Evaluating the Services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University According to the Opinions of Beneficiaries (Students/Faculty Members)

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Summary
This research was conducted with the aim to appraise the level of satisfaction of students and faculty members with the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University. In addition, it investigated any differences arising between the evaluation of students and faculty members for these services owing to their gender..To achieve these goals, a descriptive analysis methodology was used in this research. The sample comprised 1357 students (704 male and 653 female) and 372 faculty members (208 male and 164 female) from Umm Al-Qura University in the academic year 2020–2021. To collect the requisite data, the study participants were asked to complete a 5-point Likert scale questionnaire, and the validity and reliability of the data were then assessed. The findings revealed the existence of a high level of satisfaction of students and faculty members with the services of Deanship of e-Learning and Distance Education at Umm Al-Qura University. There are no statistically significant differences between the mean scores of students (male/female) at Umm Al-Qura University in evaluating the said services. Furthermore, there are no statistically significant differences between the mean scores of faculty members (male/female) at Umm Al-Qura University in evaluating these. There exist statistically significant differences between the mean scores of faculty members and students in the evaluation of the services of the Deanship for the benefit of faculty members.

Keywords:*e-Learning, Evaluation, Satisfaction, Gender Differences, Higher Education.*

1.Introduction

The third millennium is marked by a tremendous revolution in most fields because of the tremendous scientific and technological advancements. These days, even educational institutions cannot work without using new technology. They must therefore keep pace with these growing innovations, which cannot happen without organised and purposeful scientific planning.

E-learning is one of the most important applications of communication technology in the field of education, and it can solve various challenges confronting traditional instructional systems, such as solving the problem of congestion of lecture halls and classrooms, reducing the time required for training and its cost, considering individual differences between students, especially students with special needs, and contributing to linking the educational institution with various community institutions for unification between community requirements and the qualifications of graduates [1, 2, 3, 4].

This type of education has imposed itself strongly in many educational institutions within the Kingdom of Saudi Arabia, especially higher education institutions and universities, to tackle the challenges associated with current education, including the inability of universities to accept all high school graduates, housing, and transportation [5, 6, 7].

In this context, remarked that in an initiative to adopt the approach of e-learning and distance education, several universities in the Kingdom of Saudi Arabia have begun to establish independent deanships for e-learning and distance education. Among these universities, the most prominent ones are King Saud University, King Fahd University of Petroleum and Minerals, King Faisal University, King Abdulaziz University, King Khalid University, and Umm Al-Qura University [8].

Despite the variation in e-learning experiences inside and outside the Kingdom of Saudi Arabia, there are some basic and necessary requirements for a successful implementation of e-learning, including the availability of plans, policies, management, infrastructure, and human resources, in addition to the requirements for learning content, support services. When these requirements meet quality standards, the results are anticipated to have a positive effect on distance learning system usage and the satisfaction of beneficiaries [7, 9, 10]. In this regard, there are several studies aimed to evaluate the experiences of e-learning systems to identify the obstacles and challenges that prevent the maximum benefit from these experiences.

The study [11] recommended the necessity of the beneficiaries' participation in the process of evaluating systems and experiences of distance education. Several other researchers also emphasised the necessity of (i) a comprehensive and continuous evaluation of e-learning systems, and distance education programs at different universities to diagnose their strengths and weaknesses and

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(ii) evaluation of the experiences of educational institutions that wish to apply distance education [12, 13, 14, 15, 16].

Authors in [17] investigated the Blackboard Learning Management System at King Saud University and revealed that 96.6% of students did not receive proper training because of the difficulty in obtaining technical support. The study [8] aimed to identify to what extent the students of King Abdulaziz University in Jeddah benefitted from e-learning management system (EMES) and the obstacles encountered by the students in using EMES and concluded that the students desired to have a system to catch up with the new technology requirements. The most important recommendations and suggestions were ensuring the infrastructure quality and having intensive, in-service training on using EMES. The study suggested implementing studies for evaluating the system as per the international criteria of comprehensive quality. It also suggested making a case study to identify the system's technical problems and ways to overcome them.

Authors in [18, 19] added that there is a need to develop a periodic evaluation of e-learning systems inside instructional institution and analyse their effectiveness, where an evaluation of e-learning systems is vital to ensure their effectiveness.

A number of studies indicated that males and females differ in their attitudes and evaluation of e-learning systems and there is a need to understand if there are still differences between males and females in acceptance and using e-learning systems [20, 21, 22, 23].

The studies in the extant literature have emphasised the necessity of evaluating the quality of educational services in higher-education institutions from the viewpoint of students and faculty members [24, 25, 26, 27, 28]. Author in [28] remarked that improving the performance of universities is a very important strategic goal because of the role they play. Furthermore, the development in any society is contingent on its existing workforce. Moreover, universities are one of the institutions responsible for preparing the human cadres that society needs and are the main centres for scientific research, and without them, it is difficult to make any real scientific, economic, or social progress.

This study specifically aimed to evaluate the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University from the point of view of the beneficiaries (students and faculty members) as a case study with the aim of identifying indicators of strength and weakness in these services and thus developing them to achieve the quality of the teaching and learning system at Umm Al-Qura University.

The answers to the following questions were searched:

1. What is the level of students' satisfaction with the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University?
2. Does the student's evaluation for the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University differ according to gender (male/female)?
3. What is the level of satisfaction of faculty members with the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University?
4. Does the faculty members' evaluation for the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University differ according to gender (male / female)?
5. Does students' evaluation differ from faculty members' evaluation for the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University?

