Students' Acceptance of Online Learning in KUIS

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***Abstract*--This paper explores the students' acceptance on online learning courses developed under My Learning Management System (MyLMS) by Kolej Universiti Islam Antarabangsa Selangor (KUIS). This study was conducted to 99 first year students of Faculty of Management and Muamalah (FMM) where a web-based survey is developed to understand their acceptance on the online learning provided. Due to the online learning was actively applied in KUIS since the past three years, the primary objective of this study was to identify the students' acceptance on MyLMS offered by KUIS. Additionally, the research aimed to identify the determinants of students' acceptance on the online learning and to investigate how these determinants can shape students' intention to use the online learning. . The study also provides an indicator of students' acceptance of e-learning as well as identifying the important factors that would contribute to its successful use. Generally, the students' acceptances on the application of online learning through MyLMS are very well. The results reveal that students' perceived usefulness has significantly influence students' intention to use online learning and perceived ease of use and perceived usefulness influence students' attitudes to towards using the online learning. However, attitude towards using has not significantly influence students' intention to use online learning.**

***Keywords*: online learning, MyLMS, students' acceptance, TAM Model.**

I. INTRODUCTION

Advances in information technology especially through the technology devices, has impacted most aspects of lives nowadays. Slowly the technology has taken place the role of disseminating information in a traditional way. The technology is changing the way people, firms and institutions present, disseminate and communicate their messages, creating a ubiquitous learning environment and an accelerating information society. In an information society, achieving a high level of acquisition and management of knowledge will be one of the key competitive advantages (Song, 2010).

The rapid growth of internet-based technology or innovations has resulted in many approaches to learning development, manifested in different forms of e-learning (Shawar, B., Al-Sadi, J. & Sarie, T., 2007). The learning and teaching process is expected to be more interactive using the blended learning systems. The recent technology infusion has caused participation and communication methods in traditional university classrooms to change. In this context, the use of electronic learning or e-learning is increasingly prevalent in many higher educational institutions (HEIs) or universities in Malaysia. E-learning exists because of computer technology (Maslin, 2007).

There are many definitions about e-learning. It is defined as delivery of education (all activities relevant to instructing, teaching, and learning) facilitated and supported through the utilization of information and communication technologies (ICTs) (Jenkins & Hanson, 2003; Nevine, 2014). Based on this definition, e-learning concept is the use of ICTs (e.g. Internet, computer, telephone, radio, video and others) to support teaching and learning activities.

Farhat (2013) outlines three approaches of e-learning: (i) geographically dispersed interaction of students with instructors and others at the same time through web; (ii) embedded learning where information is accessible online on an own pace self-help without live interaction between instructor-students; and (iii) blended method involves the integration of traditional classroom face-to-face learning experiences with online learning experiences.

The pedagogical thinking around e-learning is closely related to the computer-based training. The point is to deliver courses for students. E-learning system can be developed in various ways depend on the requirement of the HEIs. Some of HEIs only limited to course materials delivery through web and the others have had integral framework for their e-learning system to be used for regular students and distance students. Hence, students can now use technology to receive class notes or information, take assessments and communicate whenever and wherever the need arises (Maslin, 2007).

In today's competitive environment, schools need to be fully cognizant of the views and feelings of their primary stakeholders – the students. Given the fact that the students are at the centre of this process, it is imperative that their views on their experiences be obtained before contemplating any shift from the traditional face-to-face modality to blended learning. Failure to appreciate the views and feelings of students could result in the lowering of satisfaction (Kistow, 2011).

E-learning is not new to KUIS (International Islamic University College Selangor) students. This web based learning which is called MyLMS (My Learning Management System) has been introduced since 2010 but actively being used starting 2011. The objective of this application is to provide ease of use of learning and sharing of course materials to the students besides interactive communication between the students, the lecturers and the administrator. It is expected that e-learning is going to be a self-learning time (SLT) for the students to continue their learning process after the face to face lectures and tutorial. In order to find how the students' acceptance on this application, a survey was conducted to the first year students of Faculty of Management and Muamalah, KUIS. A set of questionnaire were shared to the students using MyLMS and Whatsapp application using a specific link created from google sheet application.

II. Research Objectives

The study was conducted to first year students because this is new experience to the students as compared to their previous experience at school. Therefore, this study is intended to identify the students' acceptance on MyLMS offered by KUIS. The purpose of the research is to identify the determinants of students' acceptance of online learning and to investigate how these determinants can shape students' intention to use online learning. A conceptual framework based on the Technology Acceptance Model (TAM) was modified. A questionnaire was developed and used to solicit information from the 99 undergraduate students who used online learning in KUIS. In this paper, the researcher will identify the percentage of students registering wifi facilities at the hostels to enable the students utilizes e-learning from hostels. The theoretical framework of this university college students' e-learning acceptance and intention to use technology is based on the technology acceptance model (TAM). It considers the impact of perceived ease of use and perceived usefulness on students' intention and attitude to use e-learning in their studies.

