

Factors Affecting Private University Students' Intention to Adopt E- Learning System In Bangladesh

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Abstract: *E-learning refers to a platform in which learning materials such as lecture notes, slides, and video can be accessed through the use of internet services in an outdoor environment. The main purpose of the platform is to provide students with the various interactive-learning contents in order to learn a lesson, interact with the educator and other learners who are embedded in the system across the globe. In Bangladesh, e-learning is still an emerging concept in the higher education system as it is not so widely used by many institutions and most of the learners are unaware of the benefits of using e-learning. Currently, a number of private universities using customized platforms in a short range in order to provide quality education in Bangladesh. Nevertheless, implementing a specific technology, which is not widely appreciated by the users in a region at all, leads to waste of resources. This paper aims to identify the determinants of students' acceptance of e-learning platforms such as Moodle, Blackboard, and Google classroom or any customized e-learning platforms, etc in Bangladesh by applying the Technology Acceptance Model (TAM), which was solely proposed by Davis in 1986. A total number of 219 respondents from two different universities were surveyed randomly within the decided sample extent and sample frame by applying FGD and In-depth interview techniques in a classroom environment. In this study, Partial Least Squares Structural Equation Modeling (PLS-SEM) tool was applied to analyze data. Data support a direct impact of Self-efficacy (SE) on PEOU and PU. However, latent variables SE had no effect on ATU. The survey result confirmed that consumers are still not satisfied with the graphical interface provided by the company. Thus, there is a need to focus on the graphical user interface and application by the mobile wallet service providers.*

Keywords—*E-learning, Structural Equation Modeling (SEM), behavioral intention, Technology Acceptance Model (TAM),*

JEL Classification: *M10*

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Introduction:

In the midst of the technological paradigm shift, traditional approach of teaching- learning is transforming into a modern method in which the role of ICT is quite significant. Learning

through the usage of internet, commonly known as e-learning is becoming indispensable worldwide. So far, the effectiveness of using e-learning tools such as Moodle (Modular Object-Oriented Dynamic Learning Environment), Blackboard, and Google classroom, Learning Management Systems (LMS), Course Management System (CMS), Virtual Learning Environment (VLE), etc in a classroom and outdoor learning environments has been extensively studied by many of scholars both in home and abroad. In Recent times, Bangladeshi higher institutions have been increasingly incorporating e-learning platform. Currently, various e-learning platforms such as Google classroom, Moodle, VUES (Virtual University Expert System) are being used and developed by Bangladeshi universities with the aim of providing quality education. Nevertheless, implementing a specific technology, which is not widely appreciated by the users at all, leads to waste of resources.

Therefore, the user acceptance of a specific e-learning platform is regarded as one of the essential factors to achieve institutional goals such as knowledge sharing, knowledge creation. In Bangladesh, e-learning is still an emerging concept in higher education as it is not so widely used by many institutions and most of the learners are unaware of the benefits of using e-learning with their traditional learning methods.

Conversely, TAM is already a widely used conceptual model in the area of technology acceptance and frequently used by numerous scholars worldwide to analyze diverse array of new technology adoption. Therefore, it is quite evident to employ TAM to examine the learners' adoption in a new phenomenon. As the use of e-learning tools with other traditional methods and even sometimes instead of traditional approaches at the tertiary level of education in Bangladesh, the authors found the model quite justified to use to analyze the learners' intention to adoption of e-learning system.

Through this study, an effort has been initiated to identify the determinants of students' acceptance of various e-learning platforms available in Bangladesh by applying the technology acceptance model (TAM).

Review of Related Literatures:

Technology Acceptance Model:

Technology acceptance model along with its extended version has been applied by many scholars in various field of study such as M-Learning (G, F, & W, 2007), online banking(S & H, 2005), e-shopping(Zhou, Dai, & Zhang, 2007), multimedia and e- learning environment (Schierz, Schilke, & Wirtz, 2010), Mobile Wallet (Amin, Azhar, Amin, & Akter, 2015), etc.

