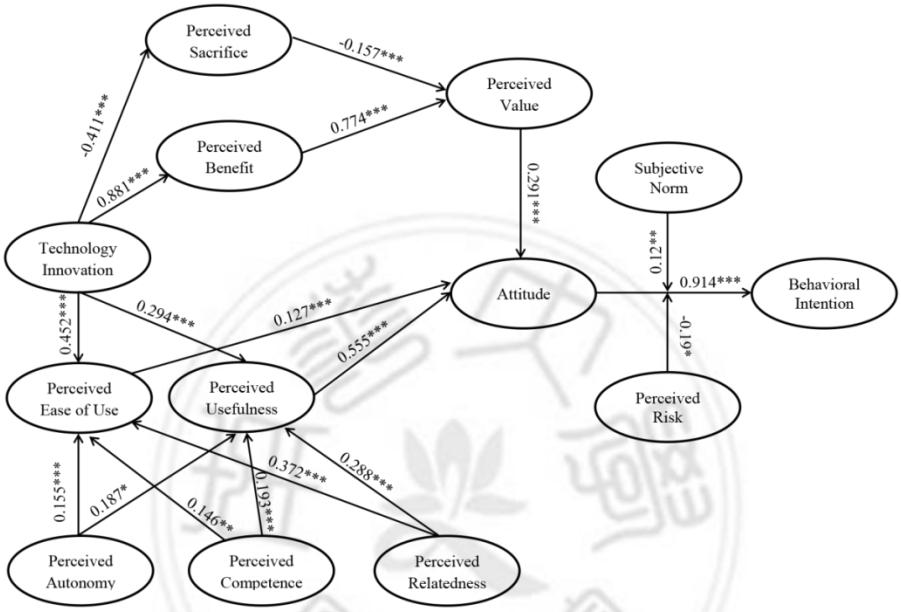

Figure 4.2 The Measurement of Research

Source: Original study

4.7 Mediation Effect Testing

In order to confirm that mediation effect worked with each variable or not, the study may use Preacher and Hayes's (2014) approach to explore the indirect effect of the mediator between independent and dependent variable by using the Sobel test and confidence intervals to confirm the mediation effect. The first step is to examine the relationship between independtent variable and dependent variable; step two is to examine the relationship between independent variable and mediator; step 3 is mediator and dependent variable which independent varable is controlling, and the fourth step is to

examine the independent variable and dependent variable while mediator is controlling.

4.7.1 Mediation Effect Testing of TAM Factors between Technology Innovation and Attitude

As shown in Table 4.26, in step 1 of the mediation model, the regression of technology innovation on attitude, ignoring the mediator, was significant, (β=0.9198, t(367)=25.24, p=0.000). Step 2 showed that the regression of technology innovation on the mediator, TAM factors were also significant, (β=0.8334, t (367) =30.1, p=0.000). Step 3 of the mediation process showed that the mediator (TAM factors), controlling for technology innovation, was significant, (β=0.9428, t (366) =18.133, p=0.000). Step 4 of the analyses revealed that the mediator (TAM factors), controlling for technology innovation was also a significant predictor of attitude, (β=0.1341, t (366) =2.61, p=0.009). The results of the Sobel test are significant (p=0.000). The z-value equals to 15.53, which is higher than 1.96 ($p<0.05$), and the value of mediating effect is 0.7857. It indicates that TAM factors partially mediated the relationship between technology innovation and attitude. The study further used the bootstrap approach to verify the Sobel test. The result reveals that with CIs between 95% and 5% (excluding 0) the Sobel test is significant. Therefore, the results showed that technology innovation was an indirect effect on perceived value. The technology innovation that releases the new website, application or system needs to be useful and easy to use for the users, otherwise, the degree of satisfaction (attitude) of the user cannot increase. If they don't get perceived usefulness and ease of use (mediator) for the user, they cannot satisfy with the new technology.

Table 4.26 Regression Analysis of the Indirect Effect between TAM Factors and Attitude

Direct effects and Total effect					
		β	SE	t	p
TI -> ATT		.9198	.379	25.24	.000
TI -> TAM factor		.8334	.0277	30.1	.000
TAM factor -> ATT, TI is controlled		.9428	.052	18.133	.000
TI -> ATT, TAM factor is controlled		.1341	.514	2.61	.009
Indirect effect and significant using the normal distribution					
	Value	SE	LL95%CI	UL95%CI	z	p
Sobel	.7857	.0506	.6865	.8849	15.53	.000
Bootstrap results for the indirect effect					
	Value	SE	LL95%CI	UL95%CI	Mean	
Effect	.7857	.113	.5512	.9954	.7805	

Note. 1.TI= Techonology Innovation, ATT= Attitude, β= Unstandardized Coefficient
2. N= 369, Number of Bootstrap Resamples= 1000, LL= Lower Limit, CI= Confidence Interval, UL= Upper Limit

Source: Original study

4.7.2 Mediation Effect Testing of VAM Factors between Technology Innovation and Perceived Value

As shown in Table 4.27, In step 1 of the mediation model, the regression of technology innovation on perceived value, ignoring the mediator, was significant, (β=0.8114, t(367)=17.18, p=0.000). Step 2 showed that the regression of technology innovation on the mediator, VAM factors were also significant, (β=0.1974, t (367) =4.78, p=0.000). Step 3 of the mediation process showed that the mediator (VAM factors), controlling for technology innovation, was significant, (β=0.3312, t (366) =5.76, p=0.000). Step 4 of the analyses revealed that the mediator (VAM factors), controlling for technology

innovation was also a significant predictor of perceived value, (β=0.746, t (366) =15.99, p=0.000). The results of the Sobel test are significant (p=0.000). The z-value equals to 3.6538, which is higher than 1.96 (p<0.05), and the value of mediating effect is 0.0654. It indicates that that VAM factors partially mediated the relationship between technology innovation and perceived value. The study further used the bootstrap approach to verify the Sobel test. The result reveals that with CIs between 95% and 5% (excluding 0) the Sobel test is significant. Therefore, the results showed that technology innovation was an indirect effect on perceived value. The new technology needs to have benefit and low or non sacrifice (mediator) for the user because it can be the value that judged by the user.

