Student Satisfaction and Commitment towards a Blended Learning Finance Course: Evidence from Saudi Arabia using an Investment Model

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Abstract

The present study uses an amended version of a well-known investment model to investigate the levels of satisfaction and commitment of finance students enrolled on a blended e-learning programme. First, it presents new empirical evidence for the validity of each construct and validates the proposed investment model. Second, it examines whether students' grade point average (GPA) scores influence their levels of satisfaction and commitment with the course. A random sample of 100 undergraduate students enrolled at King Khalid University in Saudi Arabia was surveyed using both qualitative and quantitative approaches. The proposed investment model was suitable for predicting the levels of student satisfaction and commitment in a blended learning environment, especially in finance courses. However, the levels of satisfaction and commitment among students did not reach the proposed cut-off point, which implied that levels of student satisfaction and commitment were only in the middle of the range. Specifically, the results showed a significant negative correlation between the level of satisfaction and GPA score, but a significant positive correlation between student commitment and GPA score. The study also highlights areas in which further research and analysis is recommended.

Keywords: Satisfaction, Commitment, Blended learning, Investment Model, Finance Course

I- Introduction

E-learning, which is defined as instruction delivered via a computer that is intended to promote learning (Clark & Mayer, 2003), has grown rapidly over recent years as technological advancements have been integrated into educational programmes (Smart & Cappel, 2006). According to Nycz and Cohen (2007), e-learning is important for building a technologically literate workforce, as well as for meeting society's constant need for rapid lifelong learning that is delivered in increasingly more convenient forms. Buzzetto-More (2008) indicated that e-learning can be divided into fully online, blended, or web-assisted, Regardless of the method of delivery, many tools and attributes are at the disposal of students and faculty members. The present paper focuses on a blended learning finance course environment.

Blended learning, which is also known as hybrid learning, has become popular over the past two decades because it integrates face-to-face teaching with web-based learning. Consequently, many universities are beginning to use this approach because of disenchantment and/or dissatisfaction of students with the lack of personal interaction with faculty members in fully online courses. Further, it attracts both faculty members, because it requires less expertise and fewer resources than fully online courses, and students, who are reported to prefer blended learning systems because of the increased flexibility of study schedules (Owston, 2009).

Graham (2006) defined blended e-learning as a combining of instruction from two separate environments: face-to-face teaching with computer-mediated instruction.

Wu and colleagues (2010) explained the concept of blended learning as "a learning approach that combines between different delivery methods and styles of learning.

The blend could be between any form of instructional technology with classroom teaching such as videotape, CD-ROM, Computer Assisted Instruction **(**CAI) and web-based learning".

The recent trend in e-learning has been moving increasingly towards blended learning and face-to-face activities in which students participate in collaborative learning and interaction with their instructors and classmates. As such, blended e-learning models have been applied commonly by universities worldwide by combining face-to-face lectures and tutorials with online teaching systems such as Blackboard (Farley et al., 2011).

Despite the advantages described above, fully online and blended learning approaches have certain disadvantages. According to Bonk (2009), these include "trouble managing time and requirements; problems with technology at the beginning; can be overwhelming or too novel; poor integration or planning; resistance to change; faculty skepticism, increased workload, and reduced productivity".

In Saudi Arabia, where there have been serious attempts by the higher educational authorities to shift from traditional learning environments towards different forms of e-learning, concerns remain about achieving the desired goals and the high cost of web-based approaches. Nevertheless, King Khalid University, which has been a pioneer in adopting e-learning in Saudi Arabia, now offers approximately 350 blended and 50 fully online courses through different e-learning systems such as Blackboard, Illuminate Live, and Tegrity Classes.

The present study adopts an investment model (IM) to investigate the level of satisfaction and commitment of students enrolled on the blended e-learning financial institutions course at King Khalid University (finance course hereafter) and assesses

how the GPA scores of students relate to these two variables. Specifically, the study sought to answer the following four research questions:

1- *What is the level of student satisfaction with the finance course?*

2- *What is the level of student commitment to the finance course?*

3- *Is there a significant correlation between the level of student satisfaction and their GPA scores?*

4- *Is there a significant correlation between the level of student commitment and their GPA scores?*

The remainder of the paper is organised as follows. Section II reviews and contextualises the relevant literature. Section III describes the research methodology, including the sample and statistical analysis, and formulates the research hypotheses. Section IV discusses the results, including the hypothesis testing. Section V summarises and concludes.

