Barriers of Using Jusur Learning Management System in Saudi Arabia Universities

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Abstract

*T*he purpose of this study was to determine the main barriers faced by faculty members from using Jusur LMS in Saudi universities. This study was quantitative in nature and employed a descriptive research design. The sample of this study included 454 faculty members from four public universities in Saudi Arabia who had experience using Jusur LMS for instructional purposes. Data were gathered through the use of a web-questionnaire. Findings indicated that barriers faced by faculty members from using Jusur LMS were considered at a moderate level. Further analysis also revealed that respondents identified numerous administrative and technological barriers such as lack of technical, administrative and financial supports. In the technological domain, they faced obstacles with availability of appropriate hardware, poor internet connectivity, the lack of internet access, unsuitable software and technological resources in the Arabic language. It is suggested that for an improved utilization of Jusur LMS at Saudi universities, barriers such as administrative and technological obstacles must be taken into due consideration.
Keywords: Jusur Learning Management System, Barriers in using Jusur, Jusur LMS Utilization, Saudi Higher Education.

1. Introduction

As a part of its development plan (Afaq), the Saudi Ministry of Higher Education is in the process of adopting e-learning as a major component of its modern integrated education system. It also seeks to ensure that in the process users are provided with the required technological policies and regulations in order to ensure that the public will be able to benefit from such new systems at the maximum level (Ministry of Higher Education, 2010).

At the beginning of 2008, the Saudi Arabian Ministry of Higher Education has designed its own LMS in collaboration with Meteor Group of Companies in Malaysia called Jusur LMS (Al-Khalifa, 2010). Jusur LMS has been developed according to universal standards. It provides six key functions, namely, registering students in the Jusur system, course planning, making a course available to users, following up on students' progress, issuing reports of the students' performance, exchanging information through interactive tools (forums, and file sharing), and testing through quizzes and examinations. According to Hussein (2011), the number of online courses that were offered through the Jusur LMS reached a total of 2336 courses in the academic year 2009/2010.

A great number of the faculty members have been found to be reluctant in offering e-courses using technology (Al-Asmari, 2005; Al-Senaidi, Lin, & Poirot, 2009; Pajo & Wallace, 2001). Research conducted in Saudi universities has identified several barriers that need to be overcome before the faculty members could use technology in their instruction, which include limited infrastructure, lack of policy and administrative support, lack of resources available in Arabic, lack of staff training, lack of users' skills and knowledge in the field of technology, and lack of technical and financial supports (Abahussain, 1998; Al-Balawi, 2007; Al-Gahtani, Hubona, & Wang, 2007; Al-Kahtani, 2006; Al-Saif, 2005; Al-Weshail, 1997; Alnujaidi, 2008). On the other hand, information regarding the barriers in using Jusur LMS is still incomplete. Thus, research into barriers which stand between

the Saudi universities' faculty members and their use of Jusur LMS is needed.

2. Literature Review

According to Al-Balawi (2007) barriers faced by faculty members to use technology can be understood as the factors that prevent or hinder faculty staff from successfully implementation technology in their classrooms. Pajo and Wallace (2001) identify three major barrier groups could impede staff acceptance of Web-based teaching initiatives. These barriers are personal, attitudinal, and organizational barriers. Additionally, Al-Saif (2005) suggests that barriers which prevent the users from benefit a certain system can be categorized into four main factors namely organizational, technological, personal and social factors. Organizational barriers are the absence of organizational arrangement to support technology integration in the learning environment (Zhao, Pugh, Sheldon & Byers, 2002). Accordingly, in the context of using Jusur LMS, a statement such as "the lack of support from the administrators" or "the lack of financial support" is a measure of the shortage of organizational barriers (Betts, 1998). The absence of technological support is defined as "limited access to useful, relevant, and appropriate hardware and software" (Rogers, 1999, p. 9), it includes statements, for example, "poor internet connectivity", "Lack of availability of the suitable software", and "Lack of technological resources in Arabic language". The personal part of barriers is the human components that inhibit acceptance of an innovation (Al-Saif, 2005). Pajo and Wallace (2001) define personal barriers as individual obstacles that lead to avoid the participation in using the technology. While, social barriers mean the degree to which institutional elements support or inhibit the faculty members to use Jusur LMS (Asiri, 2012). Thus, a statement such as "Negative comments made by my colleagues inhibit me to use Jusur LMS", or "Concerns about the seriousness of students inhibit me from using Jusur LMS" is a statement of social obstacles.