III. Theoretical framework

The theoretical framework adopted from Technology Acceptance Model TAM, of which one of the well-known models related to technology acceptance proposed by Davis in 1986. TAM provides a basis with which one traces how external variables influence belief, attitude, and intention to use. Two cognitive beliefs are posited by TAM: perceived usefulness and perceived ease of use. According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system. TAM also proposes that external factors affect intention and actual use through mediated effects on perceived usefulness and perceived ease of use.

He proposed that perceived ease of use and perceived usefulness of technology are predictors of user attitude towards using the technology, subsequent behavioural intentions and actual usage. Perceived ease of use was also considered to influence perceived usefulness of technology.

TAM has been applied in numerous studies testing user acceptance of information technology, for example, word processors (Davis et al., 1989), spreadsheet applications (Mathieson, 1991), e-mail (Szajna, 1996), web browser (Morris & Dillon, 1997), telemedicine (Hu et al., 1999), websites (Koufaris, 2002), e-collaboration (Dasgupta, Granger & Mcgarry, 2002), blackboard (Landry, Griffeth & Hartman, 2006), e-learning (Masrom, 2007), e-portfolio systems (Ronnie, 2011), blended e-learning (Butorac, 2011) and web based learning system (Khorasani & Zeyun, 2014).

IV. Defining The Research Hypotheses

According to Ajzen and Fishbein (2005), ATU drives behaviour and refers to have Figure 2 presents the relationship between components adopted from TAM (Davis, 1989). In this study, there are five hypothesis developed to identify the following relationships:

H1 = perceived usefulness (PU) will significantly influence students' intention to use (ITU) e-learning.

H2 = Perceived usefulness (PU) will significantly influence students' attitude to using (ATU) e-learning.

H3 = Perceived ease of use (PEU) will significantly influence students' attitude to using (ATU) e-learning.

H4 = Perceived ease of use (PEU) will significantly influence perceived usefulness (PU).

H5 = Attitude towards using (ATU) will significant influence students' intention to use (ITU) e-learning.

V. Research Methodology

In order to find how the students' acceptance on this application, a survey was conducted to the first year students of Faculty of Management and Muamalah, KUIS. A set of questionnaire were shared to the students on MyLMS and using WhatsApp application and they need to answer the questionnaire using a specific link created using google sheet application. The questionnaire consists of 3 parts:

demographic information, 16 constructs of questions (on attitude towards using to perceived ease of use, perceived usefulness and intention to use) adopted from Butorac et al., 2011 on Technology Acceptance Model and an open ended question on opinion for improvement.

The data in the study was gathered from a set of questionnaire distributed to 740 first year students of Faculty of Management and Muamalah (FPM). This study focusing on social sciences students of the faculty, excluding communication and language studies students. The questionnaire was used as it is an effective tool to collect large amount of data within short period of time (Saunders et al., 2009).
Related literatures on e-learning from previous studies have been reviewed to identify the measures for constructs that have been applied. The first section relates to students' demographics; respondents were asked four questions including program, semester, gender and wifi registration status in hostel. The second section relates to the measurement of factors assumed to impact on e-learning acceptance that consists of *perceived ease of use* (PEU), *perceived usefulness* (PU), *attitude towards use* (ATU) and *intention to use* (ITU) constructs are adopted from previous researches (Masrom, 2007; Al-Adwan et al, 2013; Shroff et al, 2011; Song, 2010). The research model consists of 16 items with each construct being measured by 5-Likert scale options (strongly agree, agree, not sure, disagree and strongly disagree). All respondents had been given a brief introduction about the purpose of the study and some instructions to help them complete the survey.

VI. Analysis and discussion of the results

Data are collected electronically and automatically stored into database. The software package SPSS 16.0 was used for statistical analysis. The categorical data were described by frequencies and percentages, while numerical data by means and standard deviations. Regression analysis was applied to determine statistically significant relationships between variables.

From a total of 740, 99 respondents were responded and submitted their answers through both email and WhatsApp comprised of 13.4% of the samples. From 99 respondents, 72.7% are female and 27.3% are male. The students are categorized into 5 groups according their program department, namely Department of Business Management (DBM), Department of Human Potential Management, Department of Economics, Department of Accounting and Department of Banking and Finance. The distributions of the respondents are shown in **Table 1.**

It was found that majority of the respondents did not register for wifi internet facility at hostel (mahallah) which comprised of 72.7%. This may indicate that the students seem do not have any intention to use the e-learning MyLMS from their hostels using the computer because they may access e-learning from their hand phones and gadgets.