II- Literature Review

1- Studies of student satisfaction and commitment in blended e-learning environments

Many previous studies have investigated student satisfaction and commitment in relation to e-learning. For example, Owston, Garrison, and Cook (2006) showed that students of eight Canadian universities preferred blended e-learning because it permitted flexible schedules and a variety of opportunities while maintaining a typical classroom environment.

Sahin (2007) analysed the characteristics of online learning environments by collecting data from the Distance Education Learning Environments Survey (DELES) in Turkey. Based on the analysis of a sample of 917 undergraduate students, the results of this earlier study indicated that four of the six DELES scales, namely personal relevance, instructor support, active learning, and authentic learning, were significantly and positively related to student satisfaction.

Malik (2009) showed that variables such as the attitudes of students and instructors towards technology, computer efficacy, instructor response, user-friendly interface of the online learning environment, and proper facilitation of technical matters influence student satisfaction with online learning. It was also suggested that these factors should be considered by administrators to ensure the successful implementation of virtual education. The author further found that a lack of student satisfaction is the main cause of failure in regard to e-learning implementation, and many factors can affect a student's satisfaction towards e-learning.

In the same vein, Hermans, Haytko, & Mott-Stenerson (2009) concluded that student satisfaction plays an important role in the efforts to successfully market higher education. This study tested the relations among the attitudinal variables that contribute to student satisfaction in web-enhanced courses. The structural model that was used by the researchers indicated strong relations among three variables, namely satisfaction with the teacher, perceived ease of use of the course technology, and satisfaction with the course. The researchers suggested that this set of relations comprised the most important considerations for students and instructors deciding on Internet-enhanced courses. Hermans et al. (2009) also examined how GPA, expected grade, and sex influence student satisfaction, but found no significant associations

excluding the expected grade for the class that was shown to be related significantly to satisfaction.

Giannousi et al. (2009) investigated the effectiveness of blended learning programmes in terms of student satisfaction by surveying a sample of 61 undergraduates and suggested that "students' satisfaction is an important factor in order to estimate the effectiveness of a course, especially a blended course". Further, they found that "perceived e-learner satisfaction was higher than the average indicating students' high satisfaction with the overall learning experience".

2- Studies of teaching finance courses through e-learning

Arbaugh et al. (2009) reported that few studies have focused on online and blended learning environments within the finance discipline. On the basis of a review of studies published since 2000, they were able to distinguish three categories, namely "technology-mediated education as a classroom supplement, experiences in teaching fully online courses, and web-based financial tools and simulations". The most relevant of these studies are summarised below.

Firstly, Garrison and Borgia (1999) developed an Internet-based distance learning model to teach financial principles but found that teaching finance in a distance learning environment was a challenging process However, the experience of teaching their developed class at the sample institution, Florida Gulf Coast University in the US, was found to be run smoothly Similarly, Gullett and Redman (2004) suggested that all business students should be introduced to free financial information resources online.

Further, Michelson and Smith (1999) discussed the need for personal webpages for those who teach finance and provided information on the uses and applications of

webpages for finance education. The study provided suggestions for exploiting these applications in the classroom and found that the majority of students and finance professors are interested in using them.

In the same vein, Mariola and Manley (2002) illustrated their experiences of teaching derivatives online, focusing primarily on issues of course design. They recommended that the comfort levels of students should be raised through web chats before moving onto more difficult course topics.

Wilson (2003) found that the use of a supplemental course management system by students was associated positively with course performance in his study of a classroom-based undergraduate course on the principles of finance. However, student age, GPA, and major were found to be stronger determinants of performance.

Sathye (2004) used the case study approach to investigate the particular challenges that are associated with teaching a banking and finance course online. The results showed that despite the many operational problems that could prevent this mode from becoming an effective learning approach, the content of the course could be delivered online efficiently.

Wang (2006) evaluated the design and development of a web-based gaming and simulation program for financial engineering using data from 253 students who had not utilised the system previously. The results showed that most participants rated the system highly and were strongly interested in trying it, although experienced online learners had a slightly more favourable attitude towards it. Most students thought that it would be helpful in their learning and/or self-paced studies.