2. Literature review and theoretical framework

In the era of digital transformation and the revolution in information and communication technology, various educational institutions are seeking to catch up with this progress by investing millions of dollars in activating e-learning system and distance education to achieve its goals very effectively. Several institutions have even adopted a set of strategies to follow up and enhance the quality of educational services provided to the community of beneficiaries.

Umm Al-Qura University is considered one of the five best universities in the Kingdom of Saudi Arabia and is one of the oldest universities in the country. It has recently been seeking to activate the role of the Deanship of e-Learning and Distance Education in providing services that contribute to spreading the culture of e-learning and producing the largest number of courses in electronic form [29].

In light of this, the theoretical framework of this research will address the items described as follows.

2.1. E- Learning concept and its development

There are various definitions of e-learning. It refers to the use of all kinds of technology for delivering information to the learner with the least time, effort, and with the greatest benefit, and this learning could be synchronous or not asynchronous, inside the classroom or outside [30].

Authors in [31] defined the term e-learning as the type of education that is based on the use of computer and network technology to deliver content to individuals. E-learning can also be defined as education supported by electronic tools and media [4].

It is also referred to as the effectual use of information networks and communication technology in teaching and learning [32].

It can thus be defined as a computer- and network-based system to deliver instructional content to learners by considering their needs and abilities and monitoring their learning progress.

The term e-learning appeared and developed through three generations. The first generation started in the 1980s and the content was in CDs, where the interaction was between the student and the content. The second generation surfaced in the 1990s with the emergence of the Internet, where there occurred interaction between the student and the content in addition to the interaction between the students and their peers and between students and their teachers remotely. Lastly, the third generation began at the end of the 1990s with the emergence of the term e-commerce and e-security and the growing role of communication technology in creating communication between educational institutions and society [33, 34].

Through these stages, the concept of learning management system (LMS) appeared and can be defined as an application programme based on the Internet and used in planning, implementing, and evaluating the learning process. LMS usually provides teachers with a way to create and provide content and monitor the participation and performance of students and evaluate them. In addition, it provides students with the ability to use interactive features such as video meetings and discussion forums. It has been asserted that it represents a full-fledged virtual learning environment [3, 35, 36].

There are many advantages of e-learning systems, which include the development of students' skills and abilities to manage their time and learning, developing positive trends towards digital learning for students and teachers, increasing confidence of both students and teachers in their abilities to use and employ technology in teaching and learning, as well as contributing towards helping students gain digital work experience while accomplishing the tasks assigned to them [36, 37, 38].

Author in [3] remarked that the most popular systems used in the Arab countries are the ATutor, Moodle, Claroline, Dokeos, Web CT, Blackboard, and Nuvvo systems, and these systems have been programmed in multiple languages such as PHP and JavaScript, with the use of a published database on the Internet to support and feed proper data.

The concept of Web 2.0 emerged when Authors in [39] stated that it refers to the second generation of the Web, where user-focused web applications such as social networking, Wikis, and blogs promote social connectedness, sharing the media, information, and content which is user-generated, as well as a cooperation between individuals and organisations.

Authors in [40] asserted that the final stage of e-learning that we witness nowadays is massive open online course (MOOC). The term ‘MOOCs’ represents open access, global, free, video-based instructional content, videos, issue sets, and forums released through an online platform to high volume learners and participants aiming to take a course or be educated, with the flexibility of time and place. MOOCs gather scholars and like-minded fellow learners around the globe [41].

2.2. E-Learning denship servives and their evaluation

The Deanship of e-Learning and Distance Education at Umm Al-Qura University was established in 2011, and since the date of the establishment, several training courses and activities have been implemented in the field of developing the educational process and enhancing the use of technology to develop the skills of students and faculty members. The Deanship also played a key role in spreading the e-learning culture by holding workshops and introductory meetings, organising forums, and motivating students and faculty members to demand this type of education. It is the responsibility of the Deanship to provide electronic and educational services that would facilitate the educational process for the faculty member and student in all the university campuses [42].

The services provided by the Deanship of e-Learning and Distance Education at Umm Al-Qura University can be reviewed as follows [43]:

- The electronic educational environment: The Deanship provides various services that enable Umm Al-Qura University to present the educational process by using digital learning tools and systems, including the Blackboard Learning Environment. Virtual Classroom (Blackboard Collaborate) which allows direct communication with students via video and audio in a synchronised way over the Web and virtual meetings (WebEx) for holding meetings and discussions on the Internet directly with voice and image.
- Training: The Deanship provides training courses and workshops for both faculty members and students regarding the employment of different learning systems. It also helps students and faculty members to become familiar with the latest innovations in the field of technology and strategies for distance teaching and learning.
- Technical support. The Deanship provides technical support services from 8 am to 10 pm through various channels such as e-mail and WhatsApp and provides a hotline for technical support.
- Awareness: The Deanship provides awareness-related services to its student and faculty beneficiaries through several channels, including the Deanship's YouTube channel, Twitter, and WhatsApp. Infographics and news are published on the Deanship's website.

Authors in [44, 45] agreed that an evaluation process is required for universities to achieve their goals of keeping pace with the new developments and challenges and for the development process to continue. It is thus imperative to measure the quality of educational services to identify the strengths and weaknesses of the educational process, so that

officials could develop the educational system on a clear and robust foundation.