Table 4.27 Regression Analysis of the Indirect Effect between VAM Factors and Perceived Value

Direct effects and Total effect					
		β	SE	t	p
TI -> PV		.8114	.0482	17.18	.000
TI -> VAM factor		.1974	.0413	4.78	.000
MV -> PV, TI is controlled		.3312	.0572	5.79	.000
TI -> PV, VAM factor is controlled		.746	.0466	15.99	.000
Indirect effect and significant using the normal distribution					
	Value	SE	LL95%CI	UL95%CI	z	p
Sobel	.0654	.0179	.0303	.1004	3.6538	.000
Bootstrap results for the indirect effect					
	Value	SE	LL95%CI	UL95%CI	Mean	
Effect	.0654	.0202	.0107	.0916	.059	

Note. 1. TI= Techonology Innovation, PV= Perceived Value, β=Unstandardized Coefficient

2. N= 369, Number of Bootstrap Resamples= 1000, LL= Lower Limit, CI= Confidence Interval, UL= Upper Limit

Source: Original study

4.7.3 Mediation Effect Testing of Attitude between Perceived Value and Behavioral Intention

As shown in Table 4.28, In step 1 of the mediation model, the regression of technology innovation on perceived value, ignoring the mediator, was significant, (β=1.047, t (367) =30.982, p=0.000). Step 2 showed that the regression of perceived value on the mediator, attitude was also significant, (β=0.9133, t (367) =35.58, p=0.000). Step 3 of the mediation process showed that the mediator (attitude), controlling for perceived value, was significant, (β=0.75, t (366) =13.26, p=0.000). Step 4 of the analyses revealed that the mediator (attitude), controlling for perceived value was also a significant predictor of behavioral intention, (β=0.3621, t (366) =6.171, p=0.000). The results of the Sobel test are significant (p=0.000). The z-value equals to 12.42, which is higher than 1.96 ($p<0.05$), and the value of mediating effect is 0.6849. It indicates that that attitude partially mediated the relationship between perceived value and behavioral intention. The study further used the bootstrap approach to verify the Sobel test. The result reveals that with CIs between 95 percents and 5% (excluding 0) the Sobel test is significant. Therefore, the results also showed that perceived value was an indirect effect on perceived value. The positive of perceived value can make the user to satisfy (attitude as the mediator), and they may have intention toward e-learning. Value is the core of the user that they perceived and they can show their level of agree or not agree with the technology that they tested in order to get more intention toward the e-learning. The value can be more meaninigful and serious issue that make the people consider to do the particular things.

Table 4.28 Regression Analysis of the Indirect Effect between Attitude and Behavioral Intention

Direct effects and Total effect					
		β	SE	t	p
PV -> BI		1.047	.0338	30.982	.000
PV -> ATT		.9133	.0257	35.58	.000
ATT -> BI, PV is controlled		.75	.0566	13.26	.000
PV -> BI, ATT is controlled		.3621	.0587	6.171	.000
Indirect effect and significant using the normal distribution					
	Value	SE	LL95%CI	UL95%CI	z	P
Sobel	.6849	.0551	.5768	.793	12.42	.000
Bootstrap results for the indirect effect					
	Value	SE	LL95%CI	UL95%CI	Mean	
Effect	.6849	.6812	.4633	.9161	.6812	

Note. 1. PV= Perceived Value, ATT= Attitude, BI= Behavioral Intention, β= Unstandardized Coefficient
2. N= 369, Number of Bootstrap Resamples= 1000, LL= Lower Limit, CI= Confidence Interval, UL= Upper Limit

Source: Original study

CHAPTER FIVE
CONCLUSIONS & SUGGESTIONS

5.1 Research Conclusion

The main purposes of this research are (1) to examine the effect between technology innovation and perceived benefit, (2) to inspect the effect between technology innovation and perceived sacrifice, (3) to test the effect between technology innovation and perceived usefulness, (4) to explore the effect between technology innovation and perceived ease of use, (5) to study the effect between perceived autonomy and perceived usefulness, (6) to investigate the effect between perceived autonomy and perceived ease of use, (7) to analyze the effect between perceived competence and perceived usefulness, (8) to examine the effect between perceived competence and perceived ease of use, (9) to inspect between perceived relatedness and perceived usefulness, (10) to test the effect between perceived relatedness and perceived ease of use, (11) to explore the effect between perceived benefit and perceived value, (12) to study the effect between perceived sacrifice and perceived value, (13) to investigate the effect between perceived usefulness and attitude, (14) to analyze the effect perceived ease of use and attitude, (15) to examine the effect between perceived value and attitude, (16) to inspect between attitude and behavioral intention, (17) to test the moderating effect of subjective norm when attitude in relationship with behavioral intention, and (18) to explore the moderating effect of perceived risk when attitude in relationship with behavioral intention.

As shown in Table 5.1, it can be concluded that technology innovation, self-determination theory, perceived usefulness, perceived ease of use, perceived benefit, perceived value, attitude, subjective norm, and perceived risk are the factor that drove the user has intention on e-learning.

Table 5.1 Result of the Tested Hypotheses

Hypo.	Construct	Support
H1a	There is a significant effect between technology innovation and perceived benefit of VAM.	Supported
H1b	There is a significant effect between technology innovation and perceived sacrifice of VAM.	Supported
H2a	There is a significant effect between technology innovation and the perceived usefulness of TAM.	Supported
H2b	There is a significant effect between technology innovation and perceived ease of use of TAM.	Supported
H3a	There is a significant effect between perceived autonomy of SDT and perceived usefulness of TAM.	Supported
H3b	There is a significant effect between perceived autonomy of SDT and perceived ease of use of TAM.	Supported
H3c	There is a significant effect between perceived competence of SDT and perceived usefulness of TAM.	Supported
H3d	There is a significant effect between perceived competence of SDT and perceived ease of use of TAM.	Supported
H3e	There is a significant effect between perceived relatedness of SDT and perceived usefulness of TAM.	Supported
H3f	There is a significant effect between perceived relatedness of SDT and perceived ease of use of TAM.	Supported
H4a	There is a significant effect between the perceived benefit of VAM and perceived value.	Supported
H4b	There is a significant effect between the perceived sacrifice of VAM and perceived value.	Supported