Bertus and colleagues (2006) tested the performances of MBA finance students who were enrolled in both traditional and distance learning programmes. They

reported that some faculty members, administrators, and students were concerned that finance courses would be less appropriate for distance learning approaches than less quantitative and/or less challenging courses that require less personal interaction with professors. The researchers found a significant difference in the performances of the two groups of students. After controlling for a variety of characteristics that have been recognised to influence graduate academic achievement, they showed that students who participated in distance learning courses earned higher grades than did conventional on-campus students.

The use of web-based financial commentary in relation to learning about financial markets was investigated by Ford et al. (2007). Using a treatment sample of 68 undergraduates, the authors found that students who were exposed to a relevant website for six weeks showed a higher degree of financial market awareness than a 30-student control group who did not access the site. The researchers also discovered that finance majors tended to be more engaged in the course than did non-finance majors.

Similarly, Crain et al. (2007) compared the search features of well-known finance websites in relation to portfolio management and single stocks and provided suggestions for how their relative benefits could be implemented into future finance courses.

By comparing the online and classroom-based versions of the same introductory finance course over a four-year period, Hayes (2007) showed that the online course had higher rates of student withdrawal and lower pass rates, even though students' evaluations of the course formats were comparable. The authors attributed these differences to some reasons such as lack of experience in navigating online

environments, the higher percentage of full time employed, nontraditional students in the online sections and the nature of finance-based learning material

However, Reimers and Singleton (2008) noted that using podcasting technology as part of a business course is relatively easy, inexpensive, and well received, on the basis of responses of MBA-level students in investment management and financial statement analysis, whereas Potter (2010) suggested a roadmap for teaching finance online that was based on expressing the content and pedagogical angles from the view of one discipline's experience,

Finally, Farley et al. (2011) studied blended learning in finance subjects by comparing students' perceptions of lectures, tutorials, and online learning environments across year levels using variables such as age, sex, native language, and country of origin. The main results showed a strong preference towards traditional face-to-face learning and indicated significant differences in attitudes and perceptions by year level.

3- Background to Rusbult's IM

Rusbult's IM (Rusbult et al., 1998) is based on interdependence theory and analyses the tendency to maintain relations between interdependent constructs. Subsequent three studies by Rusbult et al., (1998); Rusbult,1987; Rusbult & Buunk, 1993; Rusbult et al., 1994) have examined the reliability and validity of this model scale and all have shown good internal consistency between measurement items. Rusbult's IM consists of seven constructs, the first four of which are rewards (REW), costs (CST), alternative value (ALT), and investment size (INV). These variables affect the intermediate variables of satisfaction (SAT) and commitment (COM), while

commitment further affects behaviour. In general, satisfaction increases when there is a high level of rewards and an associated decline in costs, as defined:

(1) SAT = REW - CST

According to Rusbult's IM, commitment refers to the likelihood that an individual will persist with an issue and feel psychologically attached to it whether it is satisfying or not, whereas satisfaction refers to the positive versus negative affect that is experienced in a relationship or in the subject. Thus, the model expects the level of commitment to be (i) associated positively with the level of satisfaction and (ii) influenced by the variable's alternative value, which refers to the perceived desirability of the best available alternative to a relationship or a subject, and investment size, which refers to the magnitude and importance of the resources attached to a relationship or a subject that would decline in value or be lost if the relationship were to end. Hence, commitment usually increases with an increase in satisfaction level and investment size and a reduction in alternative value. Thus:

(2) COM = SAT – ALT + INV

From equations (1) and (2), we can formulate equation (3) (see also Figure 1):