The descriptive statistics of the four constructs are shown in **Table 2**. The standard deviations range from 0.73 and 1.17 indicating a narrow spread around the mean, and all means are above midpoint of 2.00.

Measurement validity in terms of reliability and construct validity was evaluated. The reliability analysis was conducted in order to ensure the internal validity and consistency of the items used for each variables. (Santos, J.R, 1999) recommended that Cronbach alpha values with an overall raw alpha of .77 which is good, considering that .70 is the cutoff value for being acceptable**. Table 3** shows the reliability of the measurement scales. Total Cronbach's alpha reliability scores is 0.904 which is very good, considering that 0 .70 is the cutoff value for being acceptable (Santos, J.R, 1999). Hence, the results demonstrate that the questionnaire is a reliable measurement instrument.

Factor analysis was performed to examine the construct validity of measures for this study. The KMO Bartlett's test result of 0.858 is statistically significant at the level of $p<0.001$. This convergent validity evaluates whether the items of a variable are converging together on a single construct or not Butorac et al. (2011). Principal factor analysis with varimax rotation was conducted to access the underlying structure for the 16 constructs of TAM questionnaire. All of the variables were included in the final factor model. Four factors were requested which interpret 72.937% of the total variance, 25.653% for factor no.1, 23.442% for factor no.2 and 12.896% for factor no.3 and 10.946% for factor no.4. **Table 4** display the items and factor loadings for the rotated factors, with loading more than 0.50 to be valid value of factor loading for each item, which indicates a good convergent validity (Al Adwan A ,et al., 2013), Butorac et al. (2011) and Santos, J.R, (1999).

The results show that all factor loading were above 0.5 which indicates a good converging validity (A. Adwan et al, 2013) except item 6 the factor loading is $0.444 < 0.5$ is acceptable. The items used are converging together on a single construct.

Hypothesis testing and regression analysis.

H1 = Perceived usefulness has significant effect on intention to use.
H2 = Perceived usefulness has significant effect on attitude towards using.
H3 = Perceived ease of use has significant effect on attitude towards using.
H4 = Perceived usefulness has significant effect on perceived ease of use.
H5 = Attitude towards using has significant effect on intention to use.

A regression analysis was conducted to test the first Hypothesis (H1), i.e. *Perceived usefulness* as an independent variable and *intention to use* (ITU) as dependent variable. **Table 5** below summarizes the result of regression used to test H1.

As seen, *perceived usefulness* (PU) has significantly influenced *intention to use* (ITU) (*P<0.05*). Therefore, PU dramatically impacts on ITU. Consequently, hypothesis 1 (H1) is supported.

Hypothesis 2 (H2) was also tested; *perceived usefulness* (PU) was independent and *attitude towards use* (ATU) was dependent.

The results in **Table 6** indicate that PU has significant influence on (ATU) (P<0.05). Therefore, hypothesis 2 (H2) proves to be supported and PU has influence on the attitude of students' (ATU).

As appears in **Table 7**, the test of Hypothesis 3 (H3) shows that *perceived ease of use* (PEU) has a significant influence on *attitude towards use* (ATU) (*P<0.01*). Thus, PEU significantly influences the attitude of students (ATU).

Regarding Hypothesis 4 (H4), the regression analysis shows that *perceived usefulness* (PU) significantly influences *perceived ease of use* (PEU) (*P<0.05*). The results presented in **Table 8** indicate that PU significantly influences PEU.

Finally, hypothesis 5 (H5) is not supported. As **Table 9** shows, attitude towards use (ATU) has no significant impact on ITU (*P>0.05*).

Table 10 summarises the results obtained from testing the research hypotheses. The results confirmed that there was a statistical correlation between the predicted directions of the research model. Overall, four hypotheses out of five hypotheses were supported by the collected data. PEU was found consistent with prior related research (Masrom, 2007 and Al- Adwan et al 2013), it had a significant effect on PU with P<0.05, and it also had a significant effect on ATU with P<0.05. Consistent with the proposed research hypotheses, PU has significant effect on ITU with P<0.05, and it also had a significant effect on ATU with P<0.05. Inconsistent with the proposed research hypotheses, ATU has no significant effect on ITU with P>0.05.
From an open ended question of the survey, the students have suggested few recommendations for e-learning improvement in KUIS. Out of 29 respondents (29.3%), 12 respondents (41.4%) requested for free wifi facility in KUIS, 8 respondents (27.6%) suggesting blended learning (face to face and e-learning) and 9 respondents (31%) suggesting an upgrade to the system interface to make e-learning interesting, easy to use and secured.

