

Students' Acceptance and Commitment to E-Learning: Evidence from Pakistan

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Abstract *Technology enabled learning is widely growing throughout the world at consistent pace. The increasing acceptance of e-learning lies in its time, distance and resource advantages comparing with traditional face to face learning. This research study was conducted to know the factors affecting students' acceptance and commitment with e-learning based on responses from 120 online students enrolled in Commonwealth of learning MBA/MPA programme in Allama Iqbal Open University of Pakistan. Results showed the favorable attitude and commitment with e-learning by the students. Students' characteristics and, technology and resources were found as the two key factors explaining the acceptance and commitment with e-learning. Managerial implications are discussed based on the research findings.*

Keywords : *Instructors' characteristics, students' characteristics, technology and resources, and Olive structure, study material and contents and e-learning acceptance and commitment*

Introduction

Overview to E-Learning and its Significance

Learning is a process which starts during very initial ages of life cycle and continue and never stop till the demise. We have different reasons, intentions and aspirations behind learning. In corporate environment, people learn as they have the desire to be rewarded and excel from counterparts or even some time to refrain punishment. On the hand, status, knowledge thirst, power, employment, job obligation, self-satisfaction and social pressure are also the main antecedents to learning (Cross, 2004a). In the society, learned persons are always regarded therefore, we observe natural tendency of individuals toward learning to enhance knowledge, skill and attitude.

Organizations have now realized the fact that their long-term success is only possible if they have the ability to develop and retain human capital. Especially intellectual capital has become the primary factor of production (Cross, 2004b). This might be the reason, corporations motivate and provide financial assistance to their employees to learn and serve. Broadly training, academic education and self development are the three main approaches to facilitate learning process. Education is categorized as the best method to impart and capitalize learning.

With the advent of e-learning, the development process has now been revolutionized. E-learning is the web-based learning which utilizes web-based communication, collaboration, multimedia, knowledge transfer, and training to support learners' active learning without the time and space barriers (Lee, Yoon, and Lee, 2009).

Universities and educational institutes have incorporated e-learning in their teaching and learning methodologies to facilitate students. Face to face learning postulates time and space barriers as learners are

required to acquire knowledge at specific time and location. On the other hand, e-learning provides time and place utility. In addition, e-learning allows students to continue their educational journey in cost effective way and facilitate the dissemination of knowledge in timely manner (Lee, Yoon, and Lee, 2009). As Paechter and Maier (2010) argued that e-learning is the best option when skills in self-regulated learning are to be acquired.

Allama Iqbal Open Univeristy and its E-Learning Effort

Allama Iqbal Open University (AIOU) is a distance learning university established in 1974 with the aim to provide education to those individuals who can not continue their education due to distance, cultural or traditional bondages. In 2003, AIOU offered Commonwealth of Learning MBA/MPA programme to empower executives with the professional learning and to enable them in harnessing the economic and social development of Pakistan. By keeping the significance of e-learning into account, in 2008 AIOU offered some of its programmes by incorporating e-learning in its education delivery system. Their e-learning platform was termed as *Open Learning Institute of Virtual Education (OLIVE)* which is duly based on Moodle (Learning Management System). Parallel to face to face mode of study, their e-learning efforts is also successfully being carried out through out the country.

Contemporary researches conducted in e-learning domain shows astounding acceptability of e-learning in various environment. However, the contribution from Pakistani environment is still awaited. Over past two years, despite wide appreciation and gradual increase in student enrollment in olive system, there has not been any effort made to know the level of students' commitment with e-learning (Olive in AIOU environment).

Literature Review

E-learning has acquired attention of various researchers due to its gradual prevalence and flexibility. Most of the research studies were made in streamlining the implementation and adoption of e-learning (Ali and Magalhaes, 2008; McPherson and Nunes, 2008; Selim, 2007). In addition, extensive review of the literature shows that e-learning acceptance, effectiveness, participation and student satisfaction remained the focal point of various researches. Although all these factors tend to focus at the e-learning success in long-run in different settings but literature does not reveal any sufficient evidence relating to students' loyalty and commitment with e-learning for future. As the following excerpts show the key issues addressed in the e-learning domain;

E-learning Acceptance

The study of (Lee, Hsieh, and Ma, 2010) revealed that individual, organizational, and task characteristics were the key predictors of e-learning acceptance in organizational contexts therefore incorporating such measures may enhance employees' acceptance of e-learning systems more effectively and efficiently. Lee, Cheung, and Chen, (2005) conducted a study to know the influence of extrinsic (perceived usefulness and ease of use) and intrinsic (perceived enjoyment) factors on the acceptance of e-learning. Perceived usefulness and perceived enjoyment were found the main predictors towards intention to use e-learning. While ease of use couldn't significantly explain the criterion.