(3) COM = (REW – CST) – ALT + INV

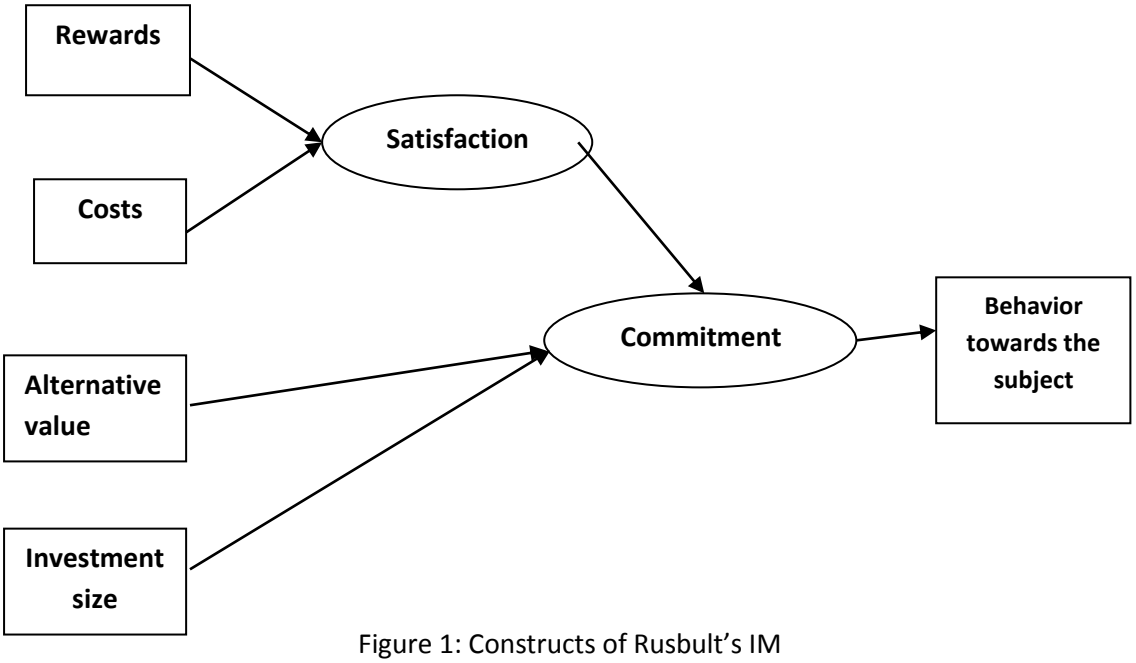

Figure 1: Constructs of Rusbult's IM

Despite the widespread use of Rusbult's IM in studies of personal relationships (see Barry & Okun, 2011-2012), the work of previous authors has proven its applicability in business and management fields. For example, Rusbult and Farrell (1983) confirmed that their study of job satisfaction and commitment among recently employed nurses and junior accountants "provides very good support for a wide range of investment model predictions. Since the investment model has previously been shown to apply to other types of exchange relationship and since it is firmly rooted in the general exchange tradition of psychology and sociology, the investment model should prove applicable to a broad range of important organizational phenomena"(p. 437). Farrell and Rusbult (1981) also used the IM to examine the predictors of job satisfaction, job commitment, and turnover, whereas Le and Agnew (2003) applied a meta-analysis of this model to various contexts that included work, academic life, and recreational activities. Their study' findings suggested that" IM is not strictly an interpersonal theory and can be extended to such areas to commitment to jobs

persistence with hobbies or activities, loyalty to institutions, decision- making, and purchase behaviours" (p.54).

Hatcher et al. (1992) applied the IM to a sample of 174 undergraduates in order to evaluate the rewards, costs, alternatives, and investments that were associated with their enrolment and found a significant association between the model's variables and student satisfaction with the college, commitment to staying enrolled, and the resulting behaviour of students. The study also determined that IM variables have greater validity than integrated model variables in terms of predicting commitment to the institution and the students' enrolment behaviour.

Barry and Okun (2011-2012) also applied the IM in an educational context to predict the intentions of students with respect to remaining at university. On the basis of a sample of 218 first-semester students, the authors found that, in general, participants intended to continue studying, although this intention was influenced by their level of satisfaction with the institution and the quality of alternatives.

4- Sakran's amended IM

Sakran (2009) extended Rusbult's IM by translating it into Arabic and adjusting it for use in an e-learning environment. Using a sample of students at King Khalid University, Saudi Arabia, he verified that the amended version could be used to measure the levels of student satisfaction and commitment in an e-learning environment. The results of his study confirmed the goodness of fit of this amended model (see Figure 2), with a goodness-of-fit index (0.96) that was close to one.

The goodness-of-fit conditions presented in Figure 2 suggest that the amended IM can predict student satisfaction in the e-learning environment through rewards, but not through costs. Further, student commitment can be predicted through satisfaction and

investment size, but not through alternative value. This is apparent because the path coefficients that are shown on the arrows that connect the variables are significant when the respective t values that match these coefficients are outside the interval [-1.96, 1.96], whereas they are insignificant when the respective t values that match these coefficients are within this interval. With respect to consistency, the reliability coefficients of the constructs of the scale were also calculated.