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Since the inception TAM in 1986, many researchers have already been applied and extended TAM to examine various IT/IS adoption issues globally. TAM was derived from the model Theory of Reasoned Action (TRA)(Fishbein & Ajzen, 1975). Besides, the most important and influential theories related to IS/IT adoption are the theory of reasoned action (TRA)(Fishbein & Ajzen, 1975), extended technology acceptance model (TAM2)(Venkatesh & Davis, 2000), theory of planned behavior (TPB)(Ajzen & Madden, 1986), and the most recent one UTAUT(Venkatesh, Morris, Davis, & Davis, 2003).

Uses of Technology Acceptance Model in e- learning platform:

(Liaw, Huang, & Chen, 2007) investigated 30 instructors and 168 learners in Taiwan to measure the attitudes toward e-learning usage. The results showed that PU and SE play a significant role to form the behavioral intention to use e-learning as a teaching tool for the instructors. In case of learners' attitude, self-paced, teacher-led, and multimedia instruction act as the major factors toward using e-learning as an effective-learning tool.

(Van Raaij & Schepers, 2008) critically analyzed the models of technology adoption by applying all versions of TAM such as TAM, TAM2 & UTAUT and proposed a model by extending TAM2. The model was tested on 45 students of executive MBA program in China and the results indicated a direct effect of PU and indirect effect of PEOU and subjective norm on virtual learning environment. Additionally, personal innovativeness and computer anxiety had direct effect on PEOU.

(Al-hawari & Mouakket, 2010) examined the relative importance of TAM factors along with the variables enjoyment and design on e-satisfaction and e-retention among 340 students of UAE. The results showed that PU had a direct and positive relationship with students' e-satisfaction and e-retention. In addition, PEOU, design, and enjoyment had direct effect on e-satisfaction only.

(Liu, Chen, Sun, Wible, & Kuo, 2010) introduced the extended version of TAM to explore the factors that affect intention to use online English learning community on 436 high school students in Taiwan. The results indicated that PU, PEOU, ATU all variables form a significant relationships with the intention to use online community in learning English.

(Farahat, 2012) identified the determinants of students' acceptance of online learning and investigated how these determinants can shape students' intention to use online learning. TAM was modified and tested in 153 undergraduate students of Egyptian universities. The result showed that students' PEOU, PU, ATU and social influence significantly determine the intention to practice online learning.

(Costa, Alvelos, & Teixeira, 2012) described the use of Moodle e-learning platform of 278 students in Portugal. The results suggested that in spite of recognizing the importance of its use, students consider it as an important repository of course material.

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(Li, Duan, Fu, & Alford, 2012) proposed an extended version of TAM after investigating the learners' intention to reuse the e-learning systems. The study conducted on 280 e- learners in rural China, demonstrated that e-learning service quality, course quality, PU, PEOU and self-efficacy had direct effects on users' intention to reuse the e-learning systems. Although system functionality and system response had an indirect effect, system interactivity did not have any significant effect on behavioral intention.

(Arteaga Sánchez, Duarte Hueros, & García Ordaz, 2013) investigated the factors that determine the acceptance of WebCT learning system and verified the effects of these factors by using TAM. Data from 226 university students in Spain were collected in the context of e-learning. Some additional constructs such as technical support (TS), computer self-efficacy (CSE), perceived ease of use (PEOU), perceived usefulness (PU), attitude (ATU), and system usage (SU) were analyzed by employing structured equation modeling. A direct impact of technical support on PEOU and PU was confirmed. In addition, an indirect effect of PEOU on WebCT usage and acceptance among students was also confirmed.

(Cheung & Vogel, 2013) predicted user acceptance of collaborative-learning technologies that support group work. The study enhanced TAM and evaluated by the data collected from 136 degree-level students who use Google applications to support their project works. The results showed that PEOU, PU and ATU influence technology adoption. In addition, subjective norm had significant moderating effect in the relationship between attitude and intention toward technology. The results also suggested that the ability to share information influenced intention toward the collaborative-learning technologies.