Universities have taken an interest in collecting the opinions of students to gauge the extent of satisfaction with those services, as satisfaction is a measure of the effectiveness of higher education institutions, and a priority and strategic element for their mission and future plans [46, 47].

Authors in [48] defined students' satisfaction as their conviction of the quality of services in the university environment, their confidence in these services, their interaction with their peers and faculty members through these services, and their response to them in a manner that would lead to positive results in both academic and psychological terms.

Therefore, in this research, satisfaction is defined in terms of how the beneficiary (student/faculty member) feels about the services provided by the Deanship of e-Learning and Distance Education at Umm Al-Qura University. It is expressed by the total score measured by the responses to the questionnaire prepared for this purpose.

In this regard, there are numerous studies that aimed to evaluate the quality of e-services produced through universities. For example, the researcher in [49] indicated that there are certain obstacles that students face while applying e-learning. Faculty members also face impediments while using e-learning application for explaining the scientific material and achieving their goals at Saudi higher education institutes. The study [50] stated that the lack of technical support when needed was one of the most common difficulties that the faculty members at Sultan Qaboos University encountered when they used modern technologies in education. A study [51] asserted that the faculty members at Hebron University, Palestine, appreciated the importance of using the e-learning model and the advantages it provides; however, they indicated that English language was one of the most important obstacles that prevented their ease of using the model.

The level of educational services provided by the Abu Dhabi University may not be commensurate with the students' view of those services, and thus their degree of satisfaction with those services provided was observed to be low, which could prevent those educational services provided from achieving their objectives [52].

A study [53] found that students were satisfied with the services provided by the Department of Information Studies at Sultan Qaboos University while studying the online search strategies course. They indicated the diversity in educational content, ease of communication between teachers and students, as well as the ease of following up educational activities and their rates in their various evaluation methods.

Thus, in light of the services the Deanship of e-Learning and Distance Education at Umm Al-Qura University, the importance of satisfaction as a measurement tool for judging the quality of services provided by universities, and the studies that aimed to evaluate the e-learning services at different universities, the researchers of this study have developed a measurement tool in form of a questionnaire to evaluate the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University. This is in line with the studies [54, 55, 56, 57], which emphasised the need for further research in evaluating e-learning in Saudi higher education.

3.Methodology and procedures

3.1.Research methodology

Author in [58] stated that descriptive methodology aims to describe phenomena, events, and collect facts, observations, and information about them by determining their true status. It is also concerned with reporting the ideal phase of these things according to certain criteria and suggesting procedures and steps that can be followed to achieve these goals. The descriptive and analytical approach was thus used to study scientific phenomena and problems by describing them in a realistic manner and analysing them in a scientific way, to answer the research questions related to the evaluation of the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University from the viewpoint of students and faculty members.

3.2.Research community

The research community consisted of all students and faculty members at Umm Al-Qura University in the Kingdom of Saudi Arabia for the academic year 2020–2021.

3.3.Research sample

The research sample comprised 1,729 beneficiaries. Table 1 shows the distribution of the sample members according to the research variables.

Table 1. Research sample description

Sample	Sample Categories	Number	Percentage	Total	Per cent
Students	Male	704	51.9 %	1,357	78.5 %
	Female	653	48.1 %		
Faculty members	Male	208	55.9 %	3,72	21.5 %
	Female	164	44.1 %		

3.4.Research tool

The research tool consisted of a questionnaire to identify the students and faculty members' satisfaction about the said services, which was then used to evaluate these services. In its initial form, the questionnaire consisted of 21 items to evaluate the said services in terms of four axes: (i) Usage (eight items for describing the beneficiaries' impressions of the accessibility of the services provided by the Deanship

and the ease of dealing with them), (ii) Effectiveness (six items for describing the beneficiary's opinions about the services positives provided by the Deanship and its role in overcoming the obstacles and problems faced by the users), (iii) Confidence (three items for describing the beneficiary's opinions about the accuracy of the services accuracy and the data transparency and information provided by the Deanship), and (iii) Awareness (four items for describing the users' impressions about the role the Deanship plays in spreading awareness about the services which it provides). The five-point gradient of Likert was used to answer the questionnaire, so that grades were assigned to it upon correction.

To verify the validity and reliability of the questionnaire, it was applied to a sample of 112 students and 74 faculty members at Umm Al-Qura University, by adopting the following steps:

i. The Questionnaire Validity

The questionnaire validity was verified in two ways:

The arbitrators' validity: In its initial form, the questionnaire was presented to seven specialised arbitrators. This was to judge the relevance of the questionnaire's axes, clarity of the items, appropriateness of their linguistic formulation, and the items' relevance to the axis that was being measured. In light of arbitrators' directives, a few items were rephrased. The rates of arbitrators' agreement on the questionnaire's items were 100%; therefore, no item was deleted from the questionnaire.

Internal consistency: The Pearson correlation coefficient was calculated between the degree of each questionnaire item and the total degree of the axis to which it belongs, and the results are depicted in Table 2.

Table 2. The correlation coefficients values of each item degree with the total degree of the questionnaire axis to which it belongs.

