

STUDENTS' PERSPECTIVE OF LEARNING MANAGEMENT SYSTEM: AN EMPIRICAL EVIDENCE OF TECHNOLOGY ACCEPTANCE MODEL IN EMERGING COUNTRIES

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ABSTRACT

The Usage of Information Technology in Education sector has played an important role. E-Class is one of Learning Management System that have been implemented in Duta Wacana Christian University since 2009. This software plays as a supporting role in the learning activities. There are functionalities that support the learning activities.

The Technology Acceptance Model (TAM) proposed by Davis (1989) was a method to investigate the relationship between the Actual use of technology with the behavior and intention of its user. In this study, we investigate the relationship of actual use of technology with some constructs, provide by the method. 315 students from different grade and faculty are actively join in this research by answering the questions. Students from different grade and different major are involved in this research.

This research use constructs : Perceived Usefulness, Perceived Ease of Use, Attitude Towards using Technology, Behavioral Intention Use. These constructs is evaluated against the Actual Technology Use. Some external variables are also added into the model. As the result, there are some significant different perception for every students in different faculty. It is also found that there is a significant relationship between Perceived Ease of Use and Actual Technology Use. The study also finds that there is a significant relationship between Attitude toward Using Technology and Behavioral Intention to use Technology. And also it has significant relationship between Actual Technology Use and Behavioral Intention to use Technology.

Keywords: Technology Acceptance Model, e-Class, Learning Management System, Students' Persepctive.

INTRODUCTION:

Information Technology plays a significant role in every sector, including education sector. One of the uses of Information Technology in education by implementing Learning Management System. Learning Management System as one of the system that can support the learning activities. This system can help students to communicate with the lecturers. By using this system, students are easily to find the course materials in that systems.

Duta Wacana Christian University also use the Information Technology to serve their students. To support the routine operations and services to the students, Duta Wacana is actively developed and implemented Information System. Thus, Duta Wacana will gives better services to the students. Concannon., et. al. (2005) states that the increased demand of integrating ICT into the educational process due to the change of students demography places higher education institutions under pressure to utilize information and communication technologies at university. Additionally, universities should take some innovations that can demonstrate value for money and maximise efficiency and effectiveness from training and development within an often restricted time and expenditure framework (Smedley, 2010).

One of the system is e-Class. E-Class is one of the Learning Management System. Learning Management Systems is a framework which controls all aspects of learning process (Forouzesh and Milad, 2012). LMS gives the content while at the same time, accomplishes the registration and management of educational course, analyzes skills gap, and fulfill follow up and reporting. In the private sector, Learning Management System is to help the business to maintain the employee's training capabilities and tracking regulatory compliances (Martin., et. al., 2005).

The students has following privilliges in e-Class :

1. Download the course materials
2. Upload the assignments before the due date
3. See the grade that has been published by lecturer
4. Discuss with the lecturer

On the other hand, the lecturer has access to the following functionalities :

1. Upload the course materials
2. Submit and publish students' grade
3. Writing the announcement
4. Discuss with the students
5. Setting the assignments and its due

Technology changes the way of learning in the classroom (Raman, 2011). There are no more physical boundaries. Technology also bring the traditional classroom into the internet ones, where students and lecturers can meet by using the internet.

The implementation of ICT in education sector needs some support, not only from the faculty members but also from students itself. Butorac., et. al., (2001) mentioned that understanding students acceptance of e-learning is considered the most major step forward implementing and developing a successful e-learning environment. Therefore, students acceptance can help the successful of learning management system in the universities.

The Technology Acceptance Model, which is proposed by Davis (1989) will be conducted to this study to discover the students acceptance of learning management in the university. The objective of this paper is to investigate which is the factor that influence the acceptance of information technology among the students of Duta Wacana Christian University. The model captures both practical and psychological implications in regards of the acceptance of new information system. It considers the impact of perceived ease of use and perceived usefulness on students intention and attitude toward learning management systems.

TAM is considered one of the well-known models related to technology acceptance and use; it has shown great potential in explaining and predicting user behaviour of information technology (Park, 2009). TAM has been applied into many contexts and fields investigating user acceptance of information technology, including the world wide web (Lederer., et. al., 2000), teacher in turkish univeristy (Teo and Schaik, 2009), mobile banking (Lule., et. al., 2012), Social Media as an

Educational Tool (Wiid., et. al., 2013), hospital (Rose and Robert, 1997; Solano-Lorento et. al., 2013), and healthcare (Chau and Hu, 2002). TAM is also being used by Pasaoglu (2011) to found the factors that the company which don't use Enterprise Resource Planning System (ERP System) have intention to use and accept it or not.

The researches related with TAM to investigate the user acceptance of information technology in education sector has been conducted by many researchers. TAM has been used to investigate e-learning in a non – technology intensive course (Buche., et. al., 2012), the computer usage among a full time Bachelor of Education Undergraduates at the College of Arts and Science, University Utara Malaysia (Raman, 2011), the acceptance of e-learning in Jordanian Universities (Al-Adwan., et. al., 2013).