VII. Conclusion

The purpose of this study was to report the findings of determinants of KUIS students' acceptance and intention of using e-learning. Generally, the students were well accepting the application of MyLMS in their learning process. To be specific, the study has found that students' perceived ease of use, perceived usefulness and attitudes towards using e-learning has significantly influence students' intention to use online learning. The possibility of using the social influence of students' referent group, students' perceived ease of use and students' perceived usefulness to predict their behavioral intention to use online learning was also confirmed. These results are consistent with the results of Maslin (2007), Baker and Stone (2008) and Taher (2012). Contrary to original TAM assertions, ATU was found to have no significant influence on ITU. This result supported by the findings of A. Adwan et. al (2013) and Shroff et. al (2011) which found that attitude toward using computer has no significant influence on intention to use.

Although emerging educational technology has increased in recent years, face to face learning is remain important. In this study although e-learning is already implemented the students still requested for face to face contact with the teachers to encourage e-learning process. E-learning interfaces have to be user friendly, easy accessible (free wifi), interesting and secured to encourage students to participate in e-learning with positive and creative attitude.

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APPENDIX 1

TABLES:

Table 1: Distributions of respondents.

Departments	No. of students	Respondents	Percentage (%)
DBM (BUSINESS)	125	10	12.1
DHPM (HUMAN POTENTIAL)	250	30	28.3
DOE (ECONOMICS)	59	2	2
DOA (ACCOUNTING)	90	31	31.3
DBF (BANKING & FINANCE)	216	26	26.3
Total	**740**	**99**	**100**

Table 2: Descriptive Statistics (N=99)

Factors	Questions	Mean	Standard Deviations
Intention to use (ITU)	Q6	3.3535	1.10945
	Q7	2.6768	1.17654
	Q8	2.7879	1.07164
	Total	*2.9394*	*0.83891*
Attitude towards using (ATU)	Q9	2.8687	1.12165
	Q13	3.1414	0.96901
	Q14	3.0303	0.95249
	Q20	3.7172	1.13426
	Q21	3.1212	1.07164
	Total	*3.1758*	*0.73528*
Perceived ease of use (PEU)	Q10	3.2828	1.02061
	Q11	3.2424	0.98033
	Q16	3.2828	1.00041

	Total	*3.2694*	*0.86724*
Perceived usefulness (PU)	Q12	3.2929	0.96100
	Q15	3.4141	1.07864
	Q17	2.7475	1.06276
	Q18	2.7879	1.00278
	Q19	2.7980	1.00995
	Total	*3.0081*	*0.81161*

Table 3: Cronbach's Alpha

Scale	Cronbach's Alpha
Perceived Usefulness (PU)	0.727
Perceived Ease of Use (PEU)	0.884
Attitude Towards Usage (ATU)	0.903
Intention To Use (ITU)	0.785
Total	0.904

Table 4: Factor loadings

Item no.	Scale items	1	2	3	4
7	ITU1				0.906
8	ITU2				0.837
6	ATU1	0.444			
9	ATU2	0.607			
10	ATU3	0.762			
11	ATU4	0.809			
12	ATU5	0.787			
13	ATU6	0.668			
16	ATU7	0.570			
15	PU1			0.634	
20	PU2			0.689	

21	PU3			0.765	
14	PEU1		0.643		
17	PEU2		0.886		
18	PEU3		0.903		
19	PEU4		0.816		
% of variance explained		25.653	23.442	12.896	10.946
% cumulative		25.653	49.095	61.991	72.937

Factor 1 = ATU (attitude towards using), factor 2 = PEU (perceived ease of use), factor 3 = PU (perceived usefulness) and factor 4 = ITU (intention to use).

Table 5: Regression results for H1

	β	Standard Error of β	T	P	R^2
Perceived usefulness (PU)	0.235	0.076	2.383	<0.05	0.055

Table 6: Regression results for H2

	β	Standard Error of β	T	P	R^2
Perceived usefulness (PU)	0.634	0.164	8.068	<0.05	0.402

Table 7: Regression results for H3

	β	Standard Error of β	t	P	R^2
Perceived Ease of Use (PEU)	0.672	0.117	8.929	<0.05	0.451

Table 8: Regression results for H4

	β	Standard Error of β	t	P	R^2
Perceived usefulness (PU)	0.362	0.071	3.829	<0.05	0.131

Table 9: Regression results for H5

	β	Standard Error of β	t	P	R^2
Attitude towards using (ATU)	0.187	0.037	1.870	<0.05	0.035

Table 10: Summary of the Hypothesis Testing

Hypothesis	Path	Path Coefficient	t-value	Results
H1	PU►ITU	0.235	2.383	Supported $p < 0.05$
H2	PU►ATU	0.634	8.068	Supported $p < 0.05$
H3	PEU► ATU	0.672	8.929	Supported $p < 0.05$
H4	PEU►PU	0.362	3.829	Supported $p < 0.05$
H5	ATU►ITU	0.187	0.069	Not supported $p > 0.05$