
Factors Influencing the Acceptance of Distance Learning: A Case Study of Arab Open University in Kuwait

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Abstract

The recent revolution in information technology (IT) has significantly challenged society's perception and thinking about the world in which we live. Because of its many advantages, distance learning has been identified by educators, scholars, academicians, and researchers as one of the most effective ways to improve the quality of learning. This study investigates possible factors that affect student acceptance of distance learning at the Arab Open University in Kuwait. The variables examined in the study include computer self-efficacy, technological factors, instructional design, and instructor characteristics. A descriptive quantitative research design and inferential methods analysis were utilized to examine these variables. Findings suggest that in order to enhance the DL system, DL institutions need to address computer self-competency, technological factors, the social environment, and instructor characteristics.

Background

Distance education was introduced in Kuwait in 2004 with the establishment of the correspondence bachelor program, which aimed at upgrading teaching qualifications. The Arab Open University (AOU) is the only university in Kuwait that offers distance education. AOU has over 7,000 students. At present, the University offers more than 50 online courses in 12 programs under 4 major faculties: Economic, Information Systems, Education, and Administrative Sciences (AOU, 2005).

AOU is the only university in Kuwait that implements a teaching-learning method using open and distance learning modes. As in any other open university, AOU is open to everyone. Students are allowed to study with a large degree of autonomy, and they are free to select or develop their own curricula. There are no limitations based on age, registration period, time to completion, etc. There is no face-to-face (F2F) interaction, except when facilitated by printed and electronic media devices.

AOU uses Moodle learning management software (LMS) for its online teaching, learning, and communicating activities. Moodle is a content management system for online learning aimed at equipping instructors with tools to provide the materials for students to engage in collaborative and cooperative learning activities. Moodle's main features include announcements, course management, a calendar, file sharing, discussion forums, chat rooms, online quizzes, and course evaluations. Both instructors and students can customize features on their personal pages.

Obviously, the implementation of an online learning system does not ensure a high-quality education. There are still many problems commonly related to technological factors, including issues of access, connection, internet familiarity, etc. Although the advancement of technology has overcome or minimized these obstacles, it seems that the problems have shifted to the learner's side when using a distance learning system. Learners may feel isolated and unmotivated (Saade and Bahli, 2005). Hence, if distance learning is to overcome the many obstacles that students face, it is necessary to study the acceptance of DL from the students' perspective.

The purpose of this study was to investigate factors that influence students' acceptance of distance learning at AOU. To this end, the study tested a set of hypotheses related to the DL environment. This was implemented through a structured questionnaire completed by AOU students.

Factors Influencing Distance-Learning Acceptance

Many distance learning professionals and academics acknowledge that DL is a simplified version of the teaching and learning method (Compeau and Higgins, 1995). The use of innovative information and communication technology (ICT) has raised questions about the effectiveness of distance learning compared to the traditional

classroom format. Currently, the subject of much controversy is whether or not the proliferation of courses offered online and the way in which this technology is used has transformed the traditional classroom format into a DL environment (Arbaugh, 2000; Rovai & Barnum, 2003). Thus, student acceptance of DL is one of the critical factors that should be evaluated in order to adequately assess whether the successful implementation of a DL system can support teaching-learning activities and the student experience (Martins & Kellermans, 2004).

Distance learning researchers argue that there is a relationship between external factors (e.g., computer self-efficacy, technological factors, instructional design, and instructor's characteristics) and what are classified as DL acceptance factors (namely, perceived ease of use and perceived usefulness). Technical problems and a low level of students' technical skills are two of the top eight factors that DL researchers think pose the most significant barriers to online learning (Muilenburg & Berge, 2005).

Computer Competency

Computer Competency (CC) is defined as the judgment of one's information technology capabilities (Compeau and Higgins, 1995). Student computer competency (SCC) is measured by the frequency of computer use, knowledge of software, frequency of Internet use, and type of Internet use. These concepts are believed to have important roles in the success of the DL model. Hypothetically, a student with strong computer literacy will likely have a positive disposition/tendency toward a DL environment, given that there are few and/or limited challenges at the level of technical expertise. Downey's (2006) work indicates that CC influences a learner's positive affect towards information technology. Hence, we propose the following hypothesis:

H1: Computer-competency has positive effects on students' acceptance of distance learning systems.