A number of barriers consider as a gap between actual and expected use of technology. Some of these barriers to effective

use of technology include the lack of technical support, the lack of recognition for technology use in teaching, the lack of experience using the technology, and the lack of incentives for developing technology-enhanced curricula of the local technical and instructional design support (Baggs, 2000; Spotts & Bowman, 1995). Rogers (1999) listed also factors which have been found to affect the adoption rate of technology, and these included: (a) availability and quality of hardware/software, (b) funding, institutional support, (c) staff development, (d) instructors attitudes, and (e) time to learn to use technology.

It is crucial to note that both technology and human facilities have direct impacts upon increasing faculty attention towards the use of technology (Al-Alwani, 2005; Curbelo-Ruiz, 2003; Ely, 1999; Zhao et al., 2002). In any e-learning environment, the technology facilities play a key role in the decision making of the faculty members to participate in LMS. Some of these are related to logistics (such as the type of equipment that is considered as necessary to deliver instruction), the equipment requisite for students, the computer software that is necessary, and the ways to get access to the Internet. Equally important are the personnel who have the technical skills to develop and employ such instruction, the technical staff who work together with users for facilitating the difficulties faced by users, and the financial resources that are required (Al-Saif, 2005; Sadik, 2007).

In the context of Saudi, instructors in public higher educational institutions have experienced certain organizational, technological, and personal barriers which inhibit their use of different types of technologies (e.g. Computer, Internet, and Web-based Instruction). In particular, staff development, policy and administrative support, as well as professional programmes constituted the organizational barriers (Al-Alwani, 2005; Al-Asmari, 2005). The technological barriers included variables like the available technology access, the strategy for searching information, the place of access, and the availability of resources (Al-Kahtani, 2006; Al-Weshail, 1997). Meanwhile, the personal

barriers were identified as the attitude toward technology, computer and internet experience, as well as the users' skills and knowledge in the field of technology (Abahussain, 1998; Al-Asmari, 2005; Al-Weshail, 1997; Alaugab, 2007).

3. The study

This study is a descriptive research design. The target population for this study counts 18328 faculty members teaching at 11 Saudi Arabian public universities applying Jusur LMS for teaching and learning procedures. The selected universities are geographically located in the central, western, northern, and southern region of Saudi Arabia.

By using the proportional stratified cluster sampling, one university of each region is chosen randomly, and the number of participants from each university determined in proportion to the population size in each location. The data are subsequently subjected to descriptive analysis. Descriptive analysis involves frequencies, percentages, means, and standard deviation. The obtained quantitative data are analyzed by using the Statistical Package for Social Sciences (SPSS) Version 19.0.

3.1 Respondents

The research instrument was in the form of an online questionnaire. In collaboration with the National Centre for E-learning and Distance Learning (NCEL) in Saudi Arabia, a total of 710 faculty members were emailed the link to the survey questionnaire, and out of this 454 responses were valid and analyzed. The response rate amounted to 63.9%.

