International Journal of Engineering & Technology, 7 (3.35) (2018) 196-199

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

Determinants of UITM Johor students' behavioral intention to use e-learning system

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Abstract

Recently, there are many universities in Malaysia including local and private implemented and developed an e-learning system for various purpose. Along with the era of using technology, many universities take this opportunity to further develop the e-learning system for using by students as well as an educator. Hence, this research aims to investigate the relationship between Perceived ease of use, perceived Usefulness, Attitude, E-learning self-efficacy and behavioral intention to use e-learning .The structural model was developed based on Technology Acceptance Model (TAM).223 respondents comprising of UiTM Johor students as a user of e-learning system participated in this survey. Simple random sampling technique was used to measure the Perceived ease of use, perceived Usefulness, Attitude, E-learning self-efficacy and behavioral intention to use e-learning. Pearson correlation was used to measure the relationship between the variables. The results indicate significant relationship between all the independent variable (Perceived ease of use, perceived Usefulness, Attitude, E-learning self-efficacy) with the dependent variable (behavioral intention to use e-learning).Findings from the study would be beneficial to university especially for UiTM and relevant department to keep maintain the system as well as to ensure the system is fully utilized by student and educator as an educational platform.

Keywords: *E-Learning; Behavioral Intention; Technology Acceptance Model.*

1. Introduction

E-learning is not something new nowadays. It is a medium that across the time and became a trending. Application of technology in education also not a new phenomenon but it is already implemented in the world of education. Mishra & Koehler (2007) define technology is related to using of computer, software, and mechanism. E-learning is referring to learning session conducted via using electronic media, computer and internet.

E- learning mostly used as a method in teaching and applied in the classroom. In generally, student came from different background and level of thought. Before the era of technology begin, lecturer are more rely on verbal components such as voice, body language, face expression and body movements to deliver the information and knowledge to students. This is the traditional method use by a lecturer to attract and engage with their students. So, it is becomes a challenges for a lecturer to deliver a knowledge for them. This is the new revolution in teaching and learning style contradict with the traditional method that has been outdated where students need to copy the notes from white board, overhead projector and wait until the lecturer finish explained the topic (Collins & Halverson, 2009;Cuban, 2001).By using e-learning system, students can see visually and can record it. The use of e-learning system also can assist students to complete a task given by a lecturer (Shepherd & Mullane, 2010).Student also not only using the searching tools like internet to search for any information but the students also can download the notes and teaching material in the form of electronic portable document (e-PDF).This is an advantage for student to access the information. However, it is also has pro and cons where student will no more using a text book. Indirectly, it will reduce the habit of reading text book and preparing the notes by their own self.

The used of e-learning is the good exposure to students but sometimes the disruption of connection will interfere the process of teaching and learning. According to James (2003),many higher educational institutions failed to sustain this system for long term because there are some obstacles need to be faced by such as delivery, effectiveness and acceptance of the course (Saade, 2003).This will lead to failed to meet the successful strategies and objective of university to well used this system in learning process.

Consequently, developers and delivers of e-learning system need to really understanding on student perceived and responses through the e-learning system (Koohang & Durante, 2003).According to (Grandon, Alshare, & Kwun, 2005),in order to implement this system, it is necessary to investigate the student behavioral intention to use e-learning system.

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2. Research objectives

This study proposed an integrated theoretical framework of investigation student behavioral intention of using e-learning system based on Theory Acceptance Model (TAM).The objective of the study to identify the demographic information of respondents such as gender, education level, faculty, level of skill using e-learning system and purpose of using e- learning in terms of frequency. Secondly, the study also analyzed the relationship between independent variable (Perceived usefulness, Perceived ease of use, Attitude, Self efficacy) and dependent variable (Behavioral intention to use e-learning).The theoretical framework also developed based on Theory of Acceptance Model (TAM) and descriptive analysis also conducted to all variables.

3. Literature review

a) Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is a model proposed by Davis in year 1986.TAM is one of the widely used models to test the level of e-learning system adoption among the researcher in international technology and information system for over the last 30 year (Diana, Bahry, Anwar, & Amran, 2012;Sumak, Hericko, Pusnik, & Polancic, 2011).