Table 5.1 Result of the Tested Hypotheses (Continue)

Hypo.	Construct	Support
H5a	There is a significant effect between perceived usefulness of TAM and attitude.	Supported
H5b	There is a significant effect between perceived ease of use of TAM and attitude.	Supported
H6	There is a significant effect between perceived value and attitude.	Supported
H7	There is a significant effect between attitude and intention.	Supported
H8	The subjective norm moderates when attitude in a relationship with intention.	Supported
H9	The perceived risk moderates when attitude in a relationship with intention.	Supported

Source: Original study

The above research results are in confirmatory with those of previous studies. Previous study stated that the technology innovation is a significant effect on perceived benefit (Wang et al., 2008, Dai et al., 2015). It is indicated that when the new technology launches it should provide the benefit to the user to attract them to be interested in the study online. Likewise, the technology innovation also has significant but negative effect on perceived sacrifice in e-learning context. This results are also in line with the result of Talukder et al. (2014). Thus, the new technology needs to concern the system that providers provide on website and application, the complicated of accessing the website and application, and how quick that the user can reach to the context when they try out the new technology. If perceived sacrifice

appear in the new technology, the users will not be interested in trying the new technology when it launches. When they try out to study on the internet, they will concern the accurate of knowledge that they will receive, too.

Ngafeeson and Sun (2015) supported with the same result in this study between technology innovation and perceived usefulness while technology innovation and perceived ease of use. Thus, the e-textbook context of Ngafeeson and Sun (2015) research has reach the similar research. Thus, the new technology needs to be useful that help the user feel that their work will be productive, and the new technology will not require much effort to try out.

As the literature review of the chapter two has mentioned about the interrelationship between the self-determined theory and technology acceptance model (Roca & Gagne, 2008, Nikou and Economides 2017), the result of this study supports that perceived autonomy has significant on perceived usefulness and perceived ease of use that are similar to Cheon et al. (2012). Similar to Teo et al. (2009) and Sørebø et al. (2009), this study concluded that the perceived competence influence on perceived usefulness and perceived ease of us. The result of perceived relatedness has a positive effect on perceived usefulness and perceived ease of use, similar to the results of Nikou and Economides (2017). In conclusion, people who have motivation to strive for their independence in doing any work, has motivation to learn the new thing to adapt to the environment that they face to solve the problem and have motivation to work with closed relationship person, will try to study hard on e-learning, and they tend to perceive the usefulness and ease of use.

This study also concluded that the perceived benefit has positive effect on perceived value, and the perceived sacrifice has a negative effect on perceived value, and these result are in line with Kim et al. (2017), Yu et al. (2017), Kim et al. (2012) and Roostika (2012). When the knowledge that the users perceived is reliable and accurate their percevied benefit will be high, in

contrast, the unreliable of system, complicated of connectivity and slow access to the content of e-learning may be the struggle for the users that hesitate or sacrifice of their perception.

As the result showed that the perceived usefulness and ease of use has positive effect on attitude that its results are in line with Lin (2011), Elkaseh et al. (2016), and Fathema et al. (2015). When the user studies on e-learning, they sense that it is easy to use and not trying to understand the way of using, moreover, they feel that their performance is productivity, so the degree of satisfaction of using will be increased and higher.

The result of perceived value and attitude of this study is in line with Kim et. (2017), Hsiao and Chen (2017) which the result showed that the perceived value has a positive effect on attitudes. When perceived value is positive, the satisfaction of the users are positive.

In the result of this research, the attitude has the significant effect on behavioral intention, and these result is in line with Kim et al. (2017), Elkaseh et al. (2016), and Hsiao and Chen (2017) that concluded that attitude would have positive on behavioral intention. If the benefit of the users gets more than the sacrifice that they get, the degree of their satisfaction will be increased at the same time.

When the attitude is positive, the user will have the intention to study on e-learning (Kim et al., 2017; Hsiao & Chen, 2017). The result in this study also supports the same as the empirical research too. Thus, the degree of satisfaction of the user increase, they will have more intention in the study on e-learning.

The result in this study can show that subjective norm as the moderator will have positive effect between the interrelations of attitude and behavioral intention while the empirical study of Liébana et al. (2014), Kautonen et al. (2015), Han (2015), Sawang et al. (2014) and Tan et al. (2014) concluded that

subjective norm has the positive effect on behavioral intention. In this study, it can show that the moderator of subjective norm also the factor that smoothens the degree of satisfaction of study on e-learning of the user to have more intention of the study.

There are many studies concluded that perceived risk has the negative effect on the behavioral intention like the study of Liébana et al. (2014), Martins et al. (2014), Chiu et al. (2014) and Mohseni et al. (2018). When this study tests the moderator of perceived risk to interfere with the relationship between attitude and behavioral intention, the result shows that the risk will affect their intention of study on e-learning.

5.2 Discussion and Implication

This study is concerned with technology innovation as the initial thing that arouses the user to be interested in seeking out new technology and knowledge. Due to Cambodia is the developing country, so new technology would raise the first concern to attract users. At the same time, the new technology would be concerned with usefulness, ease of use and the accurate knowledge that they get. Sometimes, some website and application of e-learning may have trouble, such as the interruption of other advertisement and unrelated content, accessing of the website and application and the speed of loading the content of knowledge which can influence their perception. Some users also need some motivations from family, friends and colleagues to study, and some users think that they want to adapt and independent with the current situation of their era which make them think that what they learn are useful and ease for them. When the user perceives the real knowledge that they learn from and enhance their work productivity with less effort using, their degree of satisfaction would be positive. According to their satisfaction, their culture and norm will push them to get more intention on e-learning. Some users will

have trouble on their personal account of mail or bank account when they face with some trouble website and application; moreover, they sometimes get the virus or automatically unwanted program installment on their computer or smartphone which influence on their intention to the e-learning. As the essential of previous research (Talukder et al., 2014), the new technology needs to concern the sacrifice of system reliability, connectivity and efficiency. The new technology needs to concern how useful and easy that the user the new things (Wang et al., 2008). Even the degree of their satisfaction is positive; sometimes some risk will influence on the intention that becomes the struggle for them (Mohseni et al., 2018) while their surrounded culture and norm will shape them to get more intention (Sawang et al., 2014). Thus, there are four main contributions to this research. One is the interrelationship between the technology innovation and TAM factors, and two is the interrelationship between the technology innovation and VAM factors. Thirdly, the moderation effect of subjective norm on the relationship between attitude and behavioral intention, and the last one is the moderation effect of perceived risk on the relationship between attitude and behavioral intention.