(Shah, Bhatti, Iftikhar, Qureshi, & Zaman, 2013) investigated the technology acceptance behavior of 400 students using e-learning in rural and urban areas of Pakistan by using TAM. Results indicated the infrastructure of e-learning environment such as information quality, service quality and system quality had a direct effect with PU while PEOU had a significant effect on the intention toward use of e-learning.

Uses of Technology Acceptance Model in various fields:

(Rose & Fogarty, 2006) Rose J. (2006) tested an extended version of TAM in predicting the acceptance and use of Self Service Banking Technology (SSBT) by the senior consumers in Australia. The result indicates that self-efficacy, technology discomfort, perceived risk and personal contact determine the PU, PEOU, ATU and BI toward the acceptance and use of SSBTs.

(Teo, Wong, & Chai, 2008) explored Singaporean and Malaysian pre-service teachers' intention to use technology into their future teaching-learning process. The findings explain that teachers' intention is highly supported by PU, PEOU and ATU.

(Liu, et al., 2010) proposed an extended TAM in order to explore the influential factors that affect the intention to use as online-learning community for learning English

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language among high school students in Taiwan. The result reveals that learners' perceived usefulness directly and strongly affect the intention to use an online-learning community in the context of learning a second language.

(Suki & Ramayah, 2011) explained the e-government services acceptance in terms of compatibility and attitude toward the service together with the other TAM variables PU and PEOU. The study findings suggested that e-government services should be more compatible in order to bring a more positive attitude toward it in Malaysia.

(Park, Nam, & Cha, 2012) verifies TAM to predict university students' acceptance of m-learning by incorporating the factors self-efficacy (SE), major relevance (MR), system accessibility (SA), subjective norm (SN) with the TAM constructs. Latent variable PU, PEOU, ATU considered as the most significant factor among these variables in the context of mobile learning.

(Fan, Haung, Hsu, & Chen, 2013) analyzed the key motivating factors for blog users to examine their behavioral intention for continuing the usage of blog-services by combining TAM and TPB model together with the application of SEM. In order to analyze the impact of contributing factors PU, PEOU, ATU, trust, subjective norm have been used. The result shows that ATU has the strongest influence on the intention to use blog services in Taiwan. (Kanchanatane,

Suwanno, & Jarernvongrayab, 2014) revealed the effect of PU, PEOU, ATU and perceived compatibility on intention to use e- marketing and found that the effect of attitude toward using e-marketing is the most influential factor among the others that affect the behavioral intention to use e-marketing in the context of small and medium sized business owners in three selected provinces of Thailand.

(Cegarra-Navarro, Eldridge, Martinez-Caro, Teresa, & Polo, 2014) used TAM to test citizen engagement towards e-government services introduced by the Spanish Government. The result suggested that among all the core constructs of TAM, attitude toward usage has the most significant effect for the adoption of e-government services.

(Praveena & Thomas, 2014) explored the influential factors that affect the intention to continue the usage of social networking site Facebook by employing perceived enjoyment with PU, PEOU and ATU. The result shows that perceived enjoyment has a significant influence on ATU, however, it does not have a direct influence on continuance intention to use it. Effects of all other variables were found significant for the intention to continue the use of Facebook as a social network among the college students of India.

(Fathema, Shannon, & Ross, 2015) explained an extended TAM in the context of Learning Management Systems (LMSs) used by the university faculty members. The result validated a significant influence of all the core TAM constructs along with system quality, perceived self-efficacy, and facilitating conditions on the behavioral intention to use LMS in the context higher educational institutions in USA.

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(Merchant, Keeney-Kennicutt, & Goetz, 2015) explored the students' intention to use the virtual world of Second Life (SL) as a learning platform of Chemistry using TAM. The study findings identified that in order to learn Chemistry PU, ATU and perceived enjoyment influence students' intention to use SL, whereas PEOU does not have a significant influence on undergraduate students' acceptance in USA.