The paper is organized as follows. Section 2 provides the review of previous study with a focus on Technology Acceptance Model. Following the section 2, section 3 discuss about model used in this research. The fourth section will discuss the findings and the last section will conclude the result.

LITERATURE REVIEW:

Technology Acceptance Model:

Technology Acceptance Model is a concept that was introduced by Davis (1989) to analyze user perceptions against the use of technology. This model is developed based on Theory of Reasoned Action (TRA). This theory is the fundamental for the development of Technology Acceptance Model. Theory of Reasoned Action (TRA) is a fundamental intention based theory for both Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB). In this theory, it is discussed that belief influence attitudes, which is turn shape intentions, which then guide or dictate behaviors (Fishbein and Ajzen, 1975).

Comparasion between Technology Acceptance Model and Theory of Planned Behaviour is Fusilier and Subhash (2005) research topic. These two models are in this research to know the usage of internet for the India students. Fusilier and Subhash (2005) add a new construct, user experience as the new variables. This construct has a significant effect to perceived usefulness and perceived ease of use. Perceived ease of use, perceived usefulness, and attitude towards using technology has a significant effect to actual technology use [12]. It is supported by other researchers (Luan and Timothy, 2009; Raman, 2011). Davis (1989) developed the theory by using the two main constructs, perceived usefulness and perceived ease of use. The model as follows:

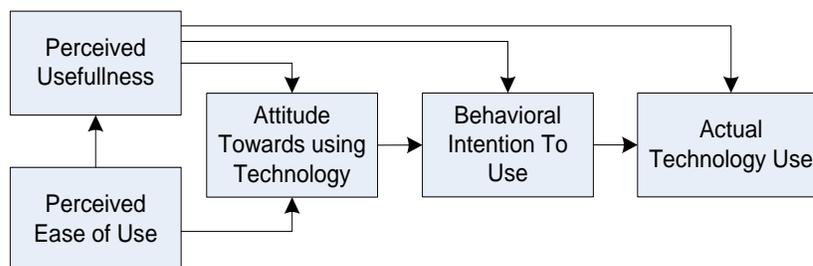


Figure 1. Technology Acceptance Model (Davis, 1989)

PERCEIVED USEFULNESS:

Perceived usefulness is considered the extent of which a person believes that using the system will be free of effort (Davis, 1989). Perceived usefulness helps Teo and Schaik (2009) to explain that perceived usefulness is influenced 69% of the variance in attitude towards computer use among pre-service teachers enrolled at the National Institute of Education in Singapore.

Perceived Usefulness is one of the trust for the user to make decision by using the support of the systems. This construct help us to know when the user trust the information systems. As high the values, the user is able to make the decisions using the support of the information systems (Jogiyanto, 2007).

PERCEIVED EASE OF USE:

Perceived Ease of Use is the other construct that influence the actual use of the technology (Davis, 1989). This construct can be interpreted as the free will of the user to use the systems. There is no compulsion for the user to use the technology. It is also said that the user trusts the system to help him to make a decision by using its help. In other words, perceived ease of use is the degree to which an individual believes that using a particular system would be free of physical and mental efforts (Davis, 1989).

Effort is an exertion of strength or power, whether physical or mental, in performing an act or aiming at an object. Jogiyanto (2007) discussed that perceived ease of use means that how the user is attracted to use the system because of its ease. If the user feels that the system is easy to use, the user will trust the system. On the contrary, if the user does not feel that the system is not easy to use, the user will not trust the system.

Development of Technology Acceptance Model:

Technology Acceptance Model has been an interesting research topic for many years. Some research has found the acceptance model in the financial sector (McKehnie, et al., 2006). McKehnie, et al. (2006) found that perceived ease of use will encourage the user's positive feelings towards systems in the financial sector.

Akour and Dwairi (2011) tried to implement the Technology Acceptance Model at Jordanian University. 747 questionnaires were distributed to the students to know their views regarding the Technology. Akour and Dwairi (2011) found that there is no significant correlation between user's intention and attitude behavior. Akour and Dwairi (2011) discussed that there is not a good condition and culture to learn and study in Jordan. This culture affects the local community's technology acceptance.

Cheng San and Yee (2013) added some external variables to the model to discover the factors of technology acceptance. It is found that perceived ease of use, perceived usefulness, training, education, and cost have significant relationships to the actual use of the technology (Cheng San and Yee, 2013). It is different with Al-Adwan, et al. (2013) findings. It is found that there is no significant relationship for perceived ease of use, perceived usefulness, and attitude toward technology to the actual use of technology.

Park (2009) started to use the model to discover students' perceptions to use e-Learning systems. Park (2009) found that the successful implementation of e-Learning will be influenced by its students, accessibility of the system, and subjective norms.

e-Learning is the early adopter in the education sector but as the early majority in the corporate sector (Punnoose, 2012). Punnoose (2012) gives the new constructs to the TAM. Punnoose (2012) added subjective norms and perceived enjoyment. Perceived enjoyment is a measurement of convenience level of technology (Chang, et al., 2012). It is found that perceived enjoyment has a significant result to perceived usefulness and perceived ease of use (Chang, et al., 2012).