It is very essential when the study combined the TAM and VAM theory together in order to predict the adoption of the user toward the new technology because the VAM of Kim et al. (2007) modified the TAM theory of Davis (1989) by proposed the obstacle variable (perceived sacrifice). Due to the different evolution of information technology in various generation, the model needs to adapt for each time of environment; moreover, 2000s of technology had discovered the obstacle or barrier of the internet user that perceived sacrifice had become the variable to predict the intention of the technology user while perceived benefit is also one factor that need to concern. According to the previous research TAM (Al-Gahtani, 2016; Surendran, 2012; Kim, Mirusmonov & Lee, 2010) and VAM (Roostika, 2012) are the model

that the researchers think about, especially in the technology adoption research. While the interrelationship of SDT and TAM has started on some research (Roca & Gage, 2008; Nikou & Economides, 2017; Cheon et al., 2012; Teo et al., 2009) in the last decade, it showed that some of teenager and adult need both self-motivation and surrounded motivation to make them aware the important and usefulness of study. The more motivation that they get from them themselves and others can make them more feel useful and easy to study particular things.

In conclusion, there are some suggestions for the users, developer of website or application. As the user, they need to aware of the importance of study even they do not have much more time to study or the rest of their academic study in the institute. They need to think that they should have to be independent of their future and adapt with the modern era, which concerns the new knowledge, and one needs to create a good habit in order to create a good culture that everyone tries hard to seek out the new knowledge. Lastly, the users need to be careful on some website or application before they decide to know that knowledge; otherwise, those sites and program will affect their personal wealth or information. As the developer of the website and application, the new technology that they created need to be careful on system and assessment in order to let the user be convenience and satisfy. Moreover, they need to have more clear research on the knowledge that they upload to make sure the knowledge that they provide to the user is accurate and reliable to make their support have more self-development. On the other hand, their website or application no need to be more complicated for the user to use which let the users prefer other website or program. Not because of personal interest, the developer creates a website or program that harms the personal information or unethical behavior to the users.

5.3 Research Limitation and Future Research Suggestion

There are several limitations of this study while conducting the research. The first thing that concerned is the number of respondents because it cannot represent the user of using e-learning in Cambodia so that the future research should be surveyed with the larger size of the participant. The second limitation is about the moderating effect because it will have more factors that can influence or interrupt the intention of the user to use the e-learning. Thus, future research should be using another moderator in order to test because some factor may affect the intention and get the different result of research. The third limitation of this research is people in Cambodia just start to have the trend in the study online besides their academic study or workplace, so the users sometimes do not deeply to apply the actual use yet. In conclusion, the next research should concern the actual use of the user because the future of the e-learning user should have another idea of the e-learning. The fourth limitation is the interrelationship between the technology innovation and VAM factors and the interrelationship between technology innovation and TAM factors that have less reference for research. To sum up, the next research should concern some of these hypotheses in order to get a more concerned factor that is related to technology. The fifth limitation is those people who are unemployed and they participated to response the questionnaire and it can make the biassed value in demongraphic characteristic. Thus, the next research shound use the demographic "employed" and "unemployed", and the sample can target on general people in order to separate more clear group of employment section.

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APPENDIX QUESTIONNAIRE

Thank you very much for participating in this survey! The survey is being done by a master of business administration student in the Department of Business Administration at Nanhua University, Taiwan. All of the answers provided in this survey will be kept confidential. No identifying information will be provided to the public, individuals or organizations. The survey data will be reported for this study only.

You will be asked to rate how each statement describes you feel about the statements. Answers can range from strongly disagree (1), agree (2), neutral (3), agree (4), strongly agree (5). It will take approximately 20 minutes to complete the questionnaire.

សូមអរគុណច្រើនចំពោះការចូលរួមក្នុងការស្ទង់មតិនេះ!

ការស្ទង់មតិនេះកំពុងត្រូវបានធ្វើដោយនិស្សិតសិក្សាអនុបណ្ឌិតផ្នែកគ្រប់គ្រងអាជីវកម្មនៃនាយកដ្ឋានគ្រប់គ្រងពាណិជ្ជកម្មនៅសកលវិទ្យាល័យណានហ័រ,តៃវ៉ាន់។ចម្លើយទាំងអស់ដែលបានផ្តល់នៅ

ក្នុងការស្ទង់មតិនេះនឹងត្រូវរក្សាទុកជាការសម្ងាត់។មិនមានព័ត៌មានកំណត់អត្តសញ្ញាណដែលនឹងត្រូវបានផ្តល់ជូនសាធារណៈជនបុគ្គលឬអង្គការឡើយ។

ទិន្នន័យស្ទង់មតិនឹងត្រូវបានរាយការណ៍សម្រាប់គោលបំណងនៃការសិក្សានេះតែប៉ុណ្ណោះ។អ្នកនឹងត្រូវបានស្នើសុំឱ្យវាយតម្លៃពីរបៀបដែលសេចក្តីថ្លែងការណ៍នីមួយៗពណ៌នាអំពីអារម្មណ៍របស់អ្នកអំពីសេចក្តីថ្លែងការណ៍។ ចម្លើយអាចមានពីការ មិនយល់ស្របខ្លាំង(1) មិនយល់ព្រម(2) ធម្មតា(3)យល់ស្រប(4)យល់ស្របខ្លាំង(5)។