Technological Factors

The use of ICT (Information Communication Technology) in a DL environment suggests that ICT has played and will continue to play a significant role in this field. This will be especially true as the proliferation of ICT, other Internet technologies, and computer technology evolve. This prolific and rapid evolution has been acknowledged by DL professionals and institutions alike as an opportunity to conduct virtual class settings and deliver course materials through computer networks. Both synchronous networks (e.g., videoconferencing) and asynchronous networks (e.g., e-mail, discussion rooms) are used in DL. According to Poon et al. (2004), developing countries still lack the technological factors necessary to implement DL systems, especially since the IT infrastructures in these countries pale in comparison to those of developed nations. The efficient and effective use of IT in delivering DL-based components of an online course is not only critical to students' acceptance of DL -- it is also important to the success of student learning. IT tools include network bandwidth, network security, network accessibility, audio and video plug-ins, courseware authoring applications, Internet availability, instructional multimedia services, videoconferencing, course management systems, and user interface. Therefore, the success of the DL model is necessarily related to a university's wise and careful investment in its IT infrastructure. This requires having a robust, rich, and reliable IT infrastructure that is capable of providing the courses with the necessary tools to make the delivery process as smooth as possible. From the discussion above, we hypothesized:

H2: Technological factors have a positive effect on the perceived usefulness of distance learning systems.

Social Presence

During the online collaborative learning experience, strategies that promote distance learners' feeling of connectedness and belonging appear to be critical to successful learning (So & Kim, 2005). As a result, social presence seems to be particularly critical to distance learners' perceptions of psychological distance with their instructor and other learners (Gunawardena & Melsaac, 2004). Gunawardena and Melsaac's research shows that student retention and satisfaction rely heavily on the ability of the DL system's medium, materials, and services to make students feel socially present and connected to the instructor and other students.

The social context of learning is an important element in communication technology. Social presence is inherent in the media itself. In essence, social presence is the degree to which an individual is perceived as a real person in computer-mediated communications (Shank and Sitze, 2004). Distance learning environments that intend to support collaborative learning should be designed in a way that considers the social nature of the learning process. Social collaboration provides learners with opportunities to test and to defend their own views while also enriching and expanding their understanding by examining the views of others (Richardson, 2003). Based on our review of the previously mentioned scholastic literature, we hypothesized:

H3: Social presence has an essential role in the success of distance learning systems.

Instructor Characteristics

The characteristics of the instructor are important factors that appear to influence students' perception of DL. The successful implementation of DL does not only rely on advanced technology – it also relies on the characteristics of the instructor. The success of the DL model is determined by the instructor's ability to cultivate and maintain a certain level of collaborative learning activities and initiatives. The instructor must also be a facilitator in DL, and this characteristic plays an important role in motivating and encouraging student learning. The interaction and communication between instructors and students is also an essential part of online learning (Wegner et al, 1999).

With regard to instructor characteristics, Collis (1995, p. 146) shows that the instructor plays a central role in the effectiveness of online delivery. He writes, "It is not the technology but the instructional implementation of the technology that determines the effectiveness of learning." Volery and Lord (2000) also argue that instructors' technical competence and their attitudes toward students can be critical factors in the success of online learning.

An instructor's positive attitude toward technology, interactive teaching style, and control over technology when delivering lectures are some of the most significant variables that may influence a student's motivation to take an online course. Prior research has found that an instructor's immediacy of technology is positively related to the effectiveness of e-learning (Rovai & Barnum, 2003; Baker, 2004). Meanwhile, instructors need to be aware that their immediacy behaviors and social presence (or lack thereof) may have an impact on students' satisfaction, motivation, and learning (Richardson and Swan, 2003; Arbaugh, 2001).

H4: Instructor characteristics have an important effect on perceived student acceptance of distance learning systems.

Methodology

This study used a descriptive quantitative research design. The population of the study consisted of distance learning students from the Arab Open University (AOU). Participants came from 12 different programs. Data were obtained through convenience sampling of the respondents. A questionnaire written in Arabic was designed to capture data on the following variables: computer competency (CC), technological factors (TF), social presence (SP), and instructor characteristics (IC).

The questionnaire was composed of three sections. The first section consisted of personal questions (i.e., age, sex, GPA, and declared major). The second section consisted of questions that examined the students' familiarity with computer technology. The third section comprised questions that explored students' attitudes toward DL. The questionnaire was administered through the Moodle LMS, and only registered students could access the questionnaire. The questionnaire was available for one week to allow students sufficient time to completely answer the questions.

The final version of the questionnaire was reconstructed in an attempt to overcome some minor challenges, such as ambiguity. A total of 38 questions were developed to capture information on all the variables and factors that tested the hypotheses. Each statement on the questionnaire was based on the Likert scale, and each answer was assigned weights to establish normally distributed scores. The weights of the responses from the questionnaire were assigned as follows:

1. Refers to "Strongly Agree"
2. Refers to "Agree"
3. Refers to "Neutral"
4. Refers to "Disagree"
5. Refers to "Strongly Disagree"

Data Collection

Students who participated in this study were asked to respond to the items on the questionnaire. Responses were coded and the items were checked for a pattern of response. Based on feedback from respondents, no wording changes to the instrument were deemed necessary. In total, 360 questionnaires were randomly distributed to AOU students. All of the survey responses were successfully received, and only 21 were incomplete. The online surveys were conducted and collected between November 10, 2008 and November 17, 2008 using the Moodle

LMS system.