Yiong, Sam and Wah (2008) also strived to know the acceptance of e-learning among distance learners at the Open University of Malaysia by investigating students' behaviors and attitudes towards e-learning, institutional factors, instructors' characteristics, interactive applications and technology or system. Results showed the moderate level of acceptance. Ahmed, (2010) made a little different effort within the context of e-learning as the author investigated the acceptance of hybrid e-learning through three variables i.e. information technology infrastructure, instructor characteristics and organizational and technical support.

All the three critical success factors significantly and directly impacted the learners' acceptance of hybrid e-learning courses.

E-Learning Effectiveness

Numerous efforts have been made in determining the factors that can enhance e-learning effectiveness. As Johnson, Gueutal and Falbe (2009) conducted a study to integrate previous research findings about the factors which affected e-learning effectiveness. Results revealed that individual learner characteristics and technology characteristics are the two factors that enhance e-learning effectiveness only if meta-cognitive abilities mediate this relationship. Meta-cognitive activity reflects an individual's awareness, knowledge and regulation of his or her cognitive processes (Flavell, 1979). Another research effort was made by Poon, Low and Yong (2004) to know the effectiveness of the online learning process through students' behavior, characteristics of lecturers, interactive application, technology or system, and the institutions. All the factors were found to be the main predictor of the effectiveness of e-learning.

Participation in E-Learning

Researchers have recommended different measures in order to enhance participation in e-learning from the students. Generally student satisfaction and perceived usefulness are the key factors in explaining the behavioral intention of learners to use the e-learning system (Liaw, 2008). Perceived usefulness was also reported by Lee, Yoon and Lee, (2009) as key predictor towards e-learning participation. Moreover Lee, Yoon and Lee, (2009) presented the significant influence of instructor characteristics and teaching materials on perceived usefulness of e-learning, while perceived usefulness and playfulness were found as the predictors of the intention to use e-learning.

On the other hand, Garavan et al., (2010) showed that person's characteristics, perceived barriers and enablers, motivation to learn, self-efficacy, and instructional design characteristics predict the participation in e-learning.

Schneckenberg (2010) made a different attempt by targeting faculty members to know the factors affecting their participation in e-learning and concluded that universities will have to create innovative portfolios including formal and non-formal measures like communities of practice, peer groups and networks. Furthermore, institutional incentives like e-learning rewards and career opportunities may also be given to key users of e-learning for sustained use of e-learning technologies in their respective course teaching.

Student Satisfaction with E-Learning

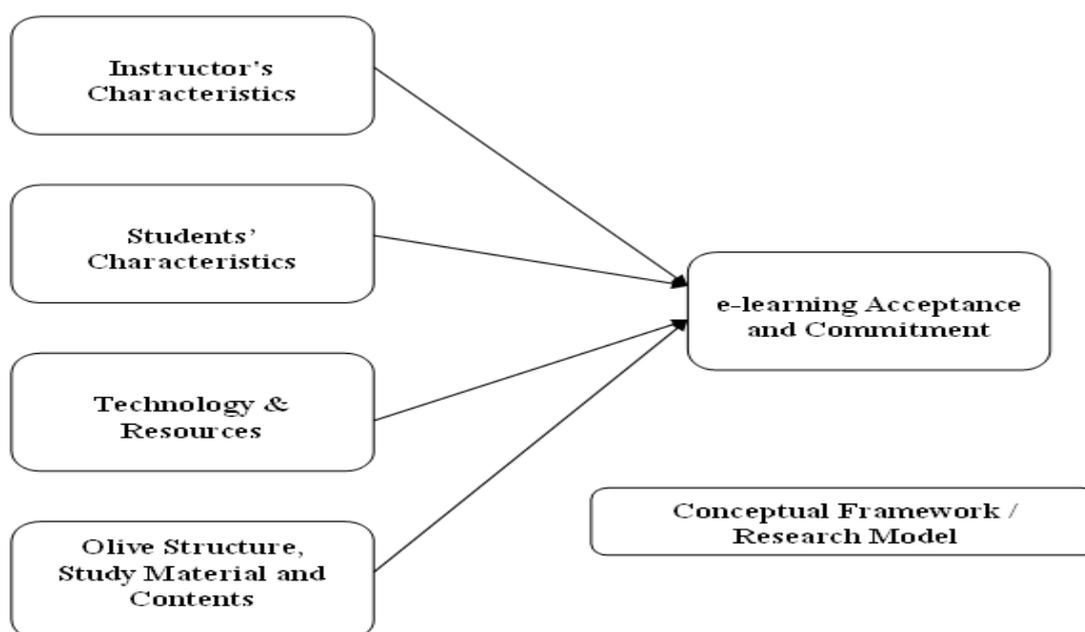
As mentioned before, satisfied students are likely to exhibit more behavior intentions to use e-learning system (Liaw, 2008). Therefore, preceding researches are enriched with measuring student satisfaction and its determinants. Flexibility in terms of time and place are considered as the factors that students appreciate in e-learning (Hong, Lai and Holton, 2003). But student satisfaction with e-learning also largely depends on instructor's expertise in e-learning. Instructors' counseling and support also helps in explaining the e-learning achievement and course satisfaction (Paechter and Maier, 2010). Student-instructor interactions also reported as key instrument for students' satisfaction by Hong (2002). Especially instructor needs to provide high assistance at the start of the course for better student satisfaction (Hong, 2002).