វានឹងចំណាយពេលប្រហែល20នាទីដើម្បីបំពេញកម្រងសំណួរ។

Section 1. Technology Innovation (ការច្នៃប្រឌិតនៃបច្ចេកវិទ្យា)		Levels of agreement (កម្រិតនៃការយល់ស្រប)				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងការច្នៃប្រឌិតនៃបច្ចេកវិទ្យាហើយបន្ទាប់មកគូររង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related with the **Technology Innovation**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(TI1)) If I see the new information technology related to e-learning, I would like to try it out. ប្រសិនបើខ្ញុំឃើញបច្ចេកវិទ្យាព័ត៌មានថ្មីៗដែលពាក់ព័ន្ធនឹងការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិត ខ្ញុំនឹងចង់សាកល្បងវា។	1	2	3	4	5
2	(TI2) Among my surrounded people, I am usually the first person who tries out new technology related to e-learning. ក្នុងចំណោមមនុស្សដែលនៅជុំវិញខ្ញុំ,ខ្ញុំជាមនុស្សដំបូងដែលព្យាយាមសាកល្បងបច្ចេកវិទ្យាថ្មីៗទាក់ទងនឹង ការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិត ។	1	2	3	4	5
3	(TI3) I like to be the first person who tries out the new information technology related to e-learning. ខ្ញុំចូលចិត្តក្លាយជាមនុស្សដំបូងដែលព្យាយាមសាកល្បងបច្ចេកវិទ្យាព័ត៌មានថ្មីដែលទាក់ទងនឹង ការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិត ។	1	2	3	4	5
4	(TI4) I would like to have experience with a lot of new information technology related to e-learning. ខ្ញុំចង់មានបទពិសោធន៍ជាមួយបច្ចេកវិទ្យាពត៌មានថ្មីៗឲ្យបានច្រើនដែលទាក់ទងទៅនឹង ការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិត ។	1	2	3	4	5
5	(TI5) I have passion and willingness to discover the new thing which is related to the technology of e-learning. ខ្ញុំមានចំណង់ចំណូលចិត្តនិងឆន្ទៈក្នុងការស្វែងយល់ពីរឿងថ្មីដែលទាក់ទងទៅនឹងបច្ចេកវិទ្យានៃការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិត ។	1	2	3	4	5
Section 2. Perceived Benefit (ការយល់ឃើញនូវអត្ថប្រយោជន៍)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងការយល់ឃើញនូវអត្ថប្រយោជន៍ហើយបន្ទាប់មកគូររង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related to the **Perceived Benefit**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(PB1) The information on the e-learning is helpful. ពត៌មាននៃការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតគឺមានប្រយោជន៍។	1	2	3	4	5
2	(PB2) The information on the e-learning is accurate. ពត៌មាននៃការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតគឺមានភាពត្រឹមត្រូវ។	1	2	3	4	5
3	(PB3) The information on the e-learning is up to date. ពត៌មាននៃការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតគឺតាមទាន់សម័យ។	1	2	3	4	5
4	(PB4) The information on the e-learning is reliable. ពត៌មាននៃការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតគឺអាចទុកចិត្តបាន។	1	2	3	4	5
5	(PB5) The information on the e-learning is concise. ពត៌មាននៃការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតគឺសង្ខេប។	1	2	3	4	5

Section 3. Perceived Sacrifice (ការយល់ឃើញនូវការលះបង់)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងការយល់ឃើញនូវការលះបង់ហើយបន្ទាប់មកគូរវង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related to the **Perceived Sacrifice**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(PS1) The system of e-learning is reliable. ប្រព័ន្ធការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតគឺអាចទុកចិត្តបាន។	1	2	3	4	5
2	(PS2) The system of e-learning is not interrupted by other advertisements. ប្រព័ន្ធការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតមិនត្រូវបានរំខានដោយការផ្សាយពាណិជ្ជកម្មផ្សេងទៀត។	1	2	3	4	5
3	(SP3) The system of e-learning is not interrupted by unrelated contents. ប្រព័ន្ធការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតមិនត្រូវបានរំខានដោយមាតិកាដែលមិនទាក់ទង។	1	2	3	4	5
4	(PS4) It takes a short time to load the content of knowledge. វាត្រូវការពេលខ្លីដើម្បីលេចចេញមាតិកានៃចំនេះដឹង។	1	2	3	4	5
5	(PS5) It is easy to access for all application and website. វាមានភាពងាយស្រួលក្នុងការចូលប្រើលើគ្រប់កម្មវិធីនិងគេហទំព័រ។	1	2	3	4	5
Section 4. Perceived Usefulness (ការយល់ឃើញនូវអត្ថប្រយោជន៍)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងការយល់ឃើញនូវអត្ថប្រយោជន៍ហើយបន្ទាប់មកគូរវង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related with the **Perceived Usefulness**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(PU3) e-learning would improve my job performance. ការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតនឹងធ្វើឱ្យការងាររបស់ខ្ញុំប្រសើរឡើង។	1	2	3	4	5
2	(PU7) e-learning improves the effectiveness of my job. ការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតធ្វើអោយប្រសើរឡើងនូវប្រសិទ្ធភាពនៃការងាររបស់ខ្ញុំ។	1	2	3	4	5
3	(PU8) e-learning would improve my quality performance in the workplace. ការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតនឹងធ្វើឱ្យប្រសើរឡើងនូវគុណភាពការងាររបស់ខ្ញុំនៅកន្លែងធ្វើការ។	1	2	3	4	5
4	(PU9) e-learning makes myself to be the productivity in the workplace. ការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតធ្វើឱ្យខ្លួនខ្ញុំមានផលិតភាពនៅកន្លែងធ្វើការ។	1	2	3	4	5
5	(PU12) Overall, I found that e-learning is useful for my development. សរុបមក ខ្ញុំគិតថាការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតមានប្រយោជន៍សំរាប់ខ្លួនខ្ញុំ។	1	2	3	4	5