Reliability and Validity

In order to ensure the reliability of the test measurement (internal consistency), Cronbach's alpha was computed and reported for each scale that measured the concepts being examined. Careful wording, format, and content significantly increased the questions' reliability. During the execution of this research, a pilot study was conducted to examine the reliability and validity of the survey instrument. The reliability of the instrument was calculated using Cronbach's alpha. The results of the pilot study (analyzed using Cronbach's alpha) indicated that the questions were reliable. The overall alpha score for the pilot data was 0.977, which indicated high reliability of the instrument.

Validity was established by comparing the content of the instrument to the known instrument in the computer competency area. This comparison was used to validate the belief that the tool accurately represented the information we sought to gather. Based on the pilot results and the advice of the committee members, there was no need to modify any major parts of the survey questions. However, a minor area needed to be amended: The questionnaire wording was modified to clarify meaning and understanding for the respondents.

Results and Analysis

The student acceptance questionnaire sought to examine student satisfaction with the distance learning model of teaching. Student acceptance can be defined as students' perception pertaining to the college experience and perceived value of education (Astin, 1993). In other words, this questionnaire attempted to identify student attitudes toward distance learning. Identifying such attitudes would determine critical success factors of distance learning.

SPSS version 16.0 was used to develop a codebook and perform statistical data analyses (SPSS, 2008). The data collected from the surveys were analyzed descriptively, and a full set of descriptive statistics was used to analyze research hypotheses one through eight. The four hypotheses of this research were formulated to test the research hypotheses. Two different statistical methods of analysis were employed. The descriptive statistics method was used to obtain the means and response percentages in order to compare these values with each other and with the established critical point/cut point (3 for Likert Scale questions). The second technique utilized was the inferential method, which added validity to the descriptive statistical findings. Using this method, Analysis of Variance (ANOVA) and Chi-square tests were used to calculate the p-values of the research questions and measure them against a significance level of 0.05.

Demographic Data of the Respondents

Table 1 presents the demographic data of the AOU students who completed the questionnaire. The demographic variables included the student's gender, credits earned, GPA, and language proficiency. Participants included 195 (57.5%) females and 144 (42.5%) males. In terms of GPA, 45.7% (n=155) of students had a GPA greater than 2.67.

The descriptive analysis of hours spent by students on DL showed that 23.9% (n=81) of participants spent less than 30 hours, 29.2% (n=99) spent between 31 and 60 hours, 25.7% (n=87) spent between 61 and 90 hours, and 21.2% (n = 72) spent more than 90 hours. Only 4.1% (n=14) of the students rated their English proficiency as poor, and 95.9% (n=325) rated their English proficiency as either fair or good.

Table 1

Profile of the Respondents by Gender, Credits, GPA, & Language Proficiency

	Frequency	Percent
Gender		
1 (Male)	144	42.5%
2 (Female)	195	57.5%
Credits Earned		
1 (0-30)	81	23.9%
2 (31-60)	99	29.2%
3 (61-90)	87	25.7%
4 (91+)	72	21.2%
GPA		
1 (Below 2.0)	49	14.5%
2 (2.0 – 2.67)	135	39.8%
3 (2.68 – 3.33)	103	30.4%
4 (3.34 – 4.0)	52	15.3%
Language Proficiency		
1 (Poor)	14	4.1%
2 (Fair)	202	59.6%
3 (Good)	123	36.3%
Major		
1 (English)	24	7.1%
2 (MIS)	157	46.3%
3 (Business)	158	46.6%

To determine their level of computer competency, participants were asked several questions related to type of computer use. The great majority of students (98.8%) had PCs. All students had e-mail accounts. The majority of participants had experience using computers and the World Wide Web. Frequency statistics showed that 71.1% (n=241) of participants used computers for more than two hours a day, and 67.8% (n=230) used the World Wide Web for more than three hours a day.

Hypotheses Testing and Discussion

To test the research hypotheses, correlation analyses were conducted. Correlation analyses were used to determine both the strength and the direction of the association between predictor factors (computer self-competency, technological factors, social presence, and instructor characteristics).

H1: Computer-competency has a positive effect on students' acceptance of distance learning systems.