3.2 Instruments

The purpose of barriers scale was to determine faculty members' perceptions of the major barriers inhibiting them from using Jusur LMS. In order to achieve this aim, a well-documented instrument was adopted in the form of a modified version of Betts's (1998) Barrier Scale. Betts's permission to utilize and modify the instrument was also obtained beforehand. The barrier scale contained four groups, which are organizational barriers (six items), technological barriers (six items), personal

barriers (five items), and social barriers (five items) (see Table 1.1). All the items of the scale were formulated in the form of negative statements. A five-point Likert scale of potential responses ranging from "Strongly Agree" to "Strongly Disagree" was utilized. In terms of reliability, Cronbach's alpha reliability coefficients for the four sub-scales were: organizational barriers = 0.79, technological barriers = 0.79, personal barriers = 0.75 and social barriers = 0.83 .while the Cronbach's alpha value for overall scale was 0.90.

Table 1.1 Barriers to the Use of Jusur LMS

Organizational Barriers: 1. Lack of support from the administrators. 2. Lack of technical support. 3. Lack of financial support. 4. The use of Jusur LMS does not add to my scientific/academic development. 5. Increased number of students in the classroom. 6. Fears of increasing teaching load.	**Personal Barriers:** 1. Lack of computer competence. 2. Lack of technological background. 3. Lack of training in using Jusur LMS. 4. Lack of overall job satisfaction. 5. Lack of release time.
Technological Barriers: 1. Lack of internet access. 2. Poor internet connectivity. 3. Lack of appropriate hardware. 4. Fears of low quality of online courses. 5. Lack of availability of the suitable software. 6. Lack of technological resources in Arabic language.	**Social Barriers:** 1. Negative comments made by my colleagues. 2. Communication difficulties with administrators. 3. Concerns about the seriousness of students. 4. My colleagues' negative experiences with Jusur LMS. 5. My community's doubts concerning the usefulness of Jusur LMS.

4. Findings

4.1. Respondents' Academic Profiles

Table 1.2 presents the data collected for the distribution of the faculty members based on their gender, specialization, academic position, and nationality. Out of 454 respondents, 272 (59.9%) were males and 182 (40.1%) were females. The descriptive analysis of the data collected on the respondents' academic specialization revealed that many (n = 248 or 54.6%)

of the respondents were from the social sciences, while other (n = 206, 45.4%) were from science background. The different academic positions of the respondents ranged from the positions of professor to teacher, whereby that of Assistant Professor (a full faculty member holding a doctorate's degree) scored the highest frequency value of 195 (43%) and that of professor scored the lowest value of 26 (5.7%). Meanwhile, nationals of Saudi-Arabia represented 281 (61.7%) of the sample group as compared to 174 (38.3%) expatriate respondents.

Table1.2 Summary of Demographic Variables

Characteristics	Frequency	Percentage
Gender		
Male	272	59.9%
Female	182	40.1%
Specialization		
Science	206	45.4%
Social Science	248	54.6%
Academic position		
Teachers	56	12.3%
Lecturers	116	25.6%
Assistant Professors	195	43.0%
Associate Professors	61	13.4%
Full Professors	26	5.7%
Nationality		
Saudi Arabians	281	61.7%
Non-Saudi Arabians	174	38.3%
Total number of the respondents	454	100%

4.2. Level of Barriers to Using Jusur LMS

The Barriers Scale consisting of 22 items with possible scores ranging from 22 to 110 and divided into three levels. The scores ranging from 51 to 78 were considered barriers at a moderate level, while the scores below 51 were considered constituting a low level, and the scores above 78 as a high level. Table 1.3 presents the distribution of the faculty members' perception of the barriers they faced when using Jusur LMS. The collected data suggested that the majority of the faculty members in the sample (58.4%, n=265) perceived that the level of barriers to using Jusur LMS was moderate. The remaining 26.4% (n=120) and 15.2% (n=69) perceived them to lie at a low and high levels, respectively. Further descriptive analysis showed that the

responses resulted in a mean score of 62.1 (S.D = 17.03). Hence, the barrier level to using Jusur LMS observed by the faculty members in Saudi-Arabian universities was considerably moderate.

Table 1.3: Distribution of the faculty member's self-reported perception of barriers to using Jusur LMS.