Subjective norms were added to support Park (2009) and Raman (2011) research. It is said that individual conscience influences the students' motivation to use e-Learning. For the subjective norms, Punnoose (2012) has a different idea. Extraversion, conscientiousness, and neuroticism are the variables for subjective norms. Male students can accept and learn technology faster than the female students since they are more extraverted (Punnoose, 2012). Buche, et al. (2012) conducted a research to find the technology acceptance of non-technology students. It is found that academic performance is sensitive to technology acceptance (Buche, et al., 2012).

Lule et al. (2012) put another external variable in the research to know the students' perception to use the Technology Acceptance Model. It is found that Information Quality and Instructor Quality have significant relationships to Perceived Usefulness. In order to increase the information quality, it is expected that a learning management system is developed based on students' needs. Lule et al. (2012) supported Shah et al. (2013) findings in the research of student perception to use e-Learning. This finding is a little bit different with Park (2009) findings.

Perceived ease of use and perceived usefulness have significant correlations with the use of the e-Learning technology (Adewole – Odeshi, 2014). By using the e-Learning system, students have an

effective way to do their works.

MATERIALS AND METHODS:

To conduct this research, 315 quisionaire has been distributed to the students from different faculty, ie faculty of business (BUS), faculty of information technology (IT), faculty of biotechnology (BIO), faculty of theology (THEO), faculty of architecture and design (ARCH). There are 3 (three) categories based on the students academic status :

1) Junior Students (Jun)

Junior students are the students who are in the second year of his study. It means that they are the students who joined university in 2013.

2) Intermediate Students (Im)

Intermediate students are third and fourth year students. It means that they are the students who joined university in 2011 and 2012.

3) Senior Students (Sen)

Senior students is a category for every students who are in the fifth year or more. It means that they are the students who joined university in 2010 and above.

Table I: Sample Data of Students

		Faculty				
		IT	BUS	THEO	BIO	ARCH
Student Category	Jun	17	38	14	4	6
	Im	13	48	15	12	17
	Sen	20	49	14	19	22

The hypothesis for Technology Acceptance Model are :

- 1) H1 : There is a significant relationship between Perceived Ease of Use (PEU) and Attitude Toward Using Technology (ATUT).
- 2) H2 : There is a significant relationship between Perceived Ease of Use (PEU) and Behavioral Intention to Use Technology (BIT)
- 3) H3 : There is a significant relationship between Perceived Ease of Use (PEU) and Actual Technology Use (ATU)
- 4) H4 : There is a significant relationship between Perceived Usefulness (PU) and Attitude Toward Using Technology (ATUT)
- 5) H5 : There is a significant relationship between Perceived Usefulness (PU) and Behavioral Intention to Use Technology (BIT)
- 6) H6 : There is a significant relationship between Perceived Usefulness (PU) and Actual Technology Use (ATU)
- 7) H7 : There is a significant relationship between Attitude Toward Using Technology and Behavioral Intention to Use Technology.
- 8) H8 : There is a significant relationship between Behavioral Intention to Use Technology (BIT) and Actual Technology Use (ATU)

The research model can be found in figure 2 below :

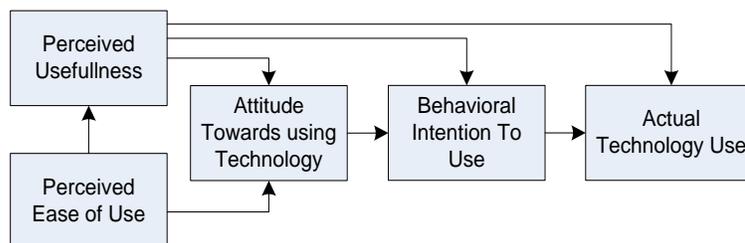


Figure 2. Research Model

These are the questionnaire statements related to TAM and organized based on its constructs.

1) Perceived Usefulness (PU)

- a) *The system helps me to increase my learning productivity (PU1).*
- b) *The system helps me to find the course materials (PU2).*
- c) *The system helps me to submit the assignments (PU3).*
- d) *The system increase my academic performance (PU4).*
- e) *The system helps me in learning process (PU5).*
- f) *The system helps me to ask the lecturer and discuss with the lecturer for some topics (PU6).*

2) Perceived Ease of Use (PEU)

- a) *The system is easy to be operated (PEU1).*
- b) *The system use understandable language (PEU2).*
- c) *The system use the appropriate background color and letter (PEU3).*
- d) *The system has systematic menu (PEU4)*
- e) *The system is accessible, from the inside and outside of the universities (PEU5).*

3) Behavioral Intention to Use Technology (BIT)

- a) *I have an intention to use e-Class everyday (BIT1)*
- b) *I have an intention to check the latest materials (BIT2).*
- c) *I have an intention to check my grade through the system (BIT3)*
- d) *I have an intention to encourage my colleague to use the system (BIT4).*

4) Attitude Towards Using Technology (ATUT)

- a) *I use the system without any compulsion from anyone (ATUT1).*
- b) *I need the system (ATUT2).*
- c) *I am happy when I use the system (ATUT3).*
- d) *Using the system to submit the assignment is a creative idea (ATUT4).*
- e) *Using the system to download the course materials is an innovative idea (ATUT5).*
- f) *Using the system to discuss with the lecturer and colleague is a positive idea (ATUT6).*
- g) *Using the system is good and wise decision (ATUT7).*
- h) *I am going to encourage my colleauge to use the system (ATUT8).*