Figure 2: Goodness of fit of Sakran's (2009) amended IM

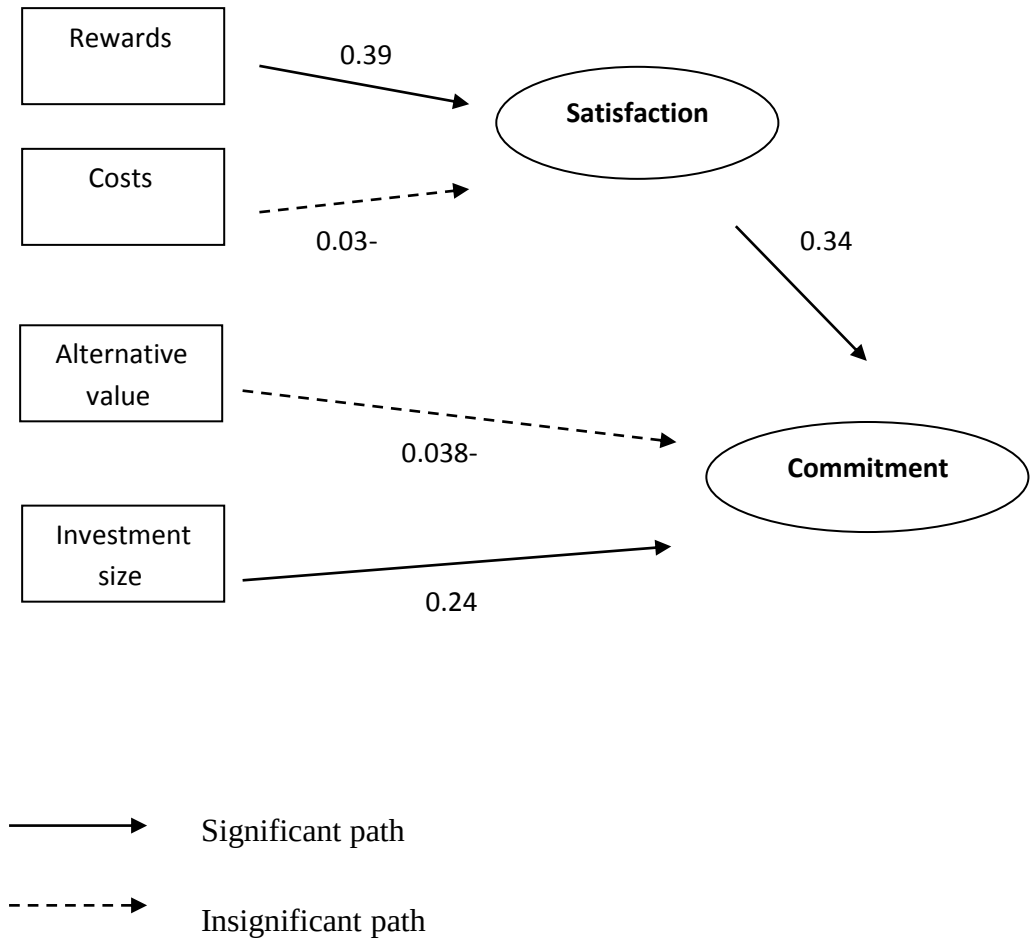

Table 1: Reliability coefficients of Sakran's amended IM

Variables	Commitment	Satisfaction	Rewards	Costs	Alternative value	Investment size
Reliability coefficient	0.797	0.604	0.482	0.627	0.514	0.599

In summary, through review of the literature, we found that no previous paper has discussed teaching courses on financial institutions through e-learning approaches, although some studies have been related to teaching other finance courses, such as the principles of finance and international finance. Further, the present study is the first to adopt Rusbult's IM to measure student satisfaction and commitment towards blended learning in finance. On the basis of the foregoing, the following four hypotheses were formulated:

H1: The level of student satisfaction does not reach the cut-off point.

H2: The level of student commitment does not reach the cut-off point.

H3: There is not a positive and significant correlation between student satisfaction and GPA score.

H4: There is not a positive and significant correlation between student commitment and GPA score.

III- Methodology

In the present study, Sakran's (2009) amended IM questionnaire was used to collect data. Participants rated their level of satisfaction with and commitment to the finance course on a three-point scale (1= low satisfaction/commitment; 3 = high

satisfaction/commitment). The data derived in the study were then analysed using both qualitative and quantitative approaches. In terms of qualitative methods, in addition to the examination of the relevant literature in the field of e-learning and blended e-learning, we conducted discussions with finance students who were participating in blended learning. In terms of the quantitative approach, the empirical data that were elicited from the research instrument were analysed using the SPSS Windows package. This method is plausible and relevant because no previous study has attempted to investigate these aspects of courses on financial institutions from an empirical perspective.