Research Design

A number of analytical models have been addressed to identify the attitude towards usage and the behavioral intention to adopt various information systems and technologies due to various research phenomena. Until now, the technology acceptance model (TAM) which is a complete analytical model in explaining IT/IS adoption in various situations has been conformed as the most efficient theory. In addition, many scholars have proven TAM as the most influential, dynamic and robust theories in explaining IT/IS adoption behavior by the consumers in a diverse situations. (Cha, Cha, an, & Ta, 1999; Park, 2009; Pavlou, 2003; Zhou, et al., 2007).

In TAM, perceived usefulness (PU) and perceived ease of use (PEOU) are postulated as the cognitive beliefs of TAM. In addition, some specific latent variables, such as the user's behavioral intentions (BIU), attitude (ATU), perceived usefulness of the system (PU), and perceived ease of the system (PEOU) directly or indirectly influence one's actual use of the system. Unlike two cognitive believe together with variable aforementioned, actual use of the system is also affected by numerous external variables through the mediated effects on perceived usefulness (PU) and perceived ease of use (PEOU) (Davis Jr, 1986). Consumer Acceptance of Technology (CAT) model which was directly derived from TAM, by incorporating PAD (Pleasure, Arousal, and Dominance) also proven as a comprehensive and

more powerful tool in describing, and in some cases predicting consumer adoption of a particular IT/IS. Research suggests that TAM is not only a tool for identifying exiting factors but also useful tool for predicting factors (Kulviwat, II, Kumar, Nasco, & Clark, 2007).

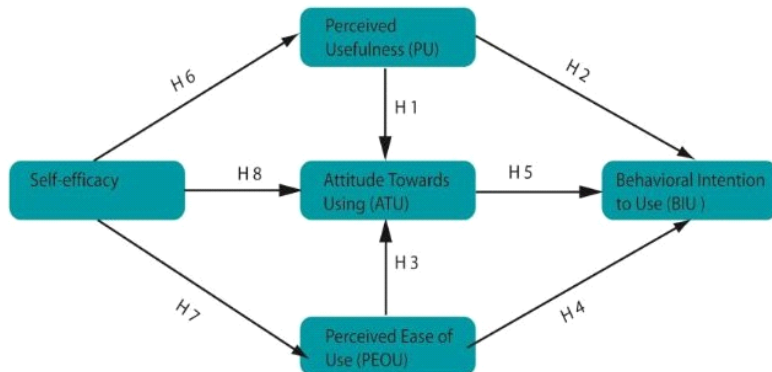


Fig 1: Research Model

In our study, we want to know the factors possibly affecting e-learning adoption in Bangladesh. Hence, TAM was chosen as the most appropriate base theory for this study as it was widely applied and validated by many scholars in various fields.

In this model (e.g. fig 1), all endogenous and exogenous constructs are hypothesized by the arrows describing the cause and effect relationship between two latent variables. Actual construct is excluded from the original model in order to make the model more viable. Latent variable self-efficacy is assumed as a strong determinant for describing the acceptance of e-learning platform in Bangladesh, therefore, included with the model.

Model Variables and Hypotheses development:

In accordance with the literature discussed above and researchers’ prior experience, this study tested the following hypotheses to be analyzed and confirmed:

Perceived Usefulness (PU):

Perceived usefulness is defined as the extent to which a person believes that technology will enhance his productivity or job performance(DAVIS, BAGOZZI, & WARSHAW, 1989). (Ong, Lai, & Wang, 2004) identified factors affecting a specific e-learning system in high tech companies. A sample of 140 engineers was taken for the primary analysis. Result confirmed that all TAM constructs including perceived usefulness significantly affected one’s behavioral intention to use the e-learning system. In this study we are predicting that the perceive usefulness of a system will affect positively to the attitude towards using and the behavioral intention to use e-learning in Bangladesh. Therefore, we propose the following hypotheses:

H1: There is a direct significant positive relationship between Perceived usefulness (PU) and attitude towards the benefit (ATU) of using e-learning system in Bangladesh.