5) Actual Technology Use (ATU)

- a) *I use the system to support the learning activities (ATU1).*
- b) *I always access the system everyday (ATU2).*
- c) *I get the course materials from the system (ATU3).*
- d) *I download and upload the assignment through the systems (ATU4).*
- e) *I use the system to check my grade (ATU5).*
- f) *I am satisfied to use the system (ATU6).*
- g) *I tell my colleague about my satisfaction using the systems (ATU7).*

Students have to answer every statements using grade 0 to 10. 0 means that they strongly do not agree with the statements and 10 means that they strongly agree with the statements. 5 means that they are neutral with the statements.

RESULTS:

Descriptive Statistics:

Based on the result, it is found that user's satisfaction of e-Class is 66.93% with the satisfaction level vary from 6.2 to 7.5 as shown in table II. The maximum satisfaction level is in the factor perceived usefulness (76%).

Table II: Descriptive statistics for every questions

	N	Min	Max	Mean	Std. Deviation
PU	315	0	10	6.38	1.91
PEU	313	0	10	7.57	1.75
BIT	315	0	10	6.28	1.97
ATUT	314	0	10	7.06	1.81
ATU	314	0	10	6.24	2.06
Average	311	0	10	6.70	1.60
Valid N	311				

Further analysis for descriptive statistics are that students feel that system is easy to use because e-Class use understandable language (mean PEU2 = 8.21). Students also feel that e-Class is easy to be operated (mean PEU1 = 7.9). One problem which is faced by students is less university support to access either from inside and outside the university (mean PEU5 = 7.09).

Student’s motivation to use e-Class is not much. Students use the system to download the course materials because the lecturer provides the course materials in it. The students are often to use the discussion functions. Thus, the students feel that this feature is not useful and helpful to communicate with the lecturer. This gives an impact to the perceived usefulness of the e-Class. They feel that e-Class does not help to increase their academic achievement and they will not recommend using e-Class to others.

ANOVA AND TUKEY:

ANOVA and Tukey are used to test the relationship between each variable against the student status. Hypothesis for this analysis are :

H0: There is no significant differences of student perception who have different student academic status

H1: There is significant differences of student perception who have different student academic status.

Table III: Anova Result of Students Academic Status

Faktor		Sum of Squares	df	Mean Square	F	Sig.
BIT	Between	26.918	2	13.459	3.761	.024
	Within	1116.504	312	3.579		
	Total	1143.421	314			
PEU	Between	3.513	2	1.756	.573	.564
	Within	950.140	310	3.065		
	Total	953.653	312			
PU	Between	62.498	2	31.249	8.351	.000
	Within	1167.437	312	3.742		
	Total	1229.935	314			
ATUT	Between	22.889	2	11.445	3.559	.030
	Within	1000.208	311	3.216		
	Total	1023.098	313			
ATU	Between	80.033	2	40.017	9.981	.000
	Within	1246.878	311	4.009		
	Total	1326.911	313			
All Factor	Between	32.763	2	16.381	6.631	.002
	Within	760.930	308	2.471		
	Total	793.693	310			

Table IV: Tukey Result of Students Academic Status

Dependent Variable	(I) Status Ac	(J) Status Ac	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
BIT	Jr	Im	.59185(*)	.23534	.033	.0376	1.15
		Sn	.60296	.37219	.239	-.2735	1.48
	Im	Jr	-.59185(*)	.23534	.033	-1.1461	-.04
		Sn	.01111	.39425	1.00	-.9173	.94
	Sn	Jr	-.60296	.37219	.239	-1.4794	.28
		Im	-.01111	.39425	1.00	-.9395	.92
PEU	Jr	Im	.23235	.21801	.536	-.2811	.75
		Sn	.04649	.34965	.990	-.7770	.87
	Im	Jr	-.23235	.21801	.536	-.7458	.28
		Sn	-.18586	.36966	.870	-1.0564	.68
	Sn	Jr	-.04649	.34965	.990	-.8699	.78
		Im	.18586	.36966	.870	-.6847	1.06
PU	Jr	Im	.93573(*)	.24065	.000	.3690	1.50
		Sn	.79229	.38058	.095	-.1040	1.69
	Im	Jr	-.93573(*)	.24065	.000	-1.5025	-.37
		Sn	-.14343	.40314	.933	-1.0928	.81
	Sn	Jr	-.79229	.38058	.095	-1.6885	.10
		Im	.14343	.40314	.933	-.8059	1.09
ATUT	Jr	Im	.55800(*)	.22332	.035	.0321	1.08
		Sn	.51633	.35297	.310	-.3149	1.35
	Im	Jr	-.55800(*)	.22332	.035	-1.0839	-.03
		Sn	-.04167	.37375	.993	-.9218	.84
	Sn	Jr	-.51633	.35297	.310	-1.3476	.31
		Im	.04167	.37375	.993	-.8385	.92
ATU	Jr	Im	1.09495(*)	.24993	.000	.5064	1.68
		Sn	.71490	.39395	.166	-.2128	1.64
	Im	Jr	-1.09495(*)	.24993	.000	-1.6835	-.50
		Sn	-.38005	.41779	.635	-1.3640	.60
	Sn	Jr	-.71490	.39395	.166	-1.6426	.21
		Im	.38005	.41779	.635	-.6038	1.36
All Factor	Jr	Im	.68157(*)	.19656	.002	.2186	1.14
		Sn	.57793	.31404	.158	-.1617	1.31
	Im	Jr	-.68157(*)	.19656	.002	-1.1445	-.21
		Sn	-.10363	.33227	.948	-.8862	.68
	Sn	Jr	-.57793	.31404	.158	-1.3175	.17
		Im	.10363	.33227	.948	-.6789	.89