Sample	Axis	Number of items	Pearson Correlation Coefficient
Students (n =112)	Usage	8	From 0.779** to 0.911**
	Effectiveness	6	From 0.798** to 0.906**
	Confidence	3	From 0.930** to 0.944**
	Awareness	4	From 0.859** to 0.946**
Faculty members (n = 74)	Usage	8	From 0.753** to 0.841**
	Effectiveness	6	From 0.635** to 0.884**
	Confidence	3	From 0.902** to 0.945**
	Awareness	4	From 0.824** to 0.927**

It is evident from Table 2 that the correlation coefficients are statistically significant at the level of (0.01), and the values of the correlation coefficients ranged from 0.635 ** to 0.946 **, and the internal consistency did not result in deleting any items; thus, finally there were 21 items in the questionnaire.

The Pearson correlation coefficient between the degree of each axis and the total score of the questionnaire was also calculated. The values of the Pearson correlation coefficient between the questionnaires for Usage, Effectiveness, Confidence, Awareness, and the total score of the questionnaire were at a level of (0.01). The respective values for the student sample were 0.952 **, 0.933 **, 0.923 **, 0.911 **, and the respective values for the faculty members sample were 0.957 **, 0.907 **, 0.883 **, 0.897 **.

ii. Questionnaire Reliability

The reliability was calculated by calculating Cronbach's alpha coefficient for each axis of the questionnaire before and after deleting the item score, and the results are encapsulated in Table 3.

Table 3. The Questionnaire Reliability Coefficients Values

Sample	Axis	Number of items	Cronbach's Alpha	Cronbach's Alpha if Item Deleted
Students (n = 112)	Usage	8	0.939	From 0.924 to 0.935
	Effectiveness	6	0.926	From 0.902 to 0.925
	Confidence	3	0.929	From 0.882 to 0.919
	Awareness	4	0.932	From 0.891 to 0.928
	The whole questionnaire	21	0.974	From 0.972 to 0.974
Faculty members (n = 74)	Usage	8	0.922	From 0.909 to 0.917
	Effectiveness	6	0.894	From 0.858 to 0.870
	Confidence	3	0.913	From 0.836 to 0.872
	Awareness	4	0.890	From 0.819 to 0.884
	The whole questionnaire	21	0.965	From 0.962 to 0.965

It is evident from Table 3 that the values of the reliability coefficients obtained using Cronbach's alpha approach ranged from 0.890 to 0.974, which are acceptable reliability values. Furthermore, Cronbach's alpha values obtained after deleting the items reduced the reliability coefficient value.

It is evident from the foregoing that the research tool has validity and reliability. In its final form, it consisted of 21 items to identify the beneficiaries' satisfaction and evaluation for the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University.

4.Research results

This section is concerned with reviewing the results related to answering the research questions with a discussion of these results in light of studies and literature related to the topic of the research.

4.1.Results of the first question.

The first question states: What is the level of students' satisfaction with the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University?

To answer this question, the frequency, percentage, average, and standard deviation of the sample members' responses were calculated on each item of the questionnaire. Depending on that, each item has a score that extends between 1 to 5, the range of grades is 4, and the length of the category is 0.8. So, if the average value is 1 to less than 1.8, the level of satisfaction is very low; if it is 1.8 to less than 2.6, the level is low; if it is 2.6 to less than 3.4, the level is medium; if it is 3.4 to less than 4.2, the level is high; finally, if it is 4.2 to 5, the level is very high. The results are presented in Table 4.

Table 4. Frequencies, percentages, averages, and standard deviations of students' responses to the questionnaire items