Results showed that 31.1% (n=102) of students who did not attend the LMS orientation sessions believed that distance learning did not help them to better understand their courses. Only 7.4% (n= 25) of those who did attend the LMS orientation sessions reported the same belief. This finding is consistent with results that show that 28.9% (n=98) of those who attended LMS orientation sessions disagree with the idea that distance learning is better than traditional learning, compared to only 9.4% (n=32) of those who did not attend the orientation sessions. Results also showed that 55.4% (n=188) of students who used the Internet for more than three hours a day believed that DL helped them to become self-learners. Only 5.8% (n=20) claimed that DL did not achieve this result. It can therefore be concluded that computer competency plays an essential role in students' acceptance of distance learning.

H2: Technological factors have a positive effect on the perceived usefulness of distance learning systems.

Table 2 shows findings related to social presence in the DL environment. With sig. of .007 and .001, respectively, socialization in the DL environment and difficulty adapting to DL were found to be significant

elements of the social factors in the DL environment.

Table 2

ANOVA Test for Technological Factors

Attitude	F	Sig.
Distance learning better than traditional learning	.574	.682
DL is better than traditional learning	.576	.681
DL helped me develop self-confidence	1.514	.198
Socialization in DL is poor	3.615	.007*
I have difficulty adapting to DL	5.548	.001*

H3: Social presence has an essential role in the success of distance learning systems.

Table 3 shows the results of students' attitudes toward social presence in the distance learning environment. With a mean rating of 3.71, students were generally positive about the role of distance learning in overcoming shyness. With a mean of 3.50, students' attitudes toward socialization in the DL environment were negatively inclined. The Mann-Whitney test was used to determine whether or not gender had a significant role in the attitudes of students toward DL. Table 3 below shows the results of this analysis.

Table 3

Social Factors by Gender

Attitude	Mean	Std. Deviation	Sig. (2-tailed)
Socialization in DL is poor	3.50	1.108	.122
DL helped me develop self-confidence	3.71	.971	.215
Overcome shyness	3.10	1.082	.380
DL is better than traditional learning	4.15	1.190	.082

The results shown in Table 3 do not indicate any significant level of association between students' gender and their attitudes toward the social factors of the DL environment.

H4: Instructor characteristics have important effects on perceived student acceptance of distance learning systems.

Table 4 shows the results of the analysis of students' attitudes as they relate to the role of the instructor. Results indicated a strong association between students' attitudes about the role of the instructor and their attitudes towards DL. Table 5 indicates that all means were around 3, which suggests that the students seem unsure about their experiences with instructors.

Table 4

Students' Attitudes Related to the Role of the Instructor

	Mean	Std. Deviation
Instructors used multiple instructional design techniques	3.21	1.129
Instructors were continuously in touch with us	3.05	1.192
Instructors motivated us to be self-learners	3.53	1.050

Conclusion

Understanding students' perceptions regarding distance education is the first step in developing and implementing a successful online learning environment. The primary objective of this study was to analyze the factors influencing students' acceptance of e-learning. It is necessary for institutions of higher education to focus on learners' satisfaction in order to continuously improve online learning programs. Such careful monitoring will ensure the success, feasibility, and viability of online learning programs in the future.

The findings suggest that in order to enhance distance learning systems, distance learning institutions need to address the following issues: computer self-competency, technological factors, the social environment, and instructor characteristics. The results of the present study indicate that students' satisfaction and acceptance of distance learning was drastically affected by the four factors addressed in the hypothesis. The findings show that information technology alone does not lead to a high-quality learning experience. Technology is not a goal by itself; its role is to serve the learning process.

Results reveal that respondents had negative attitudes toward the distance learning environment. Results also show that students' attitudes toward socialization in the DL environment were negatively inclined. This finding indicates a problem with the existing setup of the DL environment. This problem could be caused by students' false expectations due to shortcomings in their technical and pedagogical orientation. Institutions and instructors should create opportunities and devote resources to assist students in developing the computer skills and expertise needed for online learning.

Based on the research results, some important recommendations are presented below:

1. Accredited courses that focus on using ICTs in teaching can be embedded into the organization. Orientation to LMS should be emphasized in these courses. Parts of these courses should be devoted to explaining the principles of distance learning and how it differs from traditional learning. Providing students with a suitable technical and pedagogical orientation in the early stages enables them to be successful in their future experiences in the DL environment.
2. Staff development programs should be introduced. In such programs, staff development activities can be designed to combine online and face-to-face learning opportunities so that staff can experience online learning from the students' perspective. The program should include a mechanism to evaluate the staff's adherence to the requirements of the DL environment.
3. Continuous workshops for staff should be conducted. These workshops should provide staff members with opportunities to share experiences, ideas, and reflections with their colleagues. Workshops should be administrated by DL experts who can discuss the rationale, principles, and instructional activities of the DL environment.
4. Studying online is an alien world for many students. Therefore, instructors need to ensure that students develop a sense of community in the distance learning world. This can be achieved by responding promptly to students' queries, organizing discussion groups, and arranging virtual office hours.

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