Levels	Score	Frequency	Percentage
Low	22-50	120	26.4
Moderate	51-78	265	58.4
High	79-110	69	15.2
Mean=62.1	Std. deviation=17.03	Minimum= 32	Maximum=100

4.3. Branches of Barriers

The means and standard deviations for all the subscales are shown in the Table 1.4. According to these data, the Technological Barriers Subscale recorded the highest mean score of 3.20, with a standard deviation of 0.92. On the other hand, the Organizational Barriers Subscale recorded a mean score of 3.01, with a standard deviation of 0.89. The Social Barriers Subscale and the Personal Barriers Subscale recorded the mean scores which were slightly below 3.00, with a standard deviation of 1.01 and 0.91, respectively.

Table 1.4: Means and standard deviations of the Jusur LMS Barrier Sub-Scales

Subscales	Mean	Standard Deviation
Organizational Barriers	3.01	.89
Technological Barriers	3.20	.92
Personal Barriers	2.28	.91
Social Barriers	2.70	1.01

4.4. The Top Barriers limiting from the use of Jusur LMS

The percentage distribution of the faculty members by degree of agreement on 22 statements based on their perception of the barriers to using Jusur LMS was presented in the Table 1.5. The eight leading barriers which were identified as affecting the utilization of Jusur LMS in Saudi universities were ordered into ranks according to their respective mean scores. The strongest barrier identified was the lack of technical support provided by

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the institution. The second highest barrier was the lack of support from the administrators, and both poor internet connectivity and lack of appropriate hardware were ranked as third barriers. The fourth barrier identified was the lack of internet access. The fifth barrier was the unavailability of suitable software. The sixth barrier was the lack of financial support, followed by the lack of technological resources in the Arabic language.

Table 1.5: Percentage of the faculty members by degree of agreement on the barriers to using Jusur LMS

	Barriers to Using Jusur LMS	Percentage (%)					M	SD
		SD (%)	D (%)	N (%)	A (%)	SA (%)		
1	Lack of support from the administrators.	10.8	12.6	18.1	34.1	24.4	3.49	1.28
2	Lack of technical support provided by the institution.	10.4	11.0	18.7	32.8	27.1	3.55	1.28
3	Lack of financial support.	14.1	16.7	28.6	24.4	16.1	3.12	1.27
4	The use of Jusur LMS does not add to my scientific/academic development.	32.6	22.5	19.2	17.2	8.6	2.47	1.33
5	Increasing student numbers in the classroom.	18.7	20.5	26.7	23.3	10.8	2.87	1.27
6	Fear of increasing teaching loads.	28.6	24.4	16.1	23.1	7.7	2.57	1.32
7	Lack of internet access.	11.0	21.4	21.6	25.6	20.5	3.23	1.29
8	Poor internet connectivity.	11.0	17.0	16.7	28.9	26.4	3.43	1.33
9	Lack of appropriate hardware.	10.8	16.1	16.7	31.7	24.7	3.43	1.30
10	Fear of low quality online courses.	17.2	24.7	23.6	21.8	12.8	2.88	1.29
11	Lack of available suitable software inhibits me from using Jusur LMS.	10.8	22.0	25.3	25.6	16.3	3.15	1.24
12	Lack of technological resources in the Arabic language.	18.7	20.3	18.1	27.3	15.6	3.01	1.36
13	Lack of computer competence.	62.1	18.7	10.1	5.5	3.5	1.70	1.10
14	Lack of technological background.	59.7	17.4	8.6	9.9	4.4	1.82	1.20
15	Lack of training in using Jusur LMS.	27.5	17.0	16.5	26.9	12.1	2.79	1.41
16	Lack of overall job satisfaction.	32.8	20.0	22.5	14.1	10.6	2.50	1.35
17	Lack of release time.	28.4	22.7	20.9	15.0	13.0	2.61	1.37
18	Negative comments made by my colleagues.	35.7	29.1	19.4	9.0	6.8	2.22	1.22
19	Communication difficulties with administrators.	18.5	18.9	22.5	27.3	12.8	2.97	1.31
20	Concerns about the seriousness of students.	10.5	8.1	30.5	21.1	29.8	2.99	1.43
21	My colleagues' negative experiences with Jusur LMS.	26.4	23.6	21.4	20.3	8.4	2.61	1.30
22	My community's doubts concerning the usefulness of Jusur LMS.	24.4	26.9	17.4	20.0	11.2	2.67	1.33