Item No.	Students' satisfaction items with the services of the Deanship of E-Learning and Distance Education at Umm Al-Qura University		Responses					Mean	Std. Deviation	Satisfaction Level
			Strongly dissatisfied	Not satisfied	Neutral	Satisfied	Strongly satisfied			
1	The ability to use the e-Learning management system using various computers and smart devices with different operating systems	F	55	76	131	527	568	4.09	1.047	High
		%	4.1	5.6	9.7	38.8	41.9			
2	The ability to use various browsers to access e-learning management systems	F	50	80	160	516	551	4.06	1.043	High
		%	3.7	5.9	11.8	38.0	40.6			
3	Ease of usage of the virtual classroom system	F	40	47	89	458	723	4.31	0.925	Very high
		%	2.9	3.5	6.6	33.8	53.3			
4	Ease of usage of the asynchronous e-learning system	F	42	62	232	517	504	4.02	1.002	High
		%	3.1	4.6	17.1	38.1	37.1			
5	Ease of navigating and distinguishing links with other pages through the Deanship's website	F	37	73	204	493	550	4.07	1.006	High
		%	2.7	5.4	15.0	36.3	40.5			
6	The ability to communicate easily with technical support services throughout the day via different communication tools	F	84	102	365	390	416	3.70	1.160	High
		%	6.2	7.5	26.9	28.7	30.7			
7	Obtaining the required information in the least number of steps on the Deanship's website	F	50	101	253	473	480	3.91	1.078	High
		%	3.7	7.4	18.6	34.9	35.4			
8	Easy access to services provided by the Deanship for people with special needs	F	37	37	504	346	433	3.81	1.005	High
		%	2.7	2.7	37.1	25.5	31.9			
The Usage axis of services of the Deanship of e-Learning and Distance Education								31.96	6.708	High
9	The Deanship's website provides various services that enhance communication with the beneficiary	F	52	76	258	501	470	3.93	1.049	High
		%	3.8	5.6	19.0	36.9	34.6			
10	The response of technical support officials at the Deanship of e-Learning and Distance Education is fast and efficient	F	89	93	374	399	402	3.69	1.157	High
		%	6.6	6.9	27.6	29.4	29.6			
11	Blackboard system provides an interactive learning environment	F	59	73	120	446	659	4.16	1.075	High
		%	4.3	5.4	8.8	32.9	48.6			
12	The virtual classroom system contributes to overcome some administrative and teaching difficulties	F	69	82	144	433	629	4.08	1.124	High
		%	5.1	6.0	10.6	31.9	46.4			
13	The asynchronous learning system facilitates learning and teaching processes	F	60	58	172	481	586	4.09	1.059	High
		%	4.4	4.3	12.7	35.4	43.2			
14	The blackboard system allows to monitor the performance of individuals and their progress in performing the tasks assigned to them	F	54	70	126	456	651	4.16	1.054	High
		%	4.0	5.2	9.3	33.6	48.0			
The Effectiveness axis of the service of the Deanship of e-Learning and Distance Education								24.11	5.450	High
15	The Deanship's website contains accurate and reliable data and information	F	37	38	177	535	570	4.15	0.941	High
		%	2.7	2.8	13.0	39.4	42.0			
16	Availability and clarity of the data use policy and the mechanisms of its circulation within the systems of the Deanship to achieve confidentiality and privacy for all beneficiaries	F	38	31	191	514	583	4.16	0.943	High
		%	2.8	2.3	14.1	37.9	43.0			
17	Availability of transparency principle in terms of self-explanatory messages when problems arise, as well as an explanation of their causes and the mechanism for dealing with them	F	65	65	250	472	505	3.95	1.085	High
		%	4.8	4.8	18.4	34.8	37.2			
The Confidence axis of the services of the Deanship of e-Learning and Distance Education								12.26	2.716	High
18	Displaying the news provided by the Deanship through various media immediately and in a regular manner	F	48	56	233	486	534	4.03	1.024	High
		%	3.5	4.1	17.2	35.8	39.4			
19	The training courses about the services provided by the Deanship to the beneficiaries are efficient	F	61	62	293	443	498	3.92	1.080	High
		%	4.5	4.6	21.6	32.6	36.7			
20	The diversity in the courses offered by the Deanship that takes into account the training needs of the beneficiaries	F	64	69	297	441	486	3.90	1.093	High
		%	4.7	5.1	21.9	32.5	35.8			
21	The digital library and training guides clearly cover how to benefit from the services provided by the Deanship and how to use them	F	71	83	322	440	441	3.81	1.114	High
		%	5.2	6.1	23.7	32.4	32.5			
The Awareness axis of the services of the Deanship of e-Learning and Distance Education								15.66	3.893	High
The complete questionnaire of Satisfaction with the services of the Deanship of e-Learning and Distance Education								84.01	17.38	High

Table 4. evidences the existence of a very high level of satisfaction among university students towards the Deanship services for the item 3 and a high level of satisfaction for the rest of the items, as the mean values of the items ranged between 3.69 to 4.31. There can be seen a high level of satisfaction for all axes and the entire questionnaire. The mean values of the axes (Usage, Effectiveness, Confidence, and Awareness) and the whole questionnaire were divided by the number of each of them, respectively: 3.99, 4.02, 4.09, 3.92, 4.00.

This high level of student satisfaction can be explained by the availability of the quality of services provided by the Deanship, and this is in line with the results of several studies [59, 60], which emphasised the effect of service quality in raising the level of student satisfaction within higher education institutions.

The services that make students satisfied can be arranged according to the average values as follows: ease of usage of

the virtual classroom system; the blackboard system provides an interactive learning environment; the blackboard system enables to monitor the performance of individuals; the clarity of the data use policy and its circulation mechanisms; the Deanship's website provides accurate and reliable data and information; the use of the e-learning management system through various computers and smart devices with different operating systems; asynchronous education system helps in facilitating teaching and learning processes; the virtual classroom system contributes to overcoming some administrative and teaching difficulties; ease of navigating and distinguishing links with other pages through the Deanship's website; the possibility of using various browsers to access e-learning management systems; displaying the news provided by the Deanship through different media in an immediate and regular manner; ease of usage of the asynchronous e-learning system; the principle of transparency is provided in terms of self-explanatory messages when problems arise; the availability of various services that enhance communication with the beneficiary; the training courses for the services provided by the Deanship are efficient; the website of the Deanship allows obtaining the required information in the least number of steps; the diversity of the courses provided by the deanship that takes into account the training needs for beneficiaries; ease of access to various services provided by the Deanship for people with special needs; the digital library and training guides cover the services provided by the Deanship; the possibility of communicating with technical support services through various communication tools; the response of technical support officials at the Deanship of E-Learning and Distance Education is fast and efficient.

4.2.Results of the second question

The second question states: Does students' evaluation for the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University differ according to gender (male/female)?

To answer this question, independent samples t-Test was used to calculate the significance of the differences between two independent samples and identify the significance of the differences between the mean scores of male and female university students in the evaluation axis of the Deanship services and the total score of evaluation. The results are shown in Table 5.