Wang (2003) conducted a study by analyzing adult respondents and found that personalization, content, learning community and learner interface were the key factors that help in measuring student satisfaction with e-learning systems. Lu and Chiou (2010) endeavored to know the impact of contingent variables on the relationship between four predictors (interface friendliness, perceived community, content richness, perceived flexibility) and students' satisfaction with e-learning. All the variables were found key predictors to students'

satisfaction with e-learning while among the three contingent variables (Gender, job status and learning style), only student job status and learning styles produced statistically significant moderating effects on the relationship between predictors and e-learning system satisfaction (Lu and Chiou, 2010).

Malik (2009) effort was more contextualized in nature. The study revealed the factors from Pakistani perspective which played influential role towards student web-d learning satisfaction. Findings showed that facilitation of technical matters, attitude of student and instructor, their computer efficacy, teacher response during e-learning, friendly interface of the e-learning environment were the core factors that influence student satisfaction towards e-learning.

Based on the previous researches, this study endeavored to investigate the factors predicting e-learning acceptance and commitment with the context of Open Learning Institute of Virtual Education (OLIVE) system of Allama Iqbal Open University. Students' commitment with e-learning in this study is defined as "the extent to which students are deeply involved and motivated towards e-learning and willing to incorporate e-learning as an independent mode of learning system in future". While the predictors included instructors' characteristics, students' characteristics, technology and resources, and Olive structure, study material and contents.



Methodology

Participants

Students enrolled in the Commonwealth of Learning MBA/MPA Programme and opted *Open Learning Institute of Virtual Education (OLIVE)* system as mode of study were treated as the population of the study. No distinction was made with respect to their semester level and number of courses opted. Even the students who had discontinued their online educational journey partially or fully were also targeted to know the attitude. University record showed that in total 131 students were coming under these specifications.

Procedure

Keeping in view the limited size of population, an attempt was made to collect as many responses from the target population of the study. Students using e-learning system in their education might feel it comfortable to

respond through the website / online survey. Therefore a questionnaire was developed in soft form by using the services of <http://freeonlinesurveys.com/>. The questionnaire was forwarded to all students with brief information about the main purpose of the study through email. Some students were also given hard copies of the questionnaire on their convenience. By considering the pressing academic schedule, questionnaires were floated during holidays. However, it was made mandatory to each student to forward duly filled in questionnaire within seven days of receipt of email. Such measures helped in collecting around 127 responses. Some of questionnaires were deleted as seen attempted in casual way. The survey was totally anonymous and students were not required to show their identify. Ultimately responses of 120 students were analyzed through SPSS 15.0.

Measures

Instructor's Characteristics, Student's Characteristics and Technology & Resources

Items to measure instructor's characteristics and student's characteristics were taken from the study of Selim (2007). For instructor's characteristics total 8 items were given while for student's characteristics it was 7. Five point likert scale ranging from 1. Strongly Disagree to 5. Strongly Agree was used to record responses.

Olive Structure, Study Material and Contents

To measure Olive structure, study material and contents, total 8 items were used. All the items were self-constructed and based on five point likert scale ranging from 1. Strongly Disagree to 5. Strongly Agree.