H2: There is a direct significant positive influence of Perceived usefulness (PU) on the Behavioral intention to use (BIU) e-learning system in Bangladesh.

Perceived Ease of Use (PEOU):

In TAM, perceived ease of use is defined as the extent to which a person believes that using a technology will be simple and easy (DAVIS, et al., 1989). Perceived ease-of-use has been examined extensively by many scholars in understanding user acceptance of technology (Venkatesh, 2000). User-friendly interface will directly lead to the behavioral intention to use the e-learning system in Bangladesh. Therefore, we propose the following hypotheses:

H3: There is a direct significant influence of Perceived ease of use (PEOU) on attitude towards the benefit of using (ATU) e-learning system in Bangladesh.

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H4: There is a direct significant positive relationship between Perceived ease of use (PEOU) and Behavioral intention (BIU) to use e-learning in Bangladesh.

Attitude (ATU) and Behavioral Intention to Use (BIU):

(Şenyuva & Kaya) investigated the vocational high school student's attitudes towards e-learning by using the singular and rational survey methods after analyzing 119 students' opinions about the e-learning system. Analysis indicated that learning methods had a significant impact on attitudes towards e-learning. They investigated the relationship between nurses learning tendencies and attitudes towards distance education. Study applied the descriptive research method with a stratified random sample of 417 nurses in Turkey. Result confirmed a weak negative correlation between two the variables. In our study, we are assuming that the positive attitude towards e- learning will lead to behavioral intention to use the platform in Bangladesh. Therefore, we propose the following hypothesis:

H5: Users' attitude towards the benefit of using (ATU) e-learning is positively related to the behavioral intention to use (BIU) e-learning system in Bangladesh.

Self-efficacy:

Self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Such beliefs produce these diverse effects through four major processes. They include cognitive, motivational, affective and selection processes. (Bandura, 1994). (Liaw, 2008) investigated the effect of perceived satisfaction and behavioral intention on Blackboard. Result shows that the satisfaction level of a learner with the e-learning system is critically influenced by the perceived self-efficacy. (Saadé & Kira, 2009) investigated the relationship between computer anxiety and perceived ease of use through the mediated effect of computer self-efficacy. A total 645 students were participated in this survey and the result of the study validated the mediation effect of self-efficacy. In this study, we are assuming that the latent variables perceived usefulness of e-learning system, attitudes towards using the system and perceived ease of the use of a system will increase, if one's computer self-efficacy increases in the Bangladeshi context. Therefore, we propose the following hypotheses.

H6: Perceived usefulness (PU) is directly influenced by Self-efficacy (SE)

H7: Self-efficacy has a direct significant positive influence on Perceived ease of use (PEOU).

H8: Self-efficacy and attitude towards the benefit of using (ATU) e-learning are positively correlated.

Research Methods, Questionnaire, and Statistical Treatment of Data:

Due to the time and resource constraint, the entire study was conducted with the snapshot research approach which is not time consuming and relatively inexpensive in comparison to the longitudinal approach (Abbas & Ahmed, 2014). Population of the study consist of respondents who are already embedded in the e-learning system, and who are not, but possess strong desire and willingness to adopt e-learning within the decided sample frame in Bangladesh. Primary investigation was taken place in Northern University Bangladesh and Daffodil International University in which approximately 25,000 fulltime students are being enrolled in various field of study.

The respondents, who are already using e-learning systems such as google classroom, moodle are declared as the control group. Conversely, those who are not using such type of e-learning platform are treated as the study group. A common, structured questionnaire was used to collect data from both groups during the survey. However, data for this study were collected in two phases. In the first phase, researcher conducted couple of FGDs (Focus Group Discussions) before distributing the structured questionnaire among students since most of the students are unaware of various e-learning platforms existed. In the second phase structured questioners were distributed among 230 students in two different university of which 185 were in Northern University Bangladesh and rest were in Daffodil International University campuses located in Dhanmondi, Banani, and Ashulia, Dhaka. Out of 230 questionnaires, 219 questionnaires were considered valid and encoded into SPSS for primary analysis, 11 questionnaires were rejected due to respondent error. Hence, response rate was 95.0%.