Table 5. The results of the T-test to indicate the differences between male and female students in evaluating the services of the Deanship of e-Learning and Distance Education

Evaluation axis	Male :n= 704		Female: n= 653		t	Sig.
	Mean	Std. Deviation	Mean	Std. Deviation		
Usage	32.02	6.910	31.89	6.486	0.356	0.722
Effectiveness	24.22	5.513	24.00	5.383	0.749	0.454
Confidence	12.22	2.873	12.31	2.537	- 0.612	0.540
Awareness	15.43	4.074	15.91	3.675	- 2.256	0.024
The total score of evaluation	83.89	18.042	84.10	16.638	- 0.228	0.820

It is evident from Table 5 that there are no statistically significant differences between the mean scores of male and female students of Umm Al-Qura University in the axis (Usage, Effectiveness, Confidence, and total score) for the evaluation of the said services, while there is a significant difference between them in Awareness axis for the benefit of females. This means that male and female students gave nearly the same level of evaluation for the axis of Usage, Effectiveness, and Confidence in these services, indicating that they had a similar feeling of satisfaction with these services. This is consistent with what authors in [61] confirmed that there are no statistically significant differences between male and female in the process of adopting e-learning. A study [62] indicated that gender had no statistically significant differences along the dimensions of online learning. Researchers in [63] concluded that with regard to gender, there are no statistically significant differences in the responses of graduate students in Palestinian universities towards distance learning.

Females were more sensitive to the advantages of the Awareness axis of the Deanship services compared to male students, which is consistent with the findings of study [64] that female students had more interest in the appearance of the system services, nature and quantity of documents, training courses compared to males who were less interested in these elements.

4.3.Results of the third question

The third question states: What is the level of faculty members' satisfaction with the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University?

To answer this question, the frequency, percentage, average, and standard deviation of the sample members responses of the faculty members were calculated on each of the questionnaire items. Depending on the fact that each item has a score extending between 1 to 5, the range of grades is 4 and the length of the category is 0.8. Thus, if the average value is 1 to less than 1.8, the level is very low; if it is 1.8 to less than 2.6, the level is low; if it is 2.6 to less than 3.4, the level is intermediate; if it is 3.4 to less than 4.2, the level is high; if it is 4.2 to 5, the level is very high. The results are as shown in Table 6.

Table 6. Frequencies, percentages, averages, and standard deviations of faculty members' responses to the questionnaire items

Item No.	Faculty members' satisfaction items with the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University		Responses					Mean	Std. Deviation	Satisfaction level
			Strongly dissatisfied	Not satisfied	Neutral	Satisfied	Strongly satisfied			
1	The ability to use the e-learning management system through various computers and smart devices with different operating systems	F	5	13	34	174	146	4.19	0.843	High
		%	1.3	3.5	9.1	46.8	39.2			
2	The ability to use various browsers to access e-learning management systems	F	5	11	46	174	136	4.14	0.844	High
		%	1.3	3.0	12.4	46.8	36.6			
3	Ease of usage of the virtual classroom system	F	4	4	11	143	210	4.48	0.710	Very high
		%	1.1	1.1	3.0	38.4	56.5			
4	Ease of usage of the asynchronous E-learning system	F	4	8	69	167	124	4.07	0.836	High
		%	1.1	2.2	18.5	44.9	33.3			
5	Ease of navigating and distinguishing links with other pages through the Deanship's website	F	5	9	77	166	115	4.01	0.858	High
		%	1.3	2.4	20.7	44.6	30.9			
6	The ability to communicate easily with technical support services throughout the day through various communication tools	F	5	15	53	164	135	4.10	0.883	High
		%	1.3	4.0	14.2	44.1	36.3			
7	Obtaining the required information in the least number of steps on the Deanship's website	F	8	23	53	174	114	3.98	0.944	High
		%	2.2	6.2	14.2	46.8	30.6			
8	Ease of access to the various services provided by the Deanship for people with special needs	F	6	3	184	96	83	3.66	0.886	High
		%	1.6	0.8	49.5	25.8	22.3			
The Usage axis of Deanship services of E-Learning and Distance Education								32.64	5.383	High
9	The Deanship's website provides various services that enhance communication with the beneficiary	F	7	6	45	179	135	4.15	0.834	High
		%	1.9	1.6	12.1	48.1	36.3			
10	The response of technical support officials at the Deanship of e-Learning and Distance Education is fast and efficient	F	6	14	49	142	161	4.18	0.912	High
		%	1.6	3.8	13.2	38.2	43.3			
11	Blackboard system provides an interactive learning environment	F	7	7	20	161	177	4.33	0.818	Very high
		%	1.9	1.9	5.4	43.3	47.6			
12	The virtual classroom system contributes to overcome some administrative and teaching difficulties	F	7	14	49	137	165	4.18	0.930	High
		%	1.9	3.8	13.2	36.8	44.4			
13	The asynchronous learning system facilitates learning and teaching processes	F	8	11	52	195	106	4.02	0.859	High
		%	2.2	3.0	14.0	52.4	28.5			
14	The blackboard system allows to monitor the performance of individuals and their progress in performing the tasks assigned to them	F	7	9	42	188	126	4.12	0.840	High
		%	1.9	2.4	11.3	50.5	33.9			
The Effectiveness axis of the services of the Deanship of e-Learning and Distance Education								24.99	4.090	High
15	The Deanship's website contains various accurate and reliable data and information.	F	5	5	47	169	146	4.20	0.810	Very high
		%	1.3	1.3	12.6	45.4	39.2			
16	Availability and clarity of the data use policy and the mechanisms of its circulation within the systems of the Deanship to achieve confidentiality and privacy for all beneficiaries.	F	5	5	69	165	128	4.09	0.835	High
		%	1.3	1.3	18.5	44.4	34.4			
17	Availability of transparency principle in terms of self-explanatory messages when problems arise, as well as an explanation of their causes and the mechanism for dealing with them	F	6	12	63	158	133	4.08	0.893	High
		%	1.6	3.2	16.9	42.5	35.8			
The Confidence axis in the services of the Deanship of e-Learning and Distance Education								12.38	2.295	High
18	Displaying the news provided by the Deanship through various media immediately and in a regular manner	F	5	10	48	177	132	4.13	0.835	High
		%	1.3	2.7	12.9	47.6	35.5			
19	The training courses about the services provided by the Deanship to the beneficiaries are efficient	F	7	11	51	160	143	4.14	0.891	High
		%	1.9	3.0	13.7	43.0	38.4			
20	The diversity in the courses offered by the Deanship that take into account the training needs of the beneficiaries	F	6	15	42	160	149	4.16	0.893	High
		%	1.6	4.0	11.3	43.0	40.1			
21	The digital library and training guides clearly cover how to benefit from the services provided by the Deanship and how to use them	F	6	11	70	158	127	4.05	0.891	High
		%	1.6	3.0	18.8	42.5	34.1			
The Awareness axis of the services of the Deanship of e-Learning and Distance Education								16.47	3.117	High
The complete questionnaire of Satisfaction with the services of the Deanship of e-Learning and Distance Education								86.46	13.534	High