E-learning Acceptance and Commitment

The construct of e-learning acceptance and commitment being broad in nature, was measured with 11 items. These items were taken from different studies of Liaw (2008) and Lee, Hsieh and Ma (2010). However, some of items were slightly modified and few items were self-constructed. All the items were based on five point likert scale ranging from 1. Strongly Disagree to 5. Strongly Agree.

Results

Demographical Analysis

Demography of the population shows that most of the subjects were between 26 to 45 years of age as 58% selected this age bracket. Reason being only executives working at managerial level could take admissions in the online Commonwealth MBA/MPA programme. Most of the respondents were male (68%) while 32% were females. Since individuals having 14 years of education could be enrolled therefore, respondents with bachelor level of degree (14 years of education) were calculated as 64% while 33% had acquired master level (16 years) of education. Furthermore, 76% of the respondents were employed and 22% were managing their own business affairs.

Measures	Items	f	Percentage	Measures	Items	f	Percentage
Age	Less than 25	32	27%	Income Level	Below 20,000	3	3%
	26-35	41	34%		21,000-30,000	29	24%
	36-45	29	24%		31,000-40,000	35	29%
	46 or Above	18	15%		41,000-50,000	42	35%
Gender	Male	82	68%		Above 50,000	11	9%
	Female	38	32%	Tenure of Employment	2-4 yrs.	43	36%
Highest Level of Education	Bachelors	77	64%		5-10 yrs.	66	55%
	Masters	39	33%		10 or above	11	9%
	MS/M.Phil	4	3%	Semester	1st	32	27%
	PhD	Nil	Nil		2nd	53	44%
Occupation	Self-Employed	26	22%		3rd	28	23%
	Employed	91	76%		4th	7	6%
	Others...	Nil	Nil				

84% of the subjects revealed their income level between 21,000 to 50,000. Employees working at lower and lower middle level of management in Pakistan roughly earn from 40,000 to 50,000 on monthly basis, therefore this figure looks quite logical. Most of the respondents showed their working experience between 5-10 years. In Pakistan normally students look for job after graduation or post-graduation degree. After serving the organization for few years, they start enhancing their educational level for the sake of their career growth. Our respondents were mostly from 2nd semester of the Commonwealth MBA/MPA programme as representing 44% of the sample while other highest representation was obtained for 1st and 3rd semesters as 27% and 23% respectively.

Analysis

Descriptive results of the collected data shows positive trend of all variables. Students using e-learning were agreed with various items relating to instructor's characteristics (Mean = 3.24, SD = 0.86), student's characteristics (Mean = 3.35, SD = 0.66), technology and resources (Mean = 3.54, SD = 0.57), olive structure, study material and contents (Mean = 3.44, SD = 0.51) and e-learning acceptance and commitment (Mean = 3.64, SD = 0.60) within the context of *Open Learning Institute of Virtual Education (OLIVE)*.

	Mean	Std. Deviation	IC	SC	TR	OSSMC	EAC
Instructor's Characteristics (IC)	3.24	0.86	0.788				
Student's Characteristics (SC)	3.35	0.66	0.30	0.800			
Technology and Resources (TR)	3.54	0.57	0.22	0.41	0.800		

Olive Structure, Study Material and Contents (OSSMC)	3.44	0.51	0.20	0.22	0.24	0.824	
E-learning Acceptance and Commitment (EAC)	3.64	0.60	0.49	0.64	0.61	0.38	0.888
**Correlation is significant at the 0.01 level (2-tailed).							
*Correlation is significant at the 0.05 level (2-tailed).							
Cronbach Alpha reliabilities values are given in parenthesis							

While the correlation results also showed strong positive relationship between all independent variables with dependent variables. Especially, the results highlighted the strong positive association between students' characteristics and e-learning acceptance and commitment ($r=0.64$, $p < 0.05$) and also between technology and resources and e-learning acceptance and commitment ($r=0.61$, $p < 0.05$).

Dependent Variable	Independent Variables	Adjusted R Square	β	<i>t Stat</i>	<i>P-value</i>
E-learning Acceptance and Commitment	Instructor's Characteristics	0.6391	0.1857	4.5223	0.0000
	Student's Characteristics		0.3386	5.9384	0.0000
	Technology and Resources		0.3894	5.9391	0.0000
	Olive Structure, Study Material and Contents		0.1893	2.7829	0.0063

Regression results revealed the strong effects of nearly all explanatory variables i.e. instructor's characteristics, student's characteristics, technology and resources, olive structure, study material and contents on criterion variable i.e. e-learning acceptance and commitment. Total 63.91% ($\Delta R = 0.6391$) variations in e-learning acceptance and commitment is explained by all predictors. The most predicting qualities were found with students' characteristics ($\beta = 0.34$, $t = 5.94$) and technology and resources ($\beta = 0.39$, $t = 5.94$). Coefficient values for instructors' characteristics and olive structure, study material and contents remained as ($\beta = 0.19$, $t = 4.52$) and ($\beta = 0.18$, $t = 2.78$).