First, path analysis was applied through the LISREL model to test the validity of the amended IM in e-learning. Second, a binomial test was used to assess how close levels of student satisfaction and commitment were to the designated cut-off point (see Section IV). Third, a one-sample t-test was used to compare the levels of satisfaction and commitment with the cut-off point for high commitment/satisfaction (14–18). The survey was administered on the same day to 125 undergraduate students who were enrolled in the blended learning finance course during the academic year 2011/2012. The students surveyed were in their fourth years at the College of Administrative and Financial Sciences, King Khalid University. Twenty-five participants (20%) responded incompletely, and thus the final sample size was 100 students.

IV - Results and Discussion

The normality of the data was examined in order to choose the most appropriate statistical method to be used. However, the results did not follow a normal distribution, as shown in Table 2.

Table 2: Tests of normality

	Kolmogorov–Smirnov[a]			Shapiro–Wilk		
	Statistic	Degrees of freedom	Sig.	Statistic	Degrees of freedom	Sig.
Com	.153	100	.000	.939	100	.000
Sat	.124	100	.001	.957	100	.003

[a]Lilliefors Significance Correction.

*Com = commitment.

**Sat = satisfaction

To test the first and second hypotheses, the range of responses to every item in the dimensions of both commitment and satisfaction in the amended IM was divided into different levels. Given that there were six statements for each dimension and a three-point scale was adopted, the lowest score for commitment/satisfaction was six and the highest was 18. Consequently, the following three categories were adopted:

First category (low commitment/satisfaction) = 6–10
Second category (average commitment/satisfaction) = 10–14
Third category (high commitment/satisfaction) = 14–18.

The third category was chosen to be the cut-off point to decide whether the students showed a high level of commitment and satisfaction towards the finance course. A binomial test was used because of the non-normality of the data, with the cut-off point being the beginning of the third category (14). Table 3 shows the results.

Table 3: Results of the one-sample binomial test

Binomial Test						
		Category	N	Observed Prop.	Test Prop.	Asymp. Sig. (2-tailed)
Com	Group 1	<= 14	92	.92	.50	.000[a]
	Group 2	> 14	8	.08		
	Total		100	1.00		
Sat	Group 1	<= 14	96	.96	.50	.000[a]
	Group 2	> 14	4	.04		
	Total		100	1.00		
a. Based on Z Approximation. *Com = commitment **Sat = satisfaction						

Table 3 shows that in the majority of cases, the levels of student satisfaction and commitment with the finance course did not reach the suggested cut-off point for high commitment/satisfaction (14 –18). Rather, they fell within the second category (the mean values for commitment/satisfaction were 10 and 11, respectively), which represents a medium level of commitment and satisfaction. Thus, hypotheses one and

two are accepted. This result is consistent with the findings presented by Sakran (2009), but contrasts with those of Giannousi et al. (2009), who found that "perceived e-learner satisfaction was higher than the average indicating students' high satisfaction with the overall learning experience" (Giannousi et.al., used a different model). Giannousi et al. (2009) further confirmed that only 21% of students expressed a negative opinion about the possibility of attending a blended course in the future. The justification for this result might be that 15% of students in the sample of Giannousi et.al had little exposure to blended learning settings because they had attended at most one course. The presented findings also contrast with the results obtained by Arbaugh (2004) and Flowers et al. (2008), which revealed that students who have greater exposure to distance learning settings are more likely to express greater satisfaction with such a learning environment than with traditional courses.

On the basis of the qualitative research conducted in the present study, low levels of satisfaction and commitment towards e-learning can be caused by a lack of interaction with instructors, a lack of academic or technical skills, or factors related to learner motivation. This point of view is supported by the findings of Muilenburg and Berge (2005).

To test hypotheses three and four, correlation coefficients and a one-sample t-test were used, in which the cut-off point was again 14. The results are shown in Table 4.