TAM is used for predicting user acceptance by linking between beliefs Perceived Usefulness of a system and Perceived Ease of Use of a system with the dependable variable (Davis, 1985).Several studies had conducted by using TAM model to explain on adoption of e-learning (Lee,2006; Selim,2003).They conducted a study on student perception using an e-learning system and found a several predictors such as perceived ease of use, perceived usefulness and intention had positive sign towards using of e-learning system. To study the behavioral intention of using e-learning system among UiTM Johor student, there are two extended variable had be applied thru the study based on past literature review.

b) Perceived Usefulness

Perceived usefulness can be defined as the degree of person believes of using the particular information system to enhance his or her work performance. Perceived usefulness is very importance because it shows the probability to complete a given task by using a technology. A study conducted by Pikkarainen, Pikkarainen, Karjaluoto, & Pahnila (2004) found the perceived usefulness is a determinant of actual behaviour which encourage a user to become more innovative while using technology.

c) Perceived Ease of Use

Perceived Ease of use refers as how easy and how many effort required by user during their application usage (Davis, 1985). Similar to perceived usefulness, many of the researchers found up that perceived ease of use also having a positive effect with behavioural intention (Chandio, 2014) and (Albert, 2004). So we can expect that the hypotheses will be:

d) Attitude towards use

Attitude towards use is an indication of people feelings towards the information systems. In other words it can be categorized as a summary of evaluation whether they like or doesn't towards the system upon usage (Sumak et al 2011).

An individual is more probable to assume a certain behaviour if she or he has a positive attitude towards undertaking the behaviour (Ajzen & Fishbein, 1985).This point is supported by Blackwell et al (2016) indicated the evaluation of performing a particular behavior is connected to the attitude towards object.

Armitage & Conner (2000) conducted a study on cognition model and health behavior found an attitude can be explained as individual evaluation from point of view either from positive or negative site. This is supported by

Eagly & Chaiken (1993) stated an attitude also can evaluate decision by specific entities from the slight of agreement or disagreement.

e) Self-efficacy

Self-efficacy can be defined as people's beliefs about their capabilities or skills to produce designated levels of performance that exercise influence over events that affect their lives. It also can determine as how people feel, think, motivate themselves and behave through the information system usage. Such beliefs produce these diverse effects through four major processes which is cognitive, motivational, affective and selection processes (Bandura, 1982).

f) Behavioral Intention

Behavioral intention is referring to individual position that produce a subjective probability to link with him or herself actions (Ajzen & Fishbein, 1975). Armitage & Conner (2000) explained behavioral intention connected with intention and as motivation for individuals to perform a behavior. This point was supported by Ajzen & Fishbein (1975) who interpreted the behavioral intention of individual's is subjected to probability of he or she engaged to the behavior

4. Hypotheses development

Based on research objective and related literature, this study tested the following hypotheses:

a) H1: The attitude influence the students' behavioral intention to use e-learning system
b) H2: The perceived of usefulness influence the students' behavioral intention to use e-learning system
c) H3: The perceived ease of use influence the student's behavioral intention to use e-learning system
d) H4 : The self-efficacy influence the students' behavioral intention to use e-learning system

5. Methodology

This study is a descriptive research employing the survey method through the distribution of questionnaires. A set of questionnaires were distributed to respondents and personally administrated to ensure a high response rate. Sampling techniques is used a simple random sampling. A total of 223 respondents, comprising of full time and part time students as a user of e learning system in UiTM Johor participant in this survey. The respondents are taken based on experience using an e-learning system. The study was employed a descriptive analysis, Pearson correlation analysis and Multiple regression analysis to establish the relationship between variables. To the test the reliability and validity, Cronbach's Alpha was used to test both consistency and stability; whereby result for alpha is 0.953 indicating it is acceptable.

6. Results and discussion

A set of question are given to the respondents. The questionnaire is divided into a several section such as demographic profile (section A) and Section B.

Table 1: Demographic Profiles

	Categories	Frequency	Percentage (%)
Gender	Male	51	22.9
	Female	172	77.1
Education level	Diploma	146	65.47
	Bachelor Degree (Full Time)	50	22.42
	Bachelor Degree (Flexible Learning)	27	12.1
Faculty	Faculty of Computer Science and Mathematical	132	59.2
	Faculty of Business Management	86	38.6
	Faculty of Accountancy	5	2.2
Level of E-	Expert	44	19.7

Learning skill	Good	140	62.8
	Neutral	39	17.5
Purpose of using E-Learning	Document and Teaching Material Download	153	68.6
	Forum and Discussion	5	2.2
	Quizzes	11	4.9
	Online Lecture and Blended Learning	32	14.3
	Online Assignment	22	9.9

Demographic information obtained from the respondents included gender, education level, faculty, level of e-learning skill and purpose of using e-learning skill. This information was deemed necessary for this study in order to determine the demographic profile of respondents that affected the behavioral intention to use e-learning.