Each individual was asked to indicate the extent of agreement with statements about the adoption of e-learning platform in Bangladesh, using a seven-point Likert Scale ranging from (1) Strongly Disagree to (7) Strongly Agree for each factor adopted from Dawes work (Dawes, 2008).

All hypotheses for the study were tested and analyzed with SMART PLS 2.0 which is a complete Structural Equation Modeling (SEM) tool, developed by Christian Ringle and his team at the University of Hamburg, Germany (Ringle, Wende, & Will, 2005).

Reliability and Validity Analysis:

Table 1: Reliability Analysis: (n=219)

LV	AVE	Composite Reliability	R Square	Cronbachs Alpha	Communality	Redundancy	No of Items.
ATU	0.6083	0.8854	0.2058	0.8377	0.6083	0.1239	5
BIU	0.5866	0.8095	0.4334	0.6468	0.5866	0.2002	3
PEOU	0.6597	0.9063	0.5724	0.8709	0.6597	0.2716	5
PU	0.5444	0.8464	0.2292	0.7709	0.5444	0.1205	5
SE	0.6209	0.8662	0.0000	0.7982	0.6209	0.0000	4

(Source : Estimated Result)

Cronbach's Alpha

The results of Reliability and Validity Analysis are shown in Table 1. A reliability analysis was conducted for the scales using Cronbach's Alpha. Cronbach's alpha reliability coefficient normally ranged between 0 and 1. According to (Gliem & Gliem, 2003), a high value for Cronbach's alpha indicates good internal consistency of the items in the scale, it does not mean that the scale is unidimensional.

As summarized in Table 1, all scales that represent in the TAM constructs appear to have a good degree of reliability since each computed statistic is above 0.70.

Average Variance Extracted (AVE)

According to (Fornell & Larcker, 1981), the Average Variance Extracted (AVE) criterion should be higher than 0.5. Convergent validity assessment is based on the AVE values as the evaluation criterion. From the above table, we can conclude that the AVE value of Perceived Ease of Use (0.6597), Perceived Usefulness (0.5444), ATU (0.6083), and BIU (0.5866), SE(0.6209) are well above the required minimum level of 0.50. Thus, the measures of the four (4) reflective constructs have high levels of convergent validity.

Composite Reliability:

According to (Henseler, Ringle, & Sinkovics, 2009), the composite reliability as a measure of internal consistency should be higher than 0.6. From the above table, we can conclude that composite reliability value of PEOU (0.9008), PU (0.9515), ATU (0.9004), BIU (0.8751), SE (0.8683) demonstrate that all (5) five reflective constructs have high levels of internal Consistency reliability.

Discriminant Validity:

Table 2: Fornell-Larcker Criterion analysis:

LV	ATU	BIU	PEOU	PU	SE
ATU	0.7799				
BIU	0.6102	0.7658			
PEOU	0.6864	0.4713	0.8122		
PU	0.5915	0.5602	0.5982	0.7378	
SE	0.4537	0.5208	0.5533	0.4787	0.7879

(Source : Estimated Result)

Fornell-Larcker (Fornell & Larcker, 1981) Suggested that in order to establish discriminant validity, square root of AVE must be higher than the correlation of the constructs with all other constructs in the structural model. Table 2 indicates square root values of all AVE have been manually calculated bolded and placed diagonal since the version two of the SmartPLS does not perform Fornell-Larcker Criterion analysis directly. The correlations between the latent variables are extracted from the default report of SmartPLS.

Based on the values portrayed above, we can conclude that the discriminant validity is well established.

