

How to Increase Student Retention in MBA Programs with an Online Element?

Nitza Geri

nitzage@openu.ac.il

The Department of
Management and Economics
& Chais Research center
for the Integration of
Technology in Education
The Open University of Israel

Orr Mendelson

orrme@openu.ac.il

Faculty of Management
Tel-Aviv University & The
Department of Management
and Economics
The Open University of Israel

David Gefen

gefend@drexel.edu

Management Department
LeBow College of Business
Drexel University, Philadelphia

Increasing retention in MBA programs and having the students recommend it to others is crucial for the ongoing financial success of these programs. E-learning has been proposed as one way of doing so and many universities are investing heavily in improving the website quality of their courses. This study probes the effectiveness of these investments, examining how various aspects of the online learning experience contribute to and compare with overall satisfaction with the learning assistance quality at the websites.

The data, collected from MBA students who participated in a blended distance learning MBA program which included online courses as an integral part of the program support the model, shows that the most important thing to influence both retention and recommendations was overall satisfaction with the quality of the learning tools. The quality of the auxiliary technical, teaching, and communication services of the websites contributed to the quality of learning but did not contribute to retention or recommendation. This was so, even after controlling for the students' grades and their inclination to stay or leave the MBA program. The indirect contribution of satisfaction with e-learning tools highlights the importance of the teaching aspects also in blended online MBA courses, and shows the mostly background influence of the technology itself.

Introduction

E-learning is a growing phenomenon. It is a social process which substitutes both distance learning and traditional face-to-face education (Alavi & Leidner, 2001; Hiltz & Turrof, 2005). MBA programs seem natural candidates for e-learning due to the flexibility they offer in terms of time and place of learning, which suits the students who usually work full time and study for practical reasons. Furthermore, E-learning is perceived as increasing student satisfaction in general and especially in distance learning environments (Simpson, 2003; Levy, 2007). Online interaction is supposed to overcome the "loneliness of the long-distance learner" (Eastmond, 1995) problem and increase retention (Guri-Rosenblit, 2005). Nevertheless, student dropout is a major concern in distance education (Rovai, 2002; Tresman, 2002), as well as the quality of e-learning (Hirschheim, 2005).

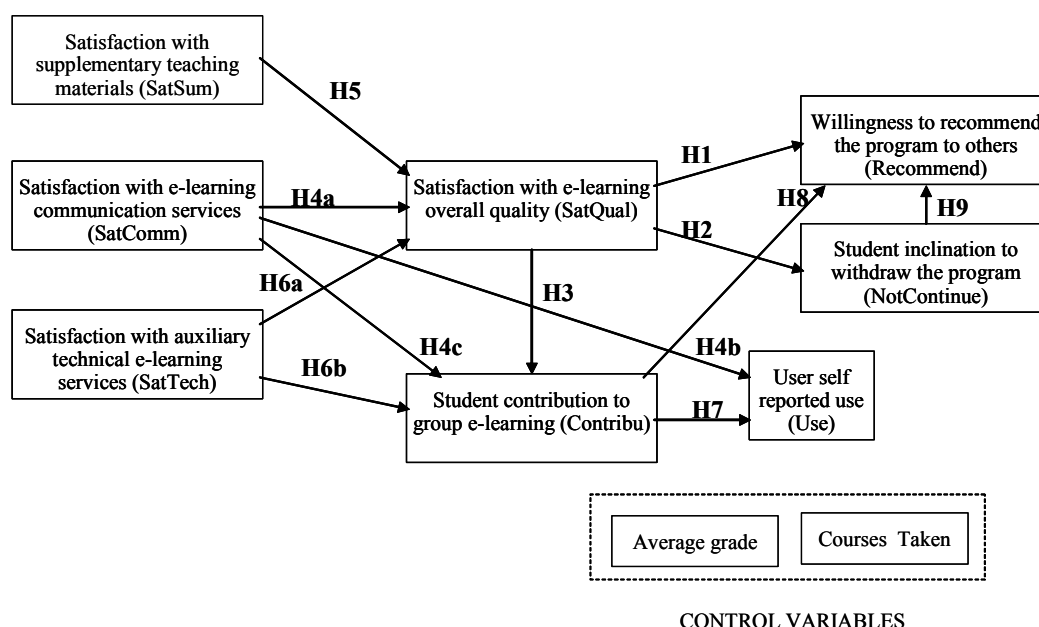
Many universities are investing heavily in improving the website quality of their courses. This study probes the effectiveness of these investments, and examines whether distance learning tools are prone to the phenomenon called "the productivity paradox of information technology" (Brynjolfsson 1993; Brynjolfsson & Hitt 1998). This debate has resurfaced lately with the claim that "IT doesn't matter" (Carr 2003), meaning that information technology (IT) cannot provide organizations with a competitive advantage. Although IT researchers and practitioners mostly reject the productivity paradox assertion, still there are many IT projects that fail to provide their expected benefits (Geri, 2006, pp. 153-163).