Based on table III and table IV, there are perception differences between students who have different status academic (Junior, Intermediate, and Senior). There are significant difference between each group in perceived usefulness, behavioral intention to Use Technology, Attitude Toward Using Technology, and Actual Technology Use. But there is no significant difference in perceived ease of use. Every students are agree that e-Class is easy to use. Mean difference of every constructs give the positive

results. From the table III, it can be conclude that younger students tend to use more often than the older students (see mean of construct Actual Technology Use in table IV).

RELIABILITY AND VALIDITY:

To analyze the quisionaire data from students answer, the researchers use PLS, specifically realibity and validity test for every single variable. The degree which is used in this research is Likert Scale . Converting students answer into Likert Scale will give the answer into 1-5. After converting the answer, data will be analyzed using SmartPLS. Researcher uses PLS Algorithm to calculate using the outer model. Outer model is chosen to calculate the validity and realbility of its construct (Hartono and Abdillah, 2009). The result as follows :

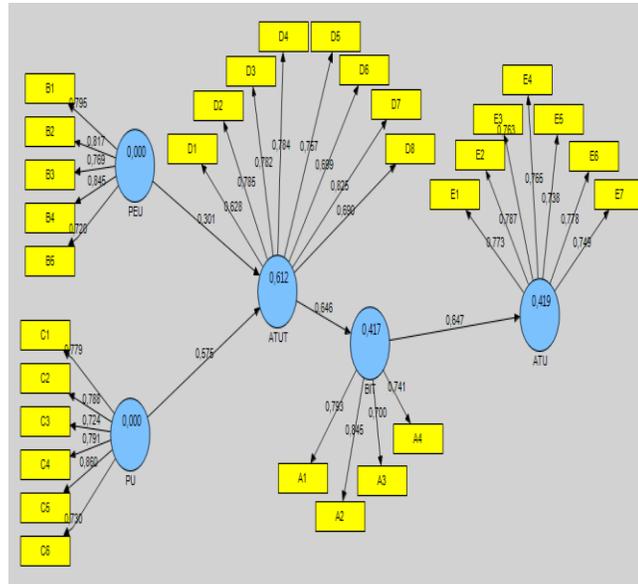


Figure 3: Outer Model Result

There are two questions (ATUT1 and ATUT6) that are not reliable with the constructs. To be reliable, the Loading Factor Indicator should be greater than 0.7. Those two questions should be eliminated. After these two questions are eliminated from the list, it is needed to recalculate the PLS looping algorithm to get the AVE and communality score. AVE and communality score should be greater than 0.5 to make the construct fulfill high convergent validity.

The second stage to do the looping PLS Algorithm. As the result that we get loading factor indicator of every questions are greater than 0.7. We test the AVE score which should be greater than 0.5. It is shown in table V below :

Table V: Overview Statistics Result

	AVE	Composite Reliability	R Square	Cronbachs Alpha
ATU	0.585232	0.908027	0.418542	0.882350
ATUT	0.608817	0.903059	0.612458	0.871126
BIT	0.595598	0.854259	0.424390	0.771428
PEU	0.624012	0.892189		0.848471
PU	0.608465	0.902827		0.870218

As the result, we can see that every construct has AVE score greater than 0.5. It means that constructs fulfills high convergent validity (Hartono and Abdillah, 2009).

The next step is to analyze the reliability to get the reliable constructs. Every constructs should have Cronbachs Alpha and Composite Reliability greater than 0.7 to be reliable for this model. From table V above, we can see that every constructs has Composite Reliability > 0.7 and Cronbachs Alpha > 0.7. Thus, every constructs are reliable. After we know that every constructs are reliable, we have to see the relationship for every constructs. Bootstrapping test is used to test the relationship for every constructs.