SA= Strongly Agree, A= Agree, N= Neutral, D= Disagree, SD= Strongly Disagree.

5. Discussion and Conclusion

In order to ensure the utilization of Jusur LMS at the specific level envisioned for Saudi- universities, informing the faculty members of the availability of such software could only be regarded as the first step which needed to be followed by many other steps in order to complete the process. The entire instructional environment needs to be restructured accordingly in order to provide a sustainable technological basis for e-learning. The absence of organizational facilities and clear-cut policies is likely to result in a limited use of Jusur LMS and may become an obstacle to its successful implementation. In this study, the barriers faced by faculty members in using Jusur LMS were measured on the Barriers Scale. The result of the descriptive analysis showed that the mean score obtained by the respondents was equivalent to a moderate barrier level. In other words, the faculty members faced serious problems with some of the barriers listed in the scale which hindered them from utilizing Jusur LMS.

Descriptive statistics were also applied to describe the four different aspects of barriers, namely, organizational, technological, personal, and social. The respondents achieved that the technological barriers was the highest mean score in their responses. These findings suggest that the faculty members had to overcome certain technological obstacles before they were able to use Jusur LMS. This was followed by organizational barriers which indicated that the faculty members had identified specific organizational obstacles that prevented them from using Jusur on a more frequent basis. In this respect, van-Braak (2001) noted that the absence of the technological facilities acted as a strong barrier to the use of innovative technology. His observation also mirrors those of others who asserted that technological and organizational factors positively or negatively impact the utilization of technology (Al-Balawi, 2007; Al-Saif, 2005; Pajo & Wallace, 2001; Zhao et al., 2002). In short, organizational and technological supports constitute two sides of

the same coin in the successful implementation of Jusur LMS (Rogers, 1999).

In the course of descriptive analysis, eight organizational and technological barriers were identified. For the organizational barriers, most of the respondents reported that they had difficulties with technical and financial supports, as well as getting support from the administrators. In the technological domain, the majority of the respondents indicated that they faced obstacles with availability of appropriate hardware, poor internet connectivity, a complete lack of internet access, the lack of suitable software and technological resources in the Arabic language.

These findings support those made by Al-Balawi (2007) who admitted that the faculty members were in need of extensive administrative and technical supports and monetary incentives. Rogers (1999) had already noted earlier that academic staff were concerned over the lack of the availability of quality hardware and software, institutional support, staff development, and technical assistance. Limited access to the Internet services was also considered as a main barrier is Saudi higher education (Al-Asmari, 2005; Al-Kahtani, 2006).

The faculty members will use Jusur LMS more effectively when technological, administrative, personal, and social obstacles are diminished. The results demonstrated that an educator who lacks the facilities and necessary background would lose interest in using Jusur LMS by time. Therefore, universities and the national centre are jointly responsible in providing suitable conditions that are necessary for applying the system efficiently. In this regard, the results showed that the technological and administrative obstacles were the most projected problems faced by the faculty members. In addition, the technical and financial supports are hardly available. Decision makers in the national centre should consider this particular issue as crucial. Although the centre is currently providing a distance technical support to the end-users of the

system (Centre – University), this support is still inadequate in terms of the number of universities applying the system and the long distance between the centre and the universities in Saudi. Therefore, establishing centres for technical support at the campuses of universities to urgently support end users is an insistent matter.   Meanwhile, the financial support from the universities is also needed for the end users.

Acknowledgements

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