E-learning effectiveness research examines issues such as the effect of e-learning on the learning process (Hiltz & Turoff, 2002), technology adoption and continuance of use, and learners' satisfaction with online activities (Levy, 2006). It also compares alternative distance learning environments (Alavi et al., 2002; Rovai & Jordan, 2004). This study, in contrast, takes a managerial perspective and so analyses the impact of e-learning on student retention and loyalty, arguably the critical managerial objectives of any MBA program. Surveying MBA students who participated in a blended distance learning MBA program which included online courses as an integral part of the program, this study examines the impact of various aspects of the online learning experience on student retention and loyalty. Loyalty is defined as the willingness to recommend the program.

The Research Model and Hypotheses

The proposed research model, outlining the influence of e-learning on student retention is presented in figure 1.

Figure 1: The Proposed Research Model



Online courses are expected to increase student retention in distance learning, and one key to increasing this retention should be the interactivity with the course team, as well as among students (Simpson, 2003, pp. 128-130).

- H1: Satisfaction with the overall quality of e-learning tools increases student willingness to recommend the program to others.
- H2: Satisfaction with the overall quality of e-learning tools decreases student inclination to withdraw the program.
- H3: Satisfaction with the overall quality of e-learning tools increases student participation and contribution to group e-learning.

Student satisfaction with particular e-learning tools should positively influence their satisfaction with the overall quality of e-learning tools. These tools were divided to three constructs (see appendix 1):

- Satisfaction with e-learning communication services (SatComm) which enable improved communication of students with course teams and classmates.
- Satisfaction with supplementary teaching materials (SatSum), which the course coordinator decides on their extent and content. This can be viewed as a replacement of printed material, and it does not involve learning, just one-way information exchange.
- Satisfaction with auxiliary technical e-learning services (SatTech), which include optional activities that enhance the learning process or interaction among students, and represent more advanced use of e-learning.

Accordingly, we propose the following:

- H4a: Satisfaction with e-learning communication services increases student satisfaction with the overall quality of e-learning tools.
- H4b: Satisfaction with e-learning communication services intensifies student self reported use of course websites.
- H4c: Satisfaction with e-learning communication services increases student contribution to group e-learning.
- H5: Satisfaction with e-learning supplementary teaching materials increases student satisfaction with the overall quality of e-learning tools.
- H6a: Satisfaction with auxiliary technical e-learning services increases student satisfaction with the overall quality of e-learning tools.
- H6b: Satisfaction with auxiliary technical e-learning services increases student contribution to group e-learning.

Moreover, students who actively engage in e-learning are expected to use the course websites more extensively and also to be more loyal to the program.

- H7: Contribution to group e-learning intensifies student self reported use of course websites.
- H8: Contribution to group e-learning increases student willingness to recommend the program to others.