Table 6. reveals the existence of a very high level of satisfaction among faculty members towards the services of the for the items 3, 11, and 15, and the existence of a high level of satisfaction for the rest of the items, as the mean values of the items ranged between 3.66 and 4.48. There is also a high level of satisfaction for all the axes and the questionnaire as a whole. The respective mean values of the axes Usage, Effectiveness, Confidence, and Awareness, and the whole questionnaire were divided by the number of each of them are 4.08, 4.17, 4.13, 4.12, and 4.12.

It is evident from Table 6 that a high percentage of faculty members are generally satisfied with the services of the Deanship. This may be attributed to the effectiveness of these services and the efforts made by the Deanship to help faculty members overcome the obstacles they face while using e-learning. This is in line with what author in [65] mentioned, where the Organization of Economic Cooperation and Development remarked in its report after comparing the effectiveness of e-learning in 193 countries around the world, and the results revealed that only 38 of them succeeded in activating e-learning. the Kingdom of Saudi Arabia was at the forefront of these countries in terms of its progress in 13 out of 16 indicators for activating e-learning and was distinguished by the diversity of its options, the speed of its response, and its continuous improvement. Furthermore, the Kingdom of Saudi Arabia was distinguished as its teachers received the requisite support to overcome the obstacles that they may face when using e-learning.

The services that make faculty members satisfied can be arranged according to the average values as follows: Ease of usage of the virtual classroom system; the blackboard system provides an interactive learning environment; the Deanship's website provides accurate and reliable data and information; the use of the e-learning management system through various computers and smart devices with different operating systems; the response of technical support officials at the Deanship of e-learning and Distance Education is fast and efficient; the virtual classroom system contributes to overcoming some administrative and teaching difficulties; the diversity in the courses provided by the deanship that takes into account the training needs for beneficiaries; the Deanship's website provides various services that enhance communication with the beneficiaries;

the possibility of using various browsers to access the e-learning management systems; the training courses fulfil the services provided by the Deanship to the beneficiaries; the presentation of the news provided by the Deanship through various media in an immediate and regular manner; the possibility of communicating with the technical support services through various different communication tools; the blackboard system allows to monitor the performance of individuals; the clarity of the data use policy and the mechanisms of its circulation within the electronic systems; provides the principle of transparency in terms of self-explanatory messages when problems arise; ease of usage of the asynchronous e-learning system; the digital library and training guides cover the services provided by the Deanship; the asynchronous education system helps in facilitating teaching and learning processes; easy navigating and distinguishing links with other pages across the Deanship website; the website of the Deanship allows obtaining the required information in the least number of steps; easy access to the various services provided by the Deanship for people with special needs.

4.4.Results of the fourth question

The fourth question states: Does the faculty members' evaluation of the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University differ according to gender (male/female)?

To answer this question, independent samples t-test was used to calculate the significance of the differences between two independent samples and identify the significance of the differences between the mean scores of male and female faculty members in the evaluation axes of the Deanship services and the total score of the evaluation. The results are encapsulated in Table 7.

Table 7. The results of the t-Test to indicate the differences between male and female faculty members in evaluating the Deanship services of e-Learning and Distance Education

Evaluation axis	Male:*n* = 208		Female: *n* = 164		t	Sig.
	Mean	Std. Deviation	Mean	Std. Deviation		
Usage	32.76	5.389	32.48	5.387	0.502	0.616
Effectiveness	24.85	4.058	25.16	4.135	-0.745	0.457
Confidence	12.24	2.332	12.52	2.244	-1.186	0.237
Awareness	16.28	3.182	16.71	3.025	-1.318	0.188
The total score of evaluation	86.13	13.433	86.88	13.691	-0.529	0.597

It is evident from Table 7 that there are no statistically significant differences between the mean scores of male and female faculty members of Umm Al-Qura University in all the axes of evaluation of the Deanship services and the total score of evaluation. This means that male and female faculty members gave nearly the same level of evaluation for the services provided by the Deanship of E-Learning and Distance Education. This indicates that male and female faculty members have are satisfied with the services provided by the Deanship, and this may be because of the efforts of the Deanship to spread e-learning culture among all faculty members by providing various training courses that aim to enhance skills and awareness about e-learning at Umm Al-Qura University. The result is consistent with the studies [66, 67], which indicated the importance of training courses for faculty members. These studies noted the importance of holding training courses for teachers to spread the culture of e-learning and then develop the e-learning system in the Kingdom of Saudi Arabia.