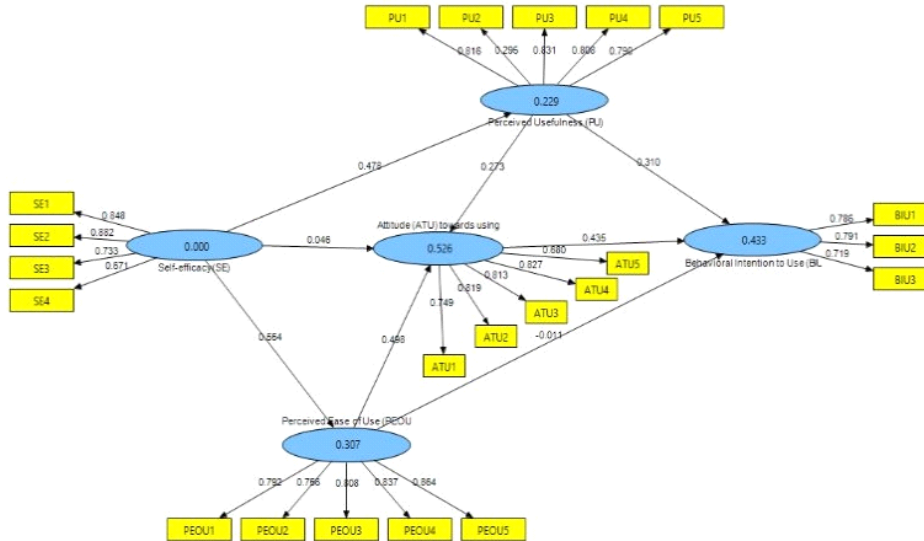


Fig 2: Structural Model

Structural Model

The structural models for this study is portrayed in Figure 2 in which R² represent the value for any endogenous and predicted latent variable. All oval shaped, blue colored latent variables in the model portrayed above are outlining the inner model of the structural model. The arrows of the outer model are forming the reflective measure. Conversely, all rectangular shaped Yellow colored observed variables are outlining the outer model of the structural model. The arrows of the inner model are forming formative indicators or causal model.

R² value shows the amount of variance explained by the other variables in the inner model. R² of endogenous latent variables, ranged between 0 and 1, where a higher value represents better path model estimations.(Henseler, et al., 2009) . In the inner model, (e.g. figure 2) SE (0.000) is not predicted by some other variables as it is declared as exogenous variables.

According to (Chin, 1998), R² values of 0.67, 0.33, or 0.19 for endogenous latent variables in the inner path model are described as substantial, moderate, or weak. However, (Wong, 2013) argued that, in practice, a typical marketing research study should have R² values of at least 0.25. Moreover, in line with the effect sizes for R² (small: 0.02; medium: 0.13; large: 0.26) proposed by Cohen(Cohen, 1988) , we are predicting 20% of the variance in ATU from PU, PEOU and SE. In addition, we are also

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predicting 43% of the variance in BIU from ATU, PEOU, and PU. Furthermore, we are predicting 57% variance in PEOU from PU, ATU and SE.

Structural Equations:

The following structural equations were derived from the research model portrayed above:

- $PU = \gamma_{11}SE + \epsilon_1$
- $ATU = \gamma_{21}SE + \beta_{21}PU + \beta_{23}PEOU + \epsilon_2$

- $PEOU = \gamma_{31} SE + \epsilon_3$
- $BIU = \beta_{41}PU + \beta_{42}ATU + \beta_{43}PEOU + \epsilon_4$

Notes:

γ = Gamma

β = Beta

ϵ = Epsilon

PU = Perceived Usefulness PEOU =
Perceived Ease of Use ATU = Attitude
towards Using SE = Self Efficacy

Correlations Analysis:

Table 3: Latent Variable Correlations (n=219)

	ATU	BIU	PEOU	PU	SE
ATU	1.0000				
BIU	0.6102	1.0000			
PEOU	0.6864	0.4713	1.0000		
PU	0.5915	0.5602	0.5982	1.0000	
SE	0.4537	0.5208	0.5533	0.4787	1.0000

(Source : Estimated Result)

Table 3 provides a summary of a Latent Variable Correlations analysis to test the relationships among the TAM construct. It appears that significant positive relationships were found between SE and PU (0.4787), SE and ATU (0.4537), BIU (0.4713). Therefore, it can be stated that the correlation values are moderate in strength since all calculated values are in between 0.30 to 0.49.