Finally, our last hypothesis relates to the link between loyalty and retention:

H9: Student inclination to withdraw the program reduces student willingness to recommend the program to others.

The following control variables were added to the model:

- The student average grade.
- The student inclination to withdraw the program was controlled for the number of successfully completed courses.

Methodology

The research model was tested with a sample of students enrolled in the MBA program at the Open University of Israel. This distance learning institute offers its students the choice of a fully distance learning model or a blended model which combines face-to-face meetings with traditional means of distance education such as books and study guides, as well as online support through course websites. The MBA program, which started offering courses in October 2002, accepts applicants with an average undergraduate GPA of 80 or above out of 100. Candidates from other disciplines are required to take up to six supplementary courses, and complete these with an average grade of 75 or above. Toward the end of 2005, about 5,000 people were accepted into the program. The survey concentrated only on those students who were enrolled in at least one course of the MBA program (i.e. excluding those who were still studying just supplementary courses) in the spring of 2006.

A preliminary questionnaire was reviewed by three course coordinators, slightly adjusted and then answered by 44 students. The pilot results were presented at a Chais Research Center seminar at the Open University (Geri et al., 2005). Following the feedback analysis, the questionnaire was refined. The data were collected by an online survey from 520 students, out of the 1,916 students enrolled in the Open University MBA program courses, who were contacted by email (27.1% response rate) in April 2006. Non response bias was assessed by comparing the 390 early respondents and the remaining 130 who responded only after a reminder email was sent to them based on Armstrong and Overton (1977). The MANOVA comparing the answers to all the questions in the model between these two groups showed an insignificant difference (Wilks' Lambda = .798, $F=1.157$, $p=.172$). There were no gender or age differences in the model. The items are shown in Appendix 1.

Results

Table 1 presents demographic characteristics of the 520 MBA program students who answered the survey. As shown in table 1, it took 80.4% of the students up to an hour to arrive at class, and 77.5% of them chose to attend most or all of the class meetings.

Table 1: Demographic Characteristics of Survey Participants

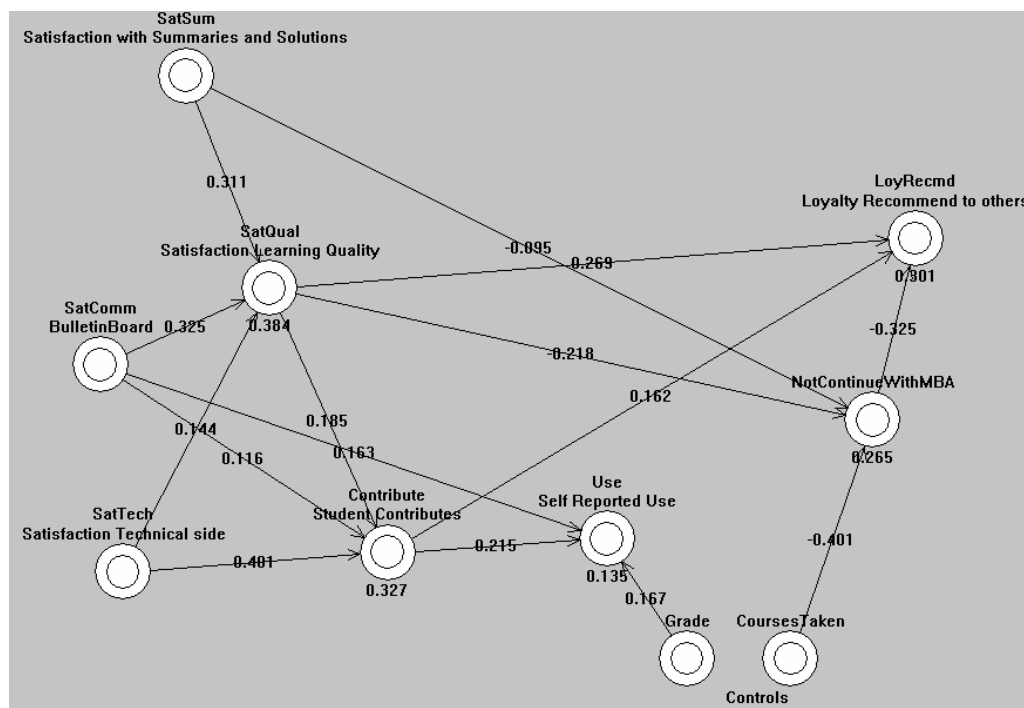
Gender	Men	Women						
	50.8%	49.2%						
Age	Below 21	21-25	26-30	31-35	36-40	41-50	Over 50	
	-	3.7%	32.9%	34.0%	14.0%	12.7%	2.7%	
Average weekly study time during the semester	Less than an hour	1-3 hours	4-7 hours	8-10 hours	10-15 hours	15-20 hours	Over 20 hours	
	5.4%	34.4%	35.0%	14.4%	6.7%	3.7%	0.4%	
Average time required to arrive at class	Less than 30 minutes	30-60 minutes		1-1.5 hours		more than 1.5 hours	live abroad	
	32.3%	48.1%		11.7%		4.6%	3.3%	
Number of average attended class meetings per course	None		1-2 meetings	3-4 meetings	5-6 meetings		Attended all meetings	
	5.8%		7.7%	9.0%	20.4%		57.1%	
Number of completed courses (15 courses required for an MBA)	None		1-3 courses	4-6 courses	7-9 courses	10-12 courses	Over 12 courses	
	17.5%		26.0%	18.8%	15.0%	11.2%	11.5%	
Average MBA grade	just started	Less than 70	70-75	76-80	81-85	86-90	91-95	96-100
	18.1%	.4%	6.7%	19.0%	28.9%	20.2%	5.2%	1.5%

