



Key Influencing Factors for Adopting E-learning Platforms of Private University Students' in Bangladesh

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Abstract: Now a days-learning is gaining popularity in many universities world wide. A successful e learning implementation mostly depends on understanding its needs as well as willingness of all stakeholders in particular e-learning environment. In a developing country like Bangladesh, e-learning is not widely used by many institutions as such students are unaware of the benefits of using e-learning. This study has been conducted with the aim of identifying the key influencing factors affecting e- learning adoption in Bangladesh. A total number of 180 students were selected randomly, and provided with structured questionnaires after conducting couple of FGDs(focused grouped discussion) and in depth interviews in a classroom environment. SPSS software was used to conduct reliability test and factor analyses. The study found that the e-learning platforms are useful, but not an easy way to adopt in Bangladesh. The pitfall can be overcome by providing intensive training in order to improve the limit of knowledge and skills of students in Bangladesh.

Keywords: E-learning, E-willingness, Higher Education, Developing Country

1. Introduction

E-learning is an emerging concept in higher education in Bangladesh. It 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. For ensuring quality education, recently various e-learning tool such as Google classroom, Moodle, VUES (Virtual University Expert System) are being developed and used by some Bangladeshi private universities. To achieve institutional goals such as knowledge sharing and knowledge creation, the user acceptance of e-learning tools and techniques are regarded as an essential factor. Through this study, an effort has been made to identify the influencing factor of private university students' adoption of various e-learning platforms.

2. Literature Review

'Dai[1]' identifies that perceived usefulness, perceived ease of use of e-learning systems have a significantly affect

on attitude. Then attitude, subjective norm and perceived behavioral control have a significantly positive impact on intention to adopt e-learning systems. 'Zhang, Wen, Li, Fuand Cui[2]' found that some perceived innovative attributes such as cost, quality, schedule control, certification of degree, personal demands and soon have more influence on people's adoption of e-learning. 'Kituyi and Tusubira[3]' worked to design a framework for integrating e-learning in higher education institutions in developing countries. For e-learning integration Use of projection equipment; use of e-learning methods to teach and face to method to administer tests and exams; incorporation of 3D pictures, audio and videos in classrooms among others are required.

'Tubaishat and Lansari[4]' found that students' acceptance level is high in adopting e-learning. They also found that a fairly high percentage of students think that e-learning could contribute positively to their learning experience. Alak & Alnawas [5] found a positive relationship between perceived usefulness, perceived ease of use, computer knowledge,

management support and intention to adopt. Nelson suggests specific salient beliefs that may influence technology usage such as users' attitude, subjective norm, perceived behavioral control, perceived usefulness and ease of use of the system etc.

'Abbad, Morri, and Nahlik[6]' identified some of the major factors that affect students' adoption of e-learning system in a university of Jordan. Use of technology in learning, knowledge of the factors that affect IT adoption, availability of backup technical support, ease of use are the factors. 'Ad-wan and Smedley[7]' suggest that training and development, organizational infrastructure can influence to adopt e-learning in educational institutions. 'Mayoka and Kyeyune[8]' found that Assistant Lectures and Lecturers were more enthusiastic to adopt to e-learning than their senior counterparts. The research also indicates that although students are aware of e-learning, many of them were not comfortable using the technology. The main obstacles for adopting e-learning were lack of resources, knowledge and resistance to change. 'Curran[9]' examined the e-learning strategies adopted by universities. It is concluded that the most striking characteristic of the e-learning strategies adopted by universities is their diversity, and inherent characteristic of adaptability in use and flexibility in application.

'Merchant, Keeney-Kennicutt, & Goetz[10]' 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. 'Shah, Bhatti, Iftikhar, Qureshi, & Zaman[11]' 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.

Farahat[12]' investigated relationships and influences of determinants SI, ATT, PU, PEU and BI on students' intention to practice online learning. He found PU and PEU as significant predictors for students' behavioral intention to use online learning. Moreover, he found significant influence of PEU on the PU of the system. 'Costa, Alvelos & Teixeira[13]' analyzed the use of Moodle e-learning platform. The result of the analysis showed that students use e-learning to a large extent as a repository of materials and information. However, students recognize the necessity of the use of other processes of e-learning platform to implement the learning process.