In addition, significant positive relationships were found between SE and PEOU (0.5533), PEOU and PU (0.5982), PU and BIU (0.5602), therefore, it can be concluded that the correlation values are very strong in strength since all computed values are above .50

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However, data do not support a significant relationship between ATU and BIU (0.0000). Thus, we evaluated T statistics and Standard errors in order to check all hypotheses.

Testing Research Hypotheses:

All hypotheses were tested by using SEM tool in order to determine the significant relationship between variables. The sample size of the study is limited to 219. Therefore, we used a significance level of 5 % (± 1.96). If the calculated t-statistics of a hypothesized path is greater than 1.96, the Hypothesized path between variables in the inner model will be considered as statistically significant.

Table 4: Testing Research Hypotheses: (n=219).

Hypothesized Paths	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics ((O/STERR))	Result of Hypothesized paths
ATU->BIU	0.4345	0.4333	0.1219	0.1219	3.5647	Accepted
PEOU->ATU	0.4985	0.4836	0.1202	0.1202	4.1465	Accepted
PEOU -> BIU	0.0114	0.0865	0.0662	0.0662	0.1719	Rejected
PU -> ATU	0.2732	0.2834	0.0897	0.0897	3.0455	Accepted
PU -> BIU	0.3096	0.3147	0.1057	0.1057	2.9287	Accepted
SE -> ATU	0.0462	0.0849	0.0635	0.0635	0.7272	Rejected
SE -> PEOU	0.5539	0.5591	0.0659	0.0659	8.4004	Accepted
SE -> PU	0.4784	0.4882	0.0630	0.0630	7.5963	Accepted

(Source : Estimated Result)

Based on T values portrayed in the column seven, we can conclude that seven of the eight path coefficients in the inner model are statistically significant. As we know that, the t- values can be compared with the critical values from the standard normal distribution to decide whether the coefficients are significantly different from zero. For example, the critical values for significance levels of 5 % ($\alpha = 0.05$) probability or error are 1.96, respectively (two tailed test).

Conclusion and Implications :

This study attempted to identify determinants of students' acceptance of various e- learning platforms introduced by Bangladeshi universities. Study also intended to confirm TAM to be a useful theoretical model in examining and explaining the behavioral intention to adopt e- learning platforms by the university students in Bangladesh. Result shows that all variables except PEOU had significant positive effect on BIU. However, data do not support the significant relationship between SE and ATU.

For this study, two private universities were selected randomly and conveniently as these universities have the practice of using various e-learning tools. As respondents were taken only from these two universities the findings of the study may not be generalized in the aspect of the overall scenario of Bangladesh. However, the data were examined through several reliability and validity tests to ensure accuracy at its highest.

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Our results reveal that Bangladeshi students consider e-learning platforms useful but not an easy way to adopt; however, they have a positive attitude toward the adoption. On the other hand, data do not support the significant relationship between self-efficacy and attitude, but it has demonstrated significant relationships between other TAM constructs such as PU, PEOU.

E-learning is an emerging concept in the field of education in Bangladesh as Internet is becoming more affordable and convenient for the people day by day. Moreover, in order to ensure high quality at tertiary level of education, university management is employing diverse e-learning tools as well. Hence, academic research on this platform is becoming very crucial. As a result, this study may act as a guideline for the posterior researchers in the field of e-learning with the application of structured equation modeling accommodating other different private universities and public universities of Bangladesh. The findings can also be useful in comparative case studies.

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