Discussions and Findings

The results of the study showed an encouraging finding regarding the perceptions of the students about various measures of e-learning and its acceptance and commitment. During theoretical review, it was observed that previous researchers are more inclined towards measuring information system success, determining students'/employees' attitude towards technological learning, student satisfaction, e-learning effectiveness, e-learning participation etc. However, not much found about determining the factors causing involvement and commitment to use online based learning mechanism for longer period of time. Therefore, this study was an effort in this regard to highlight some of the factors impinging upon students' acceptance and commitment with e-learning for future.

Students were of the view that they were comfortable with using personal computers and it was their own preference to select e-learning rather intimidated by anyone. Secondly, they appreciated the way their instructor put efforts in e-learning system of education. According to their opinion, their instructors were passionate towards this particular system of learning, therefore always found well composed and prepared for contents delivery. In emerging world, energy problems and resource unavailability may pose impediments in proper penetration and usage of technological means. However, the subjects under study were found satisfied with the availability of high speed computers and internet in educational premises and offices. Even showed satisfaction with course contents and updated supplementary material. All in nutshell, students using e-learning were found adequately motivated towards this mode of study and recommended this as an autonomous learning tool.

Significantly high relationships are found between independent and dependent variables. Especially students' characteristics were found highly related with the e-learning acceptance and commitment. This shows that when students are comfortable and accustomed with using PC and internet then it entices them to prefer e-learning over traditional face-to-face learning. Another significantly high relatedness is found between technology and resources and e-learning acceptance and commitment. This validate the concept of flexibility and easiness of technological resources as when students found e-learning mechanism (Olive) easy to operate and requisite course material is well placed then it ultimately enhances the satisfaction with e-learning functions / components. Furthermore, relatively low but significantly high association was calculated between instructors' characteristics and e-learning acceptance and commitment. It reveals that e-learning acceptance also largely depends upon online teacher/tutor. When they effectively deliver online lectures and found receptive towards students' queries then it generates the interest and motivation of students which further generates loyalty to e-learning as preferring e-learning in other educational programmes.

Regression analysis was also carried to know the interdependence of the variables. Regression results explained the strong predicting qualities of nearly all explanatory variables on criterion variables. Especially, student's characteristics and technology and resources are the two core factors determining e-learning acceptance and commitment. Students who have friendly attitude towards technology and having all the facilities to continue their online education may accept e-learning system voluntarily. Every individual has been affected due to wide prevalence of technology but some people take it whole heartedly and incorporate internet and Information Technology in official work, learning, serving, fun etc. Such individuals are more comfortable with e-learning than traditional face-to-face learning. However, technology resources and equipment may pose threat to such segment. In country like Pakistan, where power sector is facing crisis and internet facilities are also little expensive in relation to the purchasing power of common citizens, students feel insecure in preferring e-learning. Therefore, facilitating them in this regard may enhance e-learning acceptance and commitment at large.

In conclusion, the results of this study shows that when instructors are enthusiastic about e-learning, students are comfortable with using technology and have all the technological resources, and last not the least when they have easy access to the Internet wherever they move then all such facets help to make them committed with e-learning on lasting basis.

Practical Implications

The author presents following implications based on the result of this study;

1. There is a strong need to hire online instructors/tutors/teachers having key interest and command on e-learning. Instructors need to motivate students in using all the components such as discussion forums, e-chats and other supplementary materials, and also be responsive towards student's questions and queries.
2. Universities and educational institutes should enroll students who are willing to take e-learning

- mode of study voluntarily rather forced to do so. Students having interest in e-learning incorporate all the components of e-learning in their learning process.
3. Technology and resources play vital role for the wide acceptance and commitment of e-learning. It is the prime duty of the government to provide technological resources (computers, notebooks, internet etc) at reasonable prices so that students can take the best advantage not for e-learning but also for any kind of learning activity. High speed internet and advanced computers with updated features would certainly enhance the motivation towards e-learning.
 4. For the success of e-learning, sufficient teaching materials should be placed at the website related to course objectives and it should be sufficient, interesting and updated regularly.

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