Table 4: Correlation coefficients for student commitment and satisfaction and GPA score

Correlations					
			Com	Sat	GPA
Spearman's rho	Commitment	Correlation Coefficient	1.000	.635**	.231*
		Sig. (2-tailed)	.	.000	.022
		N	100	100	98
	Satisfaction	Correlation Coefficient	.635**	1.000	-.223*
		Sig. (2-tailed)	.000	.	.027
		N	100	100	98
	GPA	Correlation Coefficient	.231*	-.223*	1.000
		Sig. (2-tailed)	.022	.027	.
		N	98	98	98
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

On the basis of the results presented in Table 4, the third hypothesis was accepted because there was a significant and negative correlation between the level of satisfaction and the GPA scores of the students. This result is inconsistent with the findings of Carmel and Gold (2006), who found no significant difference with respect

to the level of student satisfaction for different GPA scores. This result also contradicts the study by Hermans et al. (2009) who that found no correlations for any satisfaction measure related to GPA. Further, Giannousi et al. (2009) reported that "the lack of significance for [GPA] is interesting because in past research, the results of the impact of [GPA] on satisfaction have shown mixed results".

By contrast, Table 4 shows a significant positive correlation between student commitment towards the finance course and their GPA scores, which refutes the fourth hypothesis. This positive correlation between student commitment and GPA score is in contrast to the findings of Stewart and Deon (2009), who concluded that "it is not surprising to find no relationship between learning mode and [GPA]".

V - Conclusion

The present study used an amended version of Rusbult's IM to investigate the levels of satisfaction and commitment of finance students who were enrolled in a blended e-learning programme. It is the first study to explore the levels of satisfaction and commitment of students enrolled on finance courses using an IM.

Through the analysis of a sample of 100 undergraduate students enrolled on a blended learning finance course at King Khalid University, Saudi Arabia, during the academic year 2011/2012, the study proved the validity of such an IM in predicting the levels of satisfaction and commitment of students. It was found that the levels of student satisfaction and commitment with the studied finance course were in the middle of the possible range. Specifically, the results showed that there was a significant negative correlation between student satisfaction and the GPA scores of those students, but a significant positive correlation between student commitment and their GPA scores.

Although the present research provides important information for students and instructors with respect to the assessment of student satisfaction and commitment in blended learning environments, the most significant limitation of the study was that it focused on a limited sample, namely100 finance students. To rectify this limitation, the study is being expanded to survey a larger student population that represents a wide variety of ages and disciplines.

Future research and analysis might include testing the IM empirically in a Western or Eastern cultural context to determine its validity in predicting student satisfaction and commitment in a blended e-learning environment. Further, a comparative study between men and women or achievers and underachievers might be useful, while a comparison between students enrolled on blended e-learning finance courses and those on traditional finance courses would also be valuable.

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Appendix (A)

A - The Research Terms:

Through the theoretical framework and previous studies related to the current research, the research terms can be defined as:

Commitment to the e-learning system: The degree to which the student feels connected to the e-learning programme, lectures, and colleagues in the same field and is compelled to fulfil its requirements and not to pull out.

Confirmatory Factorial Analysis: allows the researcher to test the hypothesis that a relationship between the observed variables and their underlying latent constructs exists. It was performed to test the reliability and validity of the measurement model.

Cronbach's alpha coefficient of internal consistency (α): statistical tool used to measure reliability or internal consistency.

E-learning: the use of communications and information technology to expand the quantity and quality of education in order to meet the requirements of the modern era.

GPA: grade point average

Inter-Correlations: a measure of interrelatedness among a set of variables.

One sample t-test: is a statistical procedure used to examine the mean difference between the sample and the known value of the population mean. http://www.statisticssolutions.com/resources/directory-of-statistical-analyses/one-sample-t-test.

Path Analysis: The statistical technique used to examine causal relationships between two or more variables. It is based upon a linear equation system and was first developed by Sewall Wright in the 1930s.

http://userwww.sfsu.edu/~efc/classes/biol710/path/SEMwebpage.htm

Structural Equation Modeling Programs

Reliability: refers to the consistency or homogeneity of a measure; reliability may also be considered to be the degree to which a measure is free from measurement error.

Satisfaction with e-learning: an internal response of the student towards the online study courses. This response has cognitive, emotional, and behavioural aspects, which are derived from the past experiences of the student, from his economic, social, and cultural conditions, and from the conditions of the current classroom. A state of satisfaction makes the student prepared to stay in e-learning and to comply with all its requirements.

The amended Investment Model in the field of e-learning: This is based on the same components that are included in Rusbult's Investment Model, but some statements within those components have been amended to suit the field of e-learning.

Validity: the ability of a scale or measuring instrument to measure that which is intended to be measured.