Table VI: Bootstrapping Result

	Original Sample (O)	Sample Mean (M)	Standard Deviation	Standard Error	T Statistics
ATUT -> ATU	0.421	0.442	0,085	0.085	4.937
ATUT -> BIT	0.651	0.664	0.066	0.066	9.903
BIT -> ATU	0.647	0.660	0.076	0.076	8.520
PEU -> ATU	0.119	0.122	0.052	0.052	2.305
PEU -> ATUT	0.283	0.277	0.105	0.105	2.691
PEU -> BIT	0.184	0.183	0.072	0.072	2.574
PU -> ATUT	0.590	0.601	0.1	0.1	5.895
PU -> BIT	0.384	0.4	0.085	0.085	4.525
PU -> ATU	0.235	0.277	0.108	0.108	1.247

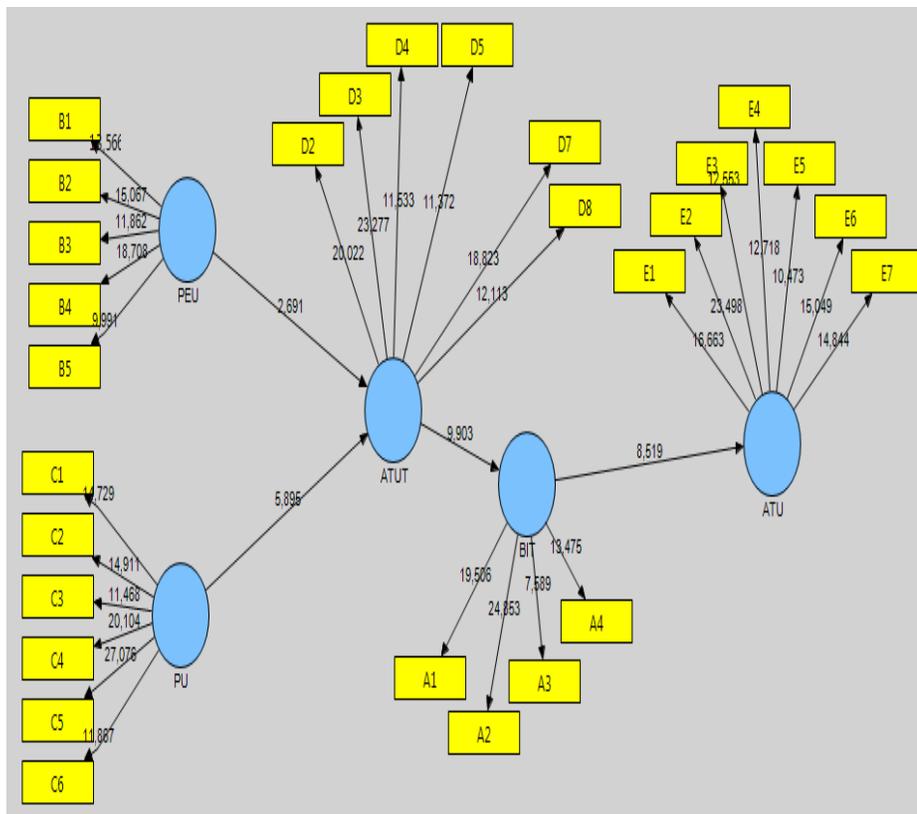


Figure 4: Bootstrapping Output

Bootstrapping is a measurement to calculate hypothesis. It will have significant relationship if t-statistics is greater than 1.64 and t-statistics is greater than t-table / Original Sample (Hartono and Abdillah, 2009). Based on table VI, there are some points to discuss.

1. *H1 : There is a significant relationship between Perceived Ease of Use (PEU) and Attitude Toward Using Technology (ATUT).*
It is found that there is a significant relationship between perceived ease of use and attitude toward using technology. T-table is less than the T-Statistic ($0.283 < 2.691$) and T-Statistics is bigger than 1.64 ($2.691 > 1.64$).
2. *H2 : There is a significant relationship between Perceived Ease of Use (PEU) and Behavioral Intention to Use Technology (BIT)*
It is found that there is a significant relationship between perceived ease of use and Behavioral Intention to Use Technology. T-table is less than the T-Statistic ($0.184 < 2.574$) and T-Statistics is bigger than 1.64 ($2.574 > 1.64$).
3. *H3 : There is a significant relationship between Perceived Ease of Use (PEU) and Actual Technology Use (ATU)*
From the table VI above, we can see that there is a significant relationship between Perceived Ease of Use (PEU) and Actual Technology Use (ATU). Table VI described that T-Table is less than T-Statistic ($0.119 < 2.305$)
4. *H4 : There is a significant relationship between Perceived Usefulness (PU) and Attitude Toward Using Technology (ATUT)*
Table VI above shows that there is a significant relationship between Perceived Usefulness (PU) and Attitude Toward Using Technology (T-Table is less than T-Statistic and T-Statistic is greater than 1.64).
5. *H5 : There is a significant relationship between Perceived Usefulness (PU) and Behavioral Intention to Use Technology (BIT)*
T-Table of PU -> BIT is 0.384 and t-Statistics is 4.525. It means that T-Table is less than t-Statistics and T-Statistics is greater than 1.64. Thus, it is supported the Hypothesis 5 that there is a significant relationship between Perceived Usefulness (PU) and Behavioral Intention to use Technology (BIT).
6. *H6 : There is a significant relationship between Perceived Usefulness (PU) and Actual Technology Use (ATU)*
From the table, it is found that there is no significant relationship between perceived usefulness (PU) and Actual Technology Use (ATU). Table VI shows that t-statistics is greater than t-table ($0.235 > 1.247$) but t-statistics is less than 1.64 ($1.247 < 1.64$).
7. *H7 : There is a significant relationship between Attitude Toward Using Technology and Behavioral Intention to Use Technology.*
From the table it is found that there is no significant relationship between Attitude Toward using Technology (ATUT) and Behavioral Intention to Use Technology (BIT). Table VI shows that t-statistics is greater than t-table ($0.651 > 9.903$) but t-statistics is less than 1.64 ($9.903 < 1.64$).
8. *H8 : There is a significant relationship between Behavioral Intention to Use Technology (BIT) and Actual Technology Use (ATU)*
Table VI above shows that there is a significant relationship between Behavioral Intention to Use Technology (BIT) and Actual Technology Use (ATU). T-Table is less than T-Statistic and T-Statistic is greater than 1.64.