'Dahalan, Hassan, & Atan[14]' investigated 205 participants to identify learner's attitudes toward e-mentoring. The results showed that there is a positive correlation between learners' attitude toward online learning environment and e-mentoring. 'Rhema & Miliszewska[15]'

examined Libyan engineering students' experiences and perceptions towards e-learning. The results showed that there is a positive attitude and willingness of both female and male students toward ICT and e-learning. The study also found that there is positive correlation between students' attitude toward technology and their access levels to different technologies.

'Liaw, Huang & Chen[16]' investigated 168 participants to analyze learners' attitude factors toward e-learning systems. The study result showed that e-learning is influenced by both individual autonomy and teacher's assistance. Furthermore, multimedia instructional content and problem-solving environment also act as significant factors toward using effective e-learning system.

3. Research Methodology

In this study respondents consist of private university's students. Research data were collected through questionnaire followed by focused grouped discussion, completed by the students who are studying in Northern University Bangladesh.

Total one hundred and eighty participants completed the survey questionnaire measuring their responses to perceived usefulness (PU), perceived ease of use (PEOU), attitude toward usage (ATU), behavioral intention to use (BIU) and self-efficacy (SE) to use e-learning platform. The participants were selected randomly from one private university.

The questionnaire is divided into two main sections, like respondent profile and application of the technology acceptance model. Questionnaire measures and items were mainly adopted from prior TAM related studies published by renowned journals. To match the research, some words were changed.

A seven-point Likert Scale ranging from (1) strongly disagree to (7) strongly agree for each factor was used for this study. The collected data were coded into SPSS20 program for reliability analysis and factor analysis.

4. Reliability and Validity Test (Cronbach's Alpha)

Table 1. Reliability analysis: (N=180).

Variables	Cronbach's Alpha	No of items
PU	.908	5
PEOU	.863	5
ATU	.791	5
BIU	.735	3
SE	.742	4

Table 1 represents the result of reliability analysis. Cronbach's alpha reliability coefficient normally ranged between 0 and 1. A high value for Cronbach's alpha indicates good internal consistency of the items in the scale. As per table 1, all scales appear to have a good degree of reliability since each computed statistic is above .70.

5. Factor Analysis

Table 2. *KMO and Bartlett's Test.*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.866
Approx. Chi-Square	2.276
Bartlett's Test of Sphericity	Df 231
Sig.	.000

In this study KMO and Bartlett's test is used to analyze whether the variables are suitable for factor analysis or not. It is said that larger the value of Bartlett test, the more suitable the factor analysis is. The result of KMO and Bartlett's test are shown in the above table. According to the table it can be said that the raw data are suitable for factor analysis since the calculated value of sample adequacy is 0.866 which is above 0.70.

Table 3. *Communalities of Different Factors.*

Communalities	Initial		Extraction	
I found using the e-learning platform useful.	1.000		.796	
Using the e-learning platform will enhance my effectiveness in learning.	1.000		.656	
Using the e-learning platform will enable me to accomplish my assessment more quickly.	1.000		.788	
Using the e-learning system will improve my school work performance.	1.000		.746	
Using the e-learning platform will make my academic life easier.	1.000		.794	
Overall, I found the e-learning platform easy to use.	1.000		.624	
It is easy for me to remember how to carry out tasks using the e-learning system.	1.000		.545	
My interaction with the e-learning platform is clear and understandable.	1.000		.668	
It will be easy for me to become skilful at using the e-learning platform.	1.000		.746	
I found the e-learning platform to be Flexible to interact with.	1.000		.742	
I have a generally positive attitude toward using the e-learning platform.	1.000		.744	
Overall, I will enjoy to use e-learning platform.	1.000		.659	
I believe it is a good idea to use e-learning platform in my study.	1.000		.764	
I like the idea of using the e-learning platform.	1.000		.747	
The e-learning system will provide an attractive e-learning environment.	1.000		.516	
I intend to use the e-learning platform frequently in my academic life.	1.000		.732	
I intend to use the e-learning platform as soon as possible.	1.000		.729	
I plan to use the e-learning platform in the future.	1.000		.788	
I would complete most tasks using e-learning platform if there is no one around to tell me what to do.	1.000		.749	
I would complete most tasks using e-learning platform if i call someone for help if i got stuck.	1.000		.800	
I do not anticipate any problems using e-learning platform in my academic life.	1.000		.815	
I have all the technical knowledge that i need to deal with e-learning platform, all i need now is practical experience.	1.000		.769	