250 questionnaires distributed randomly to farmers. However, only 223 questionnaires can be used and completely answered by respondent. Out of 223 respondents, 172 (77.1%) are male. The majority.65.47% respondents hold diploma and 34.52% are hold bachelor degree. Majority of the respondents (59.2%) are from the Faculty of Computer Science and Mathematical, 38.6% from Faculty of Business Management and 2.2% from Faculty of Accountancy.

In term of level skill, majority of the respondent (62.8%, 140 respondents) had a good level of skill using e-learning system. Student are tendency to use e-learning for document and teaching material download (68.6%, 153 respondents) and less use for forum and discussions (2.2%, 5 respondents).

Table 2: Descriptive Analysis

Variables	Mean	Standard deviation
Perceived ease of use	3.90	0.89
Perceived usefulness	3.78	0.86
Attitude	3.71	0.84
Self-efficacy	3.53	0.81
Behavioral intention	3.62	0.79

Based on table 3, it can be observed that the highest score of mean is perceived ease to use (Mean =3.90, standard deviation=0.89).It indicate that Perceived ease of use is an important factor that influence the student behavioral intention to use e-learning system. The mean score for perceived ease of use is tend to 4 which means majority of the respondents agreed the ease of use became an important factor influence their behavioral intention to use e-learning system. The second is Perceived usefulness (Mean =3.78, standard deviation=0.86).Attitude have a mean score 4.28 (standard deviation=1.09) and the lowest mean is self-efficacy with mean 3.62 (standard deviation=0.79).The dependant variable which is intention to participate have a mean score 3.62 (0.79).

Table 3: Multiple Regression Analysis

Coefficients						
Model	Unstandardized coefficients		Standardized Coefficients		Sig.	Result of hypotheses
	B	Std. error	Beta	T		
(constant)	0.214	0.113		1.901	0.059	
Perceived ease of use	0.168	0.053	0.190	3.188	0.002	supported
Perceived usefulness	0.219	0.56	0.239	3.939	0.000	supported
Attitude	0.193	0.057	0.206	3.378	0.001	supported
Self-efficacy	0.344	0.047	0.354	7.345	0.000	supported

Regression analysis of coefficient test as exhibited in Table 3 is used to test the coefficient between independent variables and dependent variable. The results from the table shows that Beta of self efficacy is 0.354, followed by Perceived usefulness (0.239), attitude (0.206) and perceived ease of use (0.190).Based on results, self efficacy show the higher impact on behavioral intention which is 0.354 for the beta value.

Referring to significant value, all the variables are significant predictors to Intention to participate in Agriculture Takaful, which are Perceived ease of use (p=0.002), Perceived usefulness (p=0.000), attitude (p=0.001) and self efficacy (p=0.000).Hence, it can conclude all the variable had a significant impact towards students' behavioral intention to use e-learning system.

7. Conclusion

The study validate the Theory of Acceptance Model (TAM) and able to explain the behavioral intention to use e-learning system. The findings prove the model is well presented the data based on goodness of test conducted.

The findings of this study prove all the four dimensions (Perceived ease of use, perceived usefulness, attitude and self efficacy) can be used to predict the student behavioral intention to use e-learning system. However, the result from multiple regression analysis also supported that all the variable are most significant factors in determine behavioral intention. On the demographic profile, several

Information's can be used as guidelines for developer of the system. The frequency analysis show 68.6% of students are used e-learning system for document and teaching material download.

Several implications can be derived from this study. Firstly, it can assist the university to strategize their planning in order to enhance to using of e-learning system among the student as well as educators. According to result, students are shown the good attitude towards e-learning system, hence this is become a good opportunity for university and especially for developer to keep maintain and upgrade the system from time to time. On the other hand, students also have a higher level of self-efficacy and totally rely on the e-learning system to accomplish a task. Thus, the related parties must continue to keep promote and encourage student to use this system from now and in future time to ensure it effectiveness.

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