We used partial least square (PLS-Graph 3.00 Build 1126) to analyze the data. PLS is a structured equation modeling method that analyzes how the items load on their constructs simultaneously with estimating all the paths in the model. PLS is widely used in MIS research. PLS estimates all paths, loadings, the Average Variance Extracted (AVE) of principal constructs, and construct reliability. Convergent and discriminant validity are shown when each item loads much higher on its assigned factor than on any other factor and when the square root of the AVE of each construct is much larger than the correlation of that construct with all other constructs (Chin, 1998; Chin, et al., 2003; Gefen, et al., 2000; Gefen & Straub, 2005). Item loadings are shown in Appendix 2. The mean, standard deviation, and PLS reliability together with the correlation among the constructs and their square root of the AVE are shown in Appendix 3. All these psychometric measures are above the suggested thresholds (Gefen, et al. 2000).

All the items loaded significantly on their assigned constructs. The standardized PLS path coefficients are presented in figure 2, which shows that the most important thing to influence both retention and recommendations was overall satisfaction with the quality of the learning tools, even after controlling for the inclination of the student to stay or leave the MBA program and grade. This satisfaction was increased by better communication with the course teams through online bulletin boards and forums, instructor summaries, and enhanced technical aspects of the course websites. These technical aspects also increased student contribution to the online discussions, and hence also to their use of the online environment. All the other paths among pairs of constructs were insignificant. A possible direct

influence of the three e-learning constructs (SatSum, SatComm and SatTech) on continuity and willingness to recommend the program was also examined and shown to be insignificant. The coefficient of each path is shown on the line and the R squared below each construct. All these paths are significant at least at the .05 level.

Figure 2: PLS Results of the Proposed Research Model



Discussion and conclusion

Retention, loyalty, and self reported use were all significantly affected by overall e-learning quality (SatQual). The effect of auxiliary technical services (SatTech) was less than both supplementary teaching materials (SatSum) and communication services (SatComm). The latter two are basically enhancement of face-to-face learning and information exchange (Salmon, 2004, pp. 24-50). As expected, students who were more sophisticated and active in their use of e-learning reported higher levels of course websites use. Most importantly, these students were more willing to recommend the MBA program to others. The practical implications are twofold. First, it is recommended to nurture an online environment which encourages student contribution. Second, the program should seek appropriate channels to amplify the impact of these students' loyalty.