Section 5. Perceived Ease of Use **(ការយល់ឃើញនូវភាពងាយស្រួលក្នុងការប្រើ)**		**Levels of agreement** **(កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងការយល់ឃើញនូវអត្ថប្រយោជន៍ ហើយបន្ទាប់មកគូរវង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related with the **Perceived Ease of Use**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(PEOU2) e-learning requires the easy analyze effort to understand. ការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតតម្រូវឱ្យមានភាពងាយស្រួលក្នុងការយល់។	1	2	3	4	5
2	(PEOU4) e-learning is hard to interact with when I found that something wrong in the context. ការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិតពិបាកក្នុងការទាក់ទង នៅពេលខ្ញុំឃើញថាមានអ្វីខុសនៅក្នុងបរិបទ។	1	2	3	4	5
3	(PEOU6) It is easy to find the various kind of explanation from e-learning. វាងាយស្រួលក្នុងការស្វែងរកការពន្យល់ផ្សេងៗពីការសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិត។	1	2	3	4	5
4	(PEOU8) It is easy for me to search for the knowledge that I want from the website and application of e-learning. វាងាយស្រួលសម្រាប់ខ្ញុំក្នុងការស្វែងរកចំណេះដឹងដែលខ្ញុំចង់បានពីគេហទំព័រនិងកម្មវិធីសិក្សាតាមប្រព័ន្ធអ៊ីនធឺណិត។	1	2	3	4	5
5	(PEOU10) Overall, it is easy to use the website and application when I want to study on e-learning. ជាទូទៅវាមានភាពងាយស្រួលក្នុងការប្រើប្រាស់គេហទំព័រនិងកម្មវិធីនៅពេលខ្ញុំចង់សិក្សា តាមអ៊ីនធឺណិត។	1	2	3	4	5
Section 6. Perceived Autonomy (ការយល់ឃើញនូវស្វ័យភាព)		**Levels of agreement** **(កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងការយល់ឃើញនូវស្វ័យភាពហើយបន្ទាប់មកគូរវង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related to the **Perceived Autonomy**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(PAUT1) I automatically feel that study the new knowledge from e-learning would be great. ខ្ញុំមានអារម្មណ៍ស្វ័យប្រវត្តិថាការសិក្សាពីចំនេះដឹងថ្មីតាមប្រព័ន្ធអ៊ីនធឺណិតនឹងមានភាពល្អប្រសើរ។	1	2	3	4	5
2	(PAUT2) I automatically feel that I am independent in perusing my soft skill when I study from e-learning. ខ្ញុំមានអារម្មណ៍ស្វ័យប្រវត្តិថាខ្ញុំឯករាជ្យក្នុងការប្រើជំនាញរបស់ខ្ញុំនៅពេលខ្ញុំរៀនពីការសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
3	(PAUT3) I automatically feel that I have the willingness to learn new knowledge from e-learning. ខ្ញុំមានអារម្មណ៍ស្វ័យប្រវត្តិថា ខ្ញុំមានឆន្ទៈរៀនសូត្រពីចំនេះដឹងថ្មីពីការសិក្សា	1	2	3	4	5

	តាមអ៊ីនធឺណិត។					
4	(PAUT4) I automatically feel that I would be better than others when I study from e-learning. ខ្ញុំមានអារម្មណ៍ស្វ័យប្រវត្តិថាខ្ញុំនឹងល្អប្រសើរជាងអ្នកដទៃពេលដែលខ្ញុំសិក្សាអ៊ីនធឺណិត។	1	2	3	4	5
5	(PAUT5) I automatically feel that I need to be independent in my way by starting to study from e-learning. ខ្ញុំមានអារម្មណ៍ស្វ័យប្រវត្តិថាខ្ញុំត្រូវមានភាពឯករាជ្យតាមរបៀបផ្ទាល់របស់ខ្ញុំដោយចាប់ផ្តើមសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
Section 7. Perceived Competence (ការយល់ឃើញនូវសមត្ថភាព)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងការយល់ឃើញនូវសមត្ថភាពហើយបន្ទាប់មកគូរវង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related to the **Perceived Competence**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(PCOM1) I think that it would be good to learn e-learning. ខ្ញុំគិតថានឹងល្អដើម្បីសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
2	(PCOM2)) I think that I would be better than others when I study in e-learning. ខ្ញុំគិតថាខ្ញុំនឹងល្អប្រសើរជាងអ្នកដទៃទៀតនៅពេលខ្ញុំសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
3	(PCOM3) I feel competent after I study in e-learning. ខ្ញុំមានអារម្មណ៍ថាមានសមត្ថភាពបន្ទាប់ពីខ្ញុំបានសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
4	(PCOM4) I feel that I adapt to various kind of problem when I study a lot in e-learning. ខ្ញុំមានអារម្មណ៍ថាខ្ញុំសម្របខ្លួនតាមប្រភេទផ្សេងៗនៃបញ្ហានៅពេលខ្ញុំសិក្សាច្រើននៅក្នុងអ៊ីនធឺណិត។	1	2	3	4	5
5	(PCOM5) I feel that I can solve some problem that I have learned from e-learning. ខ្ញុំមានអារម្មណ៍ថាខ្ញុំអាចដោះស្រាយបញ្ហាមួយចំនួនដែលខ្ញុំបានរៀនពីការសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
Section 8. Perceived Relatedness (ការយល់ឃើញនូវការទំនាក់ទំនងនឹងអ្នកដទៃ)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងការយល់ឃើញនូវការទំនាក់ទំនងនឹងអ្នកដទៃហើយបន្ទាប់មកគូរវង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related with the **Perceived Relatedness**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(PREL1) I have a chance to have much communication when I study in e-learning. ខ្ញុំមានឱកាសមានទំនាក់ទំនងជាច្រើននៅពេលខ្ញុំសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
2	(PREL2) My family, friend or colleague is happy when I study in e-learning.	1	2	3	4	5