Extraction Method: Principal Component Analysis.

The proportion of variance in any one of the originvariables, which is begin captured by the extracted factor, is known as communality (Nargundkar, 2002). Communalities table tells us that after six factors are

extracted and retained in rotated component matrix the communality is .796 for variable 1, .656 for variable 2 and soon.

Table 4. *Rotated Component Matrix^a.*

Measures	Factor Loading					
	1	2	3	4	5	6
Using the e-learning platform will enable me to accomplish my assessment more quickly.	.809					
Using the e-learning platform will make my academic life easier.	.865					
I found using the e-learning platform useful.	.806					
Using the e-learning system will improve my school work performance.	.799					
Using the e-learning platform will enhance my effectiveness in learning.	.697					
It will be easy for me to become skilful at using the e-learning platform.		.785				
My interaction with the e-learning platform is clear and understandable.		.774				
I found the e-learning platform to be Flexible to interact with		.758				
Overall, I found the e-learning platform easy to use.		.641				
It is easy for me to remember how to carry out tasks using the e-learning system.		.626				
I have a generally positive attitude toward using the e-learning platform.		.583				
I believe it is a good idea to use-learning platform in my study.			.824			
I like the idea of using the e-learning platform.			.792			
The e-learning system will provide an attractive learning environment.			.614			
Overall, I will enjoy to use e-learning platform.			.543			

Measures	Factor Loading					
	1	2	3	4	5	6
I intend to use the e-learning platform frequently in my academic life.				.761		
I intend to use the e-learning platform as soon as possible.				.752		
I plan to use the e-learning platform in the future.				.700		
I would complete most tasks using e-learning platform if there is no one around to tell me what to do.					.791	
I would complete most tasks using e-learning platform if i call someone for help if i got stuck.					.694	
I have all the technical knowledge that i need to deal with e-learning platform, all i need now is practical experience.						.811
I do not anticipate any problems using e-learning platform in my academic life..						.767
Eigen value	8.411	1.918	1.647	1.561	1.33	1.048
Variance explained (%)	38.234	8.717	7.487	7.098	6.046	4.765
Cumulative variance explained(%)	38.234	46.951	54.438	61.535	67.581	72.346

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

6. Discussion

The first factor includes five sub factors, which are categorized under perceived usefulness. Here, e-learning platform will enable to accomplish students' assessment more quickly has got the highest importance and e-learning platform will enhance students' effectiveness in learning has got the lowest importance. The second factor includes six sub factors which are categorized under perceived ease of use and attitude towards usage. Among them students will become skilled by using e-learning platform has got the highest importance and students' have positive attitude toward using the e-learning platform has got the lowest importance. There are four sub factors in third factor which are categorized under attitude towards usage. Here students' believe that e-learning platform is a very good idea has got highest and students enjoy to use e-learning platform has got lowest importance. There are three sub factors in fourth factor which are categorized under behavioral intention to use.

7. Conclusion

According to Rogers and Shoemaker (1971), training increases the chances of technology acceptance by users. From this study, it can be suggested that universities should work towards improving knowledge and skills of students and staff through training. Training will also improve perceived ease of use which directly translates into early adoption. Students have positive attitude toward e-learning system, but they are reluctant to adopt e-learning platform because of insufficient training facilities.

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