As Simpson (2003, p. 15, and p. 140), citing Woodley, says "Student dropout... is a multi-causal problem that requires multiple partial solutions" (Woodley, 1987). So even though our findings indicate that those who are satisfied with e-learning quality are less inclined to withdraw from the MBA program, students may still quit due to other more profound reasons (Tinto, 1975). The unique contribution of this study is in its empirical validation of the link between e-learning quality and

student willingness to recommend the program to others, which is crucial to ensure future student enrollment. The indirect contribution of satisfaction with e-learning tools to student retention, highlights the importance of the teaching aspects also in blended and online MBA courses, and shows the mostly background influence of the technology itself.

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Appendix 1: Survey Items

SATQUAL

This is the overall quality of the websites in providing learning assistance.

E1	אתרי הקורסים עוזרים לי להתגבר על קשיים בלימודים	E1 The Course websites help me overcome difficulties with my studies
E2	אני מרוצה מהתועלת שהפקתי עד כה מאתרי הקורסים	E2 So far, I am satisfied with the usefulness of the course websites
E3	אני מרוצה מרמת התמיכה של אתרי הקורסים בלמידה	E3 I am satisfied with the level of learning support provided by the course websites
E4	אתרי הקורסים מעשירים את החוויה הלימודית שלי	E4 the course websites enrich my learning experience
E5	התאכזבתי מהשירות אותם מספקים אתרי הקורסים	E5 I was disappointed with the service provided by the course websites
A4.1	תוכן אתרי הקורסים הוא ברמה אקדמית נאותה	A4.1 3 The academic level of the course websites' content is adequate
A4.2	המידע באתרי הקורסים מדויק	A4.2 The Information provided in the course websites is accurate
A4.3	התוכן באתרי הקורסים אמין	A4.3 The content of the course websites is reliable

SATTECH

Auxiliary technical services provided by the websites.

E6.02	רמת התרומה ללימוד של הפעלות קבוצתיות בפורום	E6.02 Discussion board group activities level of contribution to learning
E6.03	רמת התרומה ללימוד של ההפניות לאתרים אחרים	E6.03 Links to other websites level of contribution to learning
E6.04	רמת התרומה ללימוד של מילון המונחים	E6.04 Glossary of course terms level of contribution to learning
E6.07	רמת התרומה ללימוד של המקראה האלקטרונית	E6.07 Electronic reader level of contribution to learning
E6.10	רמת התרומה ללימוד של הפנקס האישי	E6.10 Personal notepad level of contribution to learning
E6.13	רמת התרומה ללימוד של כתבות מהעיתונים המופיעות באתר	E6.13 Current newspaper articles examples level of contribution to learning
E6.15	רמת התרומה ללימוד של הצ'אט	E6.15 Course instant messaging tool level of contribution to learning

SATSUM

Auxiliary teaching services provided by the websites.

E6.05	רמת התרומה ללימוד של הבחינות לדוגמא	E6.05 Sample exams level of contribution to learning
E6.06	רמת התרומה ללימוד של הפתרונות למטלות	E6.06 Task solutions level of contribution to learning
E6.08	רמת התרומה ללימוד של סיכומים ומצגות ממפגשים	E6.08 Meeting summaries and presentations level of contribution to learning

SATCOMM

This construct measures student satisfaction with the auxiliary communication services provided by the websites.

E6.01	רמת התרומה ללימוד של לוח ההודעות	E6.01 Bulletin board level of contribution to learning
E6.09	רמת התרומה ללימוד של קבוצת הדיון	E6.09 Discussion board level of contribution to learning

Contribute

This construct measures self reported student contribution levels to various types of online class discussions.