DISCUSSIONS:

The finding that Perceived Ease of Use have significant relationship with Actual Use of Technology. This finding supports the other researchers (Adewole-Odeshi, 2014; Cheng San and Yee, 2013). This finding is also different from Al – Adwan, et. al. (2013). This finding is supported with the result of descriptive statistics which mention that most of the students feel that the learning management system is easy to use and they are happy to use the the Learning Management System.

From table III and IV, there is no significant difference between every group member for every

perceptions. It means that most of the students, ie junior students, senior students, and intermediate students are agree that this system is easy to use. Forouzesh and Milad (2012) discuss that perceived ease of use is how the users are attracted to use the system because of its ease. When the user thinks that it is easy to use, it will influence the actual use of the system. Thus, they are attracted to use the system.

There are some factors that make the system are easy to use. Students answered that the system is easy to use (PEU1), the system use an understandable language (PEU2), and the feature is easy to be understood and use a good feature arrangement (PEU4). On the other side, Perceived Usefulness have no significant relationship with Actual Use of Technology. This finding has different result with Teo and Schaik (2009), Cheng San and Yee (2013), Adewole-Odeshi (2014). Teo and Schaik (2009) found that Perceived Usefulness is influenced 69% of the variance in attitude towards computer use among pre-service teachers enrolled at the National Institute of Education in Singapore.

There is different result with the other researchers since the Learning Management System in Duta Wacana Christian University is not a must. Students use this system because of the subjects that they registered. They do not use the system because of conscienceous. They feel that it will not increase their performance and productivity. Thus, the students feels that the system does not help them in learning activities.

CONCLUSIONS:

This research finds that there are differences between each status academic. There are significant differences for every construct, ie Perceived Usefulness, Behavioral Intention to Use, Attitude Toward Using Technology, and Actual Technology Use. Overall, students are agree that Learning Management System. It is also found that younger students more often to use the system.

This study finds that there is significant relationship between Perceived Ease of Use and Actual Technology Use. This finding supports Adewole – Odeshi (2014) and Cheng San and Yee (2013) research. For the Perceived Usefulness, the study finds that there is no significant relationship with Actual Use of Technology. It is different with Adewole – Odeshi (2014), Cheng San and Yee (2013), Teo and Schaik (2009).

This study also finds that there is significant relationship between Attitude Toward using Technology (ATUT) and Behavioral Intention to Use Technology (BIT) and a significant relationship between Behavioral Intention to Use Technology (BIT) and Actual Technology Use (ATU).

REFERENCES:

- [1] Adewole – Odeshi, Egbe.. (2014). Attitude of Students Toward e-Learning in South West Nigerian Universities : An Application of Technology Acceptance Model. *Library Philosophy and Practise (e-Journal)*. Paper No 1035.
- [2] Akour, A. I., Dwairi, M. A.. (2011). Testing Technology Acceptance Model in Developing Countries: the case of Jordan. *International Journal of Business and Social Science*. Vol 2(14), 278 – 284.
- [3] Al-Adwan, A., Al – Adwan, Ahmad, Smedley, J. (2013). Exploring Students Acceptance of e-Learning using Technology Acceptance Model in Jordanian Universities. *International Journal of Education and Development using Information and Communication Technology*. Vol 9, Issue 2, pp 4-18.
- [4] Buche, Mari W., Larry R. Davis, Chelley Vician. (2012). Does Technology Acceptance Affect E-Learning in a Non-Technology Intensive Course?. *Journal of Information Systems Education*. Vol 23(1), 41 - 50.
- [5] Butorac, M., Nebic, Z & Nemcanin, D. (2001). Blended E-learning in Higher Education: Research on Students' Perspective. *Issues in Information Science and information Technology*, 8, pp.409-429.
- [6] Chang, Chi-Cheng, Chi-Fang Yan, Ju-Shih Tseng. (2012). Perceived Convenience in an extended Technology Acceptance Model : Mobile Technology and English Learning for College Students. *Australasian Journal of Educational Technology*. Vol 28(5), 809 - 826.