	ក្រុមគ្រួសារមិត្តភ័ក្តិឬសហសេវិករបស់ខ្ញុំសប្បាយរីករាយនៅពេលខ្ញុំសិក្សាតាមអ៊ីនធឺណិត។					
3	(PREL3) I feel connected with my colleague and others when I study in e-learning. ខ្ញុំមានទំនាក់ទំនងជាមួយមិត្តរួមការងាររបស់ខ្ញុំនិងអ្នកដទៃទៀតនៅពេលខ្ញុំសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
4	(PREL4) My family, friend or colleague motivates me to study the new thing. គ្រួសារមិត្តភ័ក្តិឬសហសេវិករបស់ខ្ញុំជំរុញខ្ញុំឱ្យសិក្សាអ្វីដែលថ្មី។។	1	2	3	4	5
5	(PREL5) I would have much connection between people when I study in e-learning. ខ្ញុំនឹងមានទំនាក់ទំនងជាច្រើនជាមួយដទៃនៅពេលខ្ញុំសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
Section 9. Perceived Value (ការយល់ឃើញនូវគុណតម្លៃ)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងការយល់ឃើញនូវគុណតម្លៃហើយបន្ទាប់មកគូររង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related to the **Perceived Value**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(PV1) According to my effort, a study in e-learning is beneficial to me. យោងតាមកិច្ចខិតខំប្រឹងប្រែងរបស់ខ្ញុំការសិក្សាតាមអ៊ីនធឺណិតគឺមានអត្ថប្រយោជន៍ដល់ខ្ញុំ។	1	2	3	4	5
2	(PV2) According to my effort, a study in e-learning is value for me. យោងតាមកិច្ចខិតខំប្រឹងប្រែងរបស់ខ្ញុំ,ការសិក្សាតាមអ៊ីនធឺណិតគឺជាតម្លៃសម្រាប់ខ្ញុំ។	1	2	3	4	5
3	(PV3) According to the effort, a study in e-learning would be reliable and standard for me to use in the real situation. យោងតាមកិច្ចខិតខំប្រឹងប្រែងរបស់ខ្ញុំ,ការសិក្សាតាមអ៊ីនធឺណិតនឹងអាចទុកចិត្តបាននិងមានលក្ខណៈស្តង់ដារសម្រាប់ខ្ញុំក្នុងការប្រើប្រាស់ក្នុងស្ថានភាពជាក់ស្តែង។	1	2	3	4	5
4	(PV4) According to the effort, a study in e-learning would save my time to find the source of knowledge. យោងតាមកិច្ចខិតខំប្រឹងប្រែងរបស់ខ្ញុំ,ការសិក្សាតាមអ៊ីនធឺណិតនឹងជួយសន្សំពេលវេលារបស់ខ្ញុំដើម្បីរកប្រភពចំណេះដឹង។	1	2	3	4	5
5	(PV5) Overall, a study in e-learning gives a good value to me. ជាទូទៅ ការសិក្សាតាមអ៊ីនធឺណិតផ្តល់ឱ្យខ្ញុំនូវតម្លៃល្អ។	1	2	3	4	5
Section 10. Attitude (អាកប្បកិរិយា)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				

សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងអាកប្បកិរិយាហើយបន្ទាប់មកគួររង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related to the **Attitude**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(ATT1) It is intelligent using e-learning. វាពិតជាវៃឆ្លាតដោយប្រើការសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
2	(ATT2) It gives many benefits when I study in e-learning. វាផ្តល់អត្ថប្រយោជន៍ច្រើនណាស់នៅពេលខ្ញុំសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
3	(ATT3) It is good to study in e-learning. វាជាការល្អក្នុងការសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
4	(ATT4) I have positive thinking toward the e-learning. ខ្ញុំមានគំនិតវិជ្ជមានក្នុងការសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
5	(ATT5) Overall, I like to study in e-learning. ជារួម ខ្ញុំចូលចិត្តសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
Section 11. Subjective Norm (បទដ្ឋានតាមប្រធានបទ)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងបទដ្ឋានតាមប្រធានបទហើយបន្ទាប់មកគួររង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related to the **Subjective Norm**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(SN1) Most people are essential to me to make me focus on e-learning. មនុស្សភាគច្រើនមានសារៈសំខាន់ណាស់ចំពោះខ្ញុំក្នុងការធ្វើឱ្យខ្ញុំផ្តោតលើការសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
2	(SN2) Most people think that e-learning is good. មនុស្សភាគច្រើនកំពុងគិតថា ការសិក្សាតាមអ៊ីនធឺណិតគឺល្អ។	1	2	3	4	5
3	(SN3) Most people also start to study in e-learning too. មនុស្សភាគច្រើនក៏ចាប់ផ្តើមសិក្សាតាមអ៊ីនធឺណិតផងដែរ។	1	2	3	4	5
4	(SN4) Most people often share e-learning material and context in Social Media too. មនុស្សភាគច្រើនជារៀយៗតែងចែករំលែកសម្ភារៈនិងបរិបទសិក្សាតាមអ៊ីនធឺណិត ក្នុងប្រព័ន្ធផ្សព្វផ្សាយសង្គមផងដែរ។	1	2	3	4	5
5	(SN5) Overall, Most people prefer to study in e-learning. ជាទូទៅ មនុស្សភាគច្រើនចូលចិត្តសិក្សាតាមអ៊ីនធឺណិត ។	1	2	3	4	5
Section 12. Security Risk (ហានិភ័យនៃសុវត្ថិភាព)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងហានិភ័យនៃសុវត្ថិភាពហើយបន្ទាប់មកគួររង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related with the **Security Risk**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)