B4.1	כשיכולתי לתרום לדיון, רשמתי תגובות בפורום להודעות של סטודנטים אחרים	B4.1 When I could contribute to the discussion, I responded to other students' messages at the course forum
B4.2	אתרי הקורסים מאפשרים לי לתרום מהידע שלי לעמיתיי ולהיפך	B4.2 The course websites enable me to contribute knowledge to my colleagues and vice versa
B4.3	הניסיון שצברתי בשימוש באתרי הקורסים מאפשר לי לזווג פעילות קבוצתית באתר	B4.3 the experience I gained in using course websites enables me to initiate group activities at the website

Use

This construct measures self reported student use of the websites.

A6.1	תדירות הכניסה שלי לאתרי קורסי ה-MBA היא:	A6.1 Frequency of MBA websites visits
A6.3	תדירות כניסתך לפורום באתרי הקורסים:	A6.3 Frequency of course discussion board visits

Retention

This construct measures student intention to LEAVE the program

K1.1	קרוב לוודאי שאסיים בהצלחה את לימודי ה-MBA	K1.1 I will probably successfully complete the MBA studies
K1.2	כנראה שאמשיך את לימודי ה-MBA במוסד אחר	K1.2 I will probably continue the MBA studies in another institute
K1.3	קרוב לוודאי שאאלץ להפסיק את לימודי ה-MBA	K1.3 I will probably have to quit the MBA studies

Recommendations

This construct measures whether the student will recommend the program to others

K2.1 (Loyalty)	אמליץ על תוכנית ה-MBA של האוניברסיטה הפתוחה לאחרים	K2.1 I will recommend the Open University MBA program to others
K2.2 (Loyalty)	אעודד אחרים ללמוד בתוכנית ה-MBA של האוניברסיטה הפתוחה	K2.2 I will encourage others to study in the Open University MBA program
K2.3 (Word of mouth)	אם חברי יחפשו תוכנית MBA אמליץ להם על תוכנית האוניברסיטה הפתוחה	K2.3 If my friends were looking for an MBA program, I would recommend the Open University MBA program