- [7] Chau, P & Hu, P. (2002). Investigating healthcare professionals' decisions to accept telemedicine technology: an empirical test of competing theories. *Information & Management*, 39, pp.297-311.
- [8] Cheng San, A. Ng, Yee, C. Y. (2013). The Modified Technology Acceptance Model for Private Clinical Physicians : A Case Study in Malaysia, Penang. *International Journal of Academic Research in Business and Social Sciences*. Vol 3(2), 380 – 403.
- [9] Concannon, F., Flynn, A & Campbell, M. (2005). What campus-based students think about the quality and benefits off e-learning. *British Journal of Educational Technology*, 36 (3), pp. 501-512
- [10] Davis, D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13 (3), pp. 319-340.
- [11] Fishbein, M., Ajzen, I. (1975). Belief, attitude, intention, and behaviour : An introduction to theory and Research. *Reading, MA : Addison - Wesley*.
- [12] Fusilier, Marcelline., Subhash Durlabhji. (2005). An Exploration of Student Internet use in India. The Technology Acceptance Model And The Theory Of Planned Behaviour. *Campus – Wide Information Systems*. Vol 22(4), 223 – 246.
- [13] Forouzes, Milad, Milad Darvish. (2012, April 26-27). Characteristics of Learning Management System (LMS) and Its Role in Education of Electronics. The 8th International Conference eLearning and Software for Education, Bucharest. Doi : 10.5682/2066-026X-12-079
- [14] Hartono, Jogiyanto and Abdillah Willy (2009). *Konsep & Aplikasi PLS (Partial Least Square) untuk Penelitian Empiris*. Yogyakarta : BPFE.
- [15] Jogiyanto. (2007). *Model Kesuksesan Sistem Teknologi Informasi*. Yogyakarta : Andi Offset.
- [16] Jogiyanto. (2007). *Sistem Informasi Keperilakuan*. Yogyakarta : Andi Offset.
- [17] Lederer, A., Maupin, D., Sena, M., & Zhuang, Y. (2000). The technology acceptance model and the world wide web. *Decision Support Systems*, 29 (3), pp. 269-282.
- [18] Luan, Wong Su, Timothy Teo. (2009). Investigating the Technology Acceptance among Student Teachers in Malaysia : An Application of the Technology Acceptance Model. *The Asia – Pasific Education Researcher*. Vol 18 (2), pp 261 - 272.
- [19] Lule, I., Omwansa, T & Waema, T. (2012). Application of Technology Acceptance Model (TAM) in M-Banking Adoption in Kenya. *International Journal of Computing and ICT Research*, 6 (1), pp. 31-43.
- [20] Lwoga, Edda Tandii. (2014). Critical Success Factor for Adoption of Web-Based Learning Management Systems in Tanzania. *International Journal of Education and Development using Information and Communication Technology*. Vol 10, Issue 1, pp 4 - 21.
- [21] Martin, K., M. A. Quigley, S. Rogers. (2005). Implementing a Learning Management System Globally : An Innovative Change Management Approach. *IBM Systems Journal*. Vol 44(1), 125 - 143.
- [22] McKehnie, S., Winklhofer, H., Ennew, C. (2006). Applying the technology acceptance model to the online retailing of financial services. *International Journal of Retail and Distribution Management*. Vol 34(4/5), 388 - 410.
- [23] Park, S. Y. (2009). An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioral Intention to Use e-Learning. *Educational Technology & Society*, 12 (3), 150–162.
- [24] Pasaoglu, Didem (2011). Analysis of ERP Usage with Technology Acceptance Model. *Global Business and Management Research : An International Journal*. Vol. 3, No 2. Pp 157 - 165
- [25] Punnoose, Alfie Chacko. (2012). Determinants of Intention to Use e-Learning Based on the Technology Acceptance Model. *Journal of Information Technology Education Research*. Vol 11, 301 - 337.
- [26] Raman, Arumugam. (2011). The Usage of Technology Among Education Students in University Utara Malaysia : An Application of Extended Technology Acceptance Model. *International Journal of Education and Development using Information and Communication Technology*. Vol 7 Issue 3, 4 - 17.
- [27] Rose, Graeme., Robert Reeve. (1997). Executive Support of Information Technology and Information Systems in Australian Hospital : An Empirical Study. *Australasian Journal of Information Systems*. Vol 5(1), 84 - 99.

- [28] Shah, Ghias Ud Din., Mansoor Nazir Bhatti, Mehwish Iftikhar, Muhammad Imran Qureshi, Khalid Zaman. (2013). Implementation of Technology Acceptance Model in e-Learning Environment in Rural and Urban Areas of Pakistan. *World Applied Science Journal*. Vol 27(11), 1495 - 1507.
- [29] Smedley, J.K. (2010). Modeling the Impact of Knowledge Management using Technology. *OR Insight*. Vol 23. Pp. 233 - 250
- [30] Solano-Lorento, M, Martinez – Caro, E and Cegarra – Navarro, J. G. (2013). Designing a Framework to Develop eLoyalty for Online Healthcare Services. *The Electronic Journal of Knowledge Management*. Vol 11 Issue 1, 107 - 115.
- [31] Teo, T., & Schaik, P.V. (2009). Understanding technology acceptance in pre-service teachers: A structural equation modelling approach. *The Asia Pacific Education Research*, 18(1), 47-66.
- [32] Wiid, Jan, Michael Cant, Corrinne Nell. (2013, June). Social Media as an Educational Tool : Students' Persepctives and Usage. Proceedings of the International Conference on e-Learning. Pp 511-520