1	(SECR1) e-learning never gets interrupted by any advertisement when I study. ការសិក្សាតាមអ៊ីនធឺណិតមិនដែលត្រូវបានរំខានដោយការផ្សាយពាណិជ្ជកម្មនៅពេលខ្ញុំសិក្សា។	1	2	3	4	5
2	(SECR2) e-learning never gets interrupted by the Virus when I study. ការសិក្សាតាមអ៊ីនធឺណិត មិនដែលត្រូវបានរំខានពីវីរុសនៅពេលខ្ញុំសិក្សា។	1	2	3	4	5
3	(SECR3) e-learning never makes my smartphone/computer operates slowly. ការសិក្សាតាមអ៊ីនធឺណិតមិនដែលធ្វើឱ្យទូរស័ព្ទរឺកុំព្យូទ័ររបស់ខ្ញុំដំណើរការយឺតៗទេ។	1	2	3	4	5
4	(SECR4) e-learning never loads the unrelated content when I study. ការសិក្សាតាមអ៊ីនធឺណិតមិនដែលផុសនូវមាតិកាដែលមិនទាក់ទងនៅពេលខ្ញុំសិក្សា។	1	2	3	4	5
5	(SECR5) e-learning never makes my phone or computer to use much battery or electricity. ការសិក្សាតាមអ៊ីនធឺណិតមិនដែលធ្វើឱ្យទូរស័ព្ទឬកុំព្យូទ័ររបស់ខ្ញុំប្រើថ្មឬអគ្គីសនីច្រើនទេ។	1	2	3	4	5
Section 13. Privacy Risk (ហានិភ័យឯកជន)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងហានិភ័យឯកជនហើយបន្ទាប់មកគូរវង្វង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related to the **Privacy Risk**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(PVR1) I think that e-learning provider would not send my personal information to the third party. ខ្ញុំគិតថាអ្នកផ្តល់ការសិក្សាតាមអ៊ីនធឺណិតនឹងមិនបញ្ជូនព័ត៌មានផ្ទាល់ខ្លួនរបស់ខ្ញុំទៅឱ្យភាគីទីបីឡើយ។	1	2	3	4	5
2	(PVR2) I think that e-learning provider may not send spam to my mail. ខ្ញុំគិតថាអ្នកផ្តល់ការសិក្សាតាមអ៊ីនធឺណិតប្រហែលជាមិនផ្ញើសារឥតបានការទៅសំបុត្ររបស់ខ្ញុំទេ។	1	2	3	4	5
3	(PVR3) I think that my account may not hack by any e-learning website or application. ខ្ញុំគិតថាគណនីរបស់ខ្ញុំប្រហែលមិនត្រូវបានបន្លំដោយគេហទំព័ររឺកម្មវិធីសិក្សាណាមួយឡើយ។	1	2	3	4	5
4	(PVR4) I think that some website or application may not let me register that I feel bored with accessing the e-learning. ខ្ញុំគិតថាគេហទំព័រឬកម្មវិធីមួយចំនួនប្រហែលជាមិនអនុញ្ញាតឱ្យខ្ញុំចុះឈ្មោះទេ ហើយខ្ញុំមានអារម្មណ៍ធុញទ្រាន់ចំពោះការចូលសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
5	(PVR5) I think that some website or application may not let me download any program in order to access their site of e-learning.	1	2	3	4	5

	ខ្ញុំគិតថាគេហាទំព័រឬកម្មវិធីមួយចំនួនអាចមិនអនុញ្ញាតឱ្យខ្ញុំទាញយកកម្មវិធីណាមួយដើម្បីចូលទៅកាន់គេហាទំព័រសិក្សារបស់ពួកគេ។					
Section 14. Behavioral Intention (បំណងក្នុងការប្រើ)		**Levels of agreement (កម្រិតនៃការយល់ស្រប)**				
សូមពិនិត្យមើលសំណួរខាងក្រោមដែលពាក់ព័ន្ធនឹងបំណងក្នុងការប្រើហើយបន្ទាប់មកគូរវង់ទៅលើកម្រិតនីមួយៗខាងក្រោមផ្អែកលើគំនិតរបស់អ្នក។ Please take a short look at the questions below related to the **Behavioral Intention**, and then **CIRCLE** the level of agreement on each of the items below base on your opinion		**Strongly disagree** (មិនយល់ស្របខ្លាំង)	**Disagree** (មិនយល់ព្រម)	**Neutral** (ធម្មតា)	**Agree** (យល់ស្រប)	**Strongly agree** (យល់ស្របខ្លាំង)
1	(BI1) I would like to study in e-learning. ខ្ញុំចង់សិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
2	(BI2) I would like to recommend the importance of e-learning. ខ្ញុំនឹងណែនាំពីសារៈសំខាន់នៃការសិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5
3	(BI3) I am planning to continue to study at e-learning in the future. ខ្ញុំមានគម្រោងបន្តការសិក្សាតាមអ៊ីនធឺណិតនាពេលអនាគត។	1	2	3	4	5
4	(BI4) I would like to study in e-learning when I have free times. ខ្ញុំចង់សិក្សាតាមអ៊ីនធឺណិតនៅពេលខ្ញុំមានពេលទំនេរ។	1	2	3	4	5
5	(BI5) I would like to have a habit of study in e-learning. ខ្ញុំចង់មានទំលាប់សិក្សាតាមអ៊ីនធឺណិត។	1	2	3	4	5

Respondent Information

អ្នកឆ្លើយសំនួរ

For our information, would you please indicate the following questions:

សម្រាប់ជាព័ត៌មានសូមឆ្លើយសំនួរខាងក្រោម

1. Gender

១. ភេទ

☐ Male ☐ Female

☐ ប្រុស ☐ ស្រី

2. Age

២. អាយុ

☐<20 years old ☐21-30 years old ☐31-40 years old

☐41-50 years old ☐>50 years old

☐<20 ឆ្នាំ ☐21-30 ឆ្នាំ ☐31-40 ឆ្នាំ ☐41-50 ឆ្នាំ ☐>50 ឆ្នាំ

3. The frequency of using the Internet

៣. ភាពញឹកញាប់នៃការប្រើអ៊ិនធឺណិត

☐<1 hour/day ☐1 to < 2 hours/day ☐2 to <3 hours/day

☐>3 hours/day

☐ <1 ម៉ោង / ថ្ងៃ ☐ 1 ទៅ <2 ម៉ោង / ថ្ងៃ ☐ 2 ទៅ <3 ម៉ោង / ថ្ងៃ

☐> 3 ម៉ោង/ ថ្ងៃ

4. Education Level

៤. កំរិតអប់រំ

☐Fresh graduate from high school ☐Bachelor ☐Master

☐Ph.D.

☐បញ្ចប់ការសិក្សាពីវិទ្យាល័យ ☐បរិញ្ញាបត្រ ☐អនុបណ្ឌិត

☐បណ្ឌិត

5. Occupation

៥. មុខរបរ

☐Front-line staff ☐Back office staff ☐Middle management staff

☐Executives (Top management staff)

☐បុគ្គលិកជួរមុខ ☐បុគ្គលិកការិយាល័យ ☐បុគ្គលិកគ្រប់គ្រងហាន:កណ្តាល

☐បុគ្គលិកគ្រប់គ្រងហាន:ជាន់ខ្ពស់

6. Type of industry

៦. ប្រភេទនៃឧស្សាហកម្ម

☐Production/Manufacturing industry ☐Service industry

☐ឧស្សាហកម្មផ្នែកផលិតកម្ម ☐ឧស្សាហកម្មផ្នែកសេវាកម្ម