Appendix 2: Convergent and Discriminant Analysis

	Recommend	Continue	Use	SatQual	SatTech	SatSum	Contribute	SatComm
K2.1 I will recommend the Open University MBA program to others	0.98	-0.40	0.09	0.44	0.26	0.24	0.29	0.22
K2.2 I will encourage others to study in the Open University MBA program	0.98	-0.40	0.08	0.43	0.27	0.24	0.29	0.22
K2.3 If my friends were looking for an MBA program, I would recommend the Open University MBA program	0.97	-0.42	0.10	0.40	0.26	0.23	0.29	0.24
K1.1 I will probably successfully complete the MBA studies	0.39	-0.82	0.03	0.27	0.12	0.22	0.13	0.16
K1.2 I will probably continue the MBA studies in another institute	-0.34	0.83	-0.06	-0.26	-0.05	-0.22	-0.01	-0.15
K1.3 I will probably have to quit the MBA studies	-0.31	0.87	-0.02	-0.23	-0.09	-0.23	-0.05	-0.19
A6.1 Frequency of MBA websites visits	0.08	-0.02	0.82	0.20	0.12	0.09	0.18	0.19
A6.3 Frequency of course discussion board visits	0.08	-0.05	0.92	0.20	0.13	0.09	0.28	0.28
A4.1 The academic level of the course websites' content is adequate	0.38	-0.30	0.15	0.78	0.30	0.39	0.26	0.39
A4.2 The information provided in the course websites is accurate	0.34	-0.27	0.12	0.69	0.21	0.39	0.20	0.33
A4.3 The content of the course websites is reliable	0.30	-0.29	0.12	0.72	0.23	0.35	0.21	0.36
E1 The Course websites help me overcome difficulties with my studies	0.28	-0.12	0.16	0.76	0.38	0.36	0.41	0.42
E2 So far, I am satisfied with the usefulness of the course websites	0.30	-0.22	0.21	0.78	0.33	0.44	0.34	0.46
E3 I am satisfied with the level of learning support provided by the course websites	0.32	-0.23	0.20	0.83	0.30	0.40	0.39	0.43
E4 the course websites enrich my learning experience	0.39	-0.14	0.24	0.75	0.39	0.36	0.41	0.42
E5 I was disappointed with the service provided by the course websites	-0.24	0.25	-0.11	-0.61	-0.16	-0.33	-0.10	-0.21
E6.02 Discussion board group activities level of contribution to learning	0.15	-0.02	0.17	0.33	0.72	0.30	0.45	0.31
E6.03 Links to other websites level of contribution to learning	0.22	-0.15	0.15	0.32	0.76	0.26	0.38	0.36
E6.04 Glossary of course terms level of contribution to learning	0.21	-0.15	0.08	0.32	0.70	0.37	0.33	0.33
E6.07 Electronic reader level of contribution to learning	0.23	-0.14	0.07	0.30	0.69	0.38	0.28	0.22
E6.10 Personal notepad level of contribution to learning	0.14	0.08	0.02	0.09	0.57	0.07	0.32	0.19
E6.13 Current newspaper articles examples level of contribution to learning	0.23	-0.12	0.10	0.29	0.72	0.32	0.36	0.27
E6.15 Course instant messaging tool level of contribution to learning	0.11	0.05	0.06	0.20	0.63	0.12	0.35	0.20
E6.05 Sample exams level of contribution to learning	0.21	-0.25	0.07	0.47	0.26	0.89	0.21	0.32
E6.06 Task solutions level of contribution to learning	0.19	-0.18	0.11	0.43	0.28	0.87	0.22	0.39
E6.08 Meeting summaries and presentations level of contribution to learning	0.20	-0.24	0.09	0.37	0.48	0.74	0.28	0.37
B4.1 When I could contribute to the discussion, I responded to other students' messages at the course forum	0.25	-0.11	0.31	0.24	0.38	0.20	0.81	0.31
B4.2 The course websites enable me to contribute knowledge to my colleagues and vice versa	0.25	-0.06	0.19	0.44	0.44	0.32	0.82	0.39
B4.3 the experience I gained in using course websites enables me to initiate group activities at the website	0.21	-0.02	0.14	0.27	0.44	0.13	0.77	0.17
E6.01 Bulletin board level of contribution to learning	0.22	-0.10	0.15	0.38	0.33	0.27	0.30	0.81
E6.09 Discussion board level of contribution to learning	0.19	-0.22	0.30	0.49	0.36	0.44	0.34	0.89

Appendix 3: Mean, Standard Deviation, and PLS reliability together with the correlation among the constructs and their square root of the AVE

	Mean	Standard Deviation	PLS Reliability	Recommend	Not Continue	Use	SatQual	SatTech	SatSum	Contribu	Courses Taken	SatComm	Grade
Recommend	4.920	1.764	.98	.978									
Not	1.883	1.140	.88	-0.419	.840								
Use	3.414	0.939	.87	0.093	-0.042	.875							
SatQual	5.605	0.943	.91	0.432	-0.301	0.225	.743						
SatTech	3.849	1.261	.86	0.270	-0.105	0.147	0.398	.685					
SatSum	6.240	0.995	.87	0.243	-0.268	0.104	0.508	0.395	.837				
Contribute	3.774	1.476	.84	0.298	-0.082	0.270	0.404	0.521	0.279	.799			
Courses	3.11	1.608	Single	0.064	-0.435	0.082	0.087	-0.005	0.157	0.045	1.000		
SatComm	5.322	1.324	.84	0.231	-0.197	0.275	0.517	0.402	0.429	0.373	0.107	.852	
Grade	3.29	1.855	Single	0.048	-0.261	0.190	0.170	-0.005	0.189	-0.039	0.544	0.191	1.000