4.5.Results of the fifth question

The fifth question states: 'Does students' evaluation differ from faculty members' evaluation for the services of the Deanship of e-Learning and Distance Education at Umm Al-Qura University'?

To answer this question, independent Samples t-Test was used to calculate the significance of the differences between two independent samples and identify the significance of the differences between the mean scores of students and faculty members in the evaluation axes of the services of the Deanship and the total score of evaluation. The results are shown in Table 8.

Table 8. T-test results to identify the differences between the total sample of students and faculty members in evaluating the services of the Deanship of e-Learning and Distance Education

Evaluation axis	Students = 1357		Faculty members:*n* = 372		t	Sig.
	Mean	Std. Deviation	Mean	Std. Deviation		
Usage	31.96	6.708	32.64	5.383	- 2.039	0.042
Effectiveness	24.11	5.450	24.99	4.090	- 2.885	0.004
Confidence	12.26	2.716	12.38	2.295	- 0.690	0.491
Awareness	15.66	3.893	16.47	3.117	- 3.679	0.000
The total score of evaluation	84.01	17.375	86.46	13.534	- 2.536	0.011

Owing to the large sample of students compared to faculty members and for further verification of the accuracy of the t-test results for the significance of the differences between them, a random sample each was selected from the students' sample and faculty members' sample, so that the two samples have approximately the same number of individuals. The results of t-test for the differences between the two random samples are presented in Table 9.

Table 9. The results of the T-test to indicate the differences between a random sample of students and faculty members in evaluating the services of the Deanship of e-Learning and Distance Education

Evaluation axis	Students: n = 214		Faculty members n = 202		t	Sig.
	Mean	Std. Deviation	Mean	Std. Deviation		
Usage	31.30	7.311	32.60	5.737	- 2.017	0.044
Effectiveness	23.71	5.865	24.87	4.252	- 2.281	0.023
Confidence	12.00	2.943	12.38	2.341	- 1.420	0.156
Awareness	15.34	4.221	16.63	3.074	- 3.565	0.000
The total score of evaluation	82.36	19.023	86.48	14.088	- 2.502	0.013

It is evident from Tables 8 and 9 that there exist statistically significant differences between the mean scores of faculty members and students in the axes usage, effectiveness, awareness, and total score for the evaluation of the services of the Deanship for the benefit of faculty members, while there is no significant difference between them in the axis of confidence in services. This means that the faculty members are more sensitive to the advantages of the Deanship services compared to students with regard to the axis of usage, effectiveness and awareness, while they have a convergent sense regarding the axis of confidence in services. In general, it is clear that faculty members are more satisfied as compared to the students about services provided by the Deanship, and this could be attributed to the experience and perception of faculty members with e-learning and its services compared to the experience of students. Furthermore, this is consistent with a study [68], which confirmed that the major limitation for adopting e-learning is the perception of students and teachers.

5. CONCLUSION AND RECOMMENDATION

The evaluation of e-learning services periodically and regularly a vital and must be considered to maintain the efficiency and success of these services in achieving educational goals. This is because of the revolution of information and communication technology and in light of diversity of beneficiaries' needs from faculty members and students, especially in Arab societies, and precisely in the Kingdom of Saudi Arabia.

In light of the research results on evaluating students and faculty members for the services of the Deanship of E-Learning and Distance Education at Umm Al-Qura University in the Kingdom of Saudi Arabia, a set of recommendations and proposals are presented as follows: (i) conducting periodic and regular studies to assess the beneficiaries' satisfaction with the services of the Deanship, (ii) conducting studies on the relationship between evaluating the services of the Deanship and other variables such as previous experience with e-learning, place of residence (village/city), level of English language proficiency (weak/medium/good/excellent), (iii) conducting a study on the role of digital media services in spreading awareness of the e-learning culture at Umm Al-Qura University, (iv) conducting experimental studies on the effectiveness of services provided by the Deanship in developing attitudes towards the use of e-learning and in developing the knowledge and skills of some instructional courses, (iv) directing the attention of those in charge of decision-making at Saudi universities to the importance of e-learning deanships in developing the teaching and learning system in higher education institutions, (v) preparing strategic plans to develop the structure and services of e-learning Deanships at Saudi universities in light of the social and cultural variables in society, (vi) providing financial and human support to develop the services provided by the e-learning Deanships at Saudi universities in line with the successive developments in the field of information and communication technology science, (vii) spreading cultural awareness among students and faculty members regarding the services provided by the e-learning Deanships at Saudi universities and how to benefit from them through the provision of training courses and workshops, (viii) organizing seminars and conferences on the mechanisms of developing e-learning deanships' services in light of the future needs and requirements of Saudi universities and in consonance with the Kingdom's Vision 2030.

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