Business, Management and Economics Engineering
ISSN: 2669-2481 / eISSN: 2669-249X
2023 Volume 21 Issue 01

THE IMPACT OF DIGITIZATION ON IMPROVING THE QUALITY OF HIGHER EDUCATION: AN APPLIED STUDY IN THE UNIVERSITIES OF IRAQ AND LEBANON 2022

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Abstract
The research sought to study the impact of digitization and its components (physical, software, communication networks, individuals) in improving the sobriety and quality of higher education. The research problem was represented in the weak awareness of the relationship between digitization and improving the quality of higher education in selected university organizations from Iraq and Lebanon, so the research aimed to investigate and analyze the level of digitization application and its impact on aspects of electronic education, research, and infrastructure in a way that enhances the sobriety of higher education. The research methodology was adopted the questionnaire tool to collect information and data by answering the research questions directed to the academic staff to know the extent of the university administration's interest in supporting and applying digitization. The sample included 97 teachers, including 65 teachers from Al-Mustansiriyah University and 32 from the Lebanese University, and the data was analyzed using the statistical program (SPSS). The research reached several results, including that there is an effective effect between the variables (digital modernity, improving the quality of higher education), and these results are identical to the alternative hypotheses.
Keywords: digitization, quality, higher education.

Introduction

As a result of the rapid technological development, the university education sector, like other sectors, faces a number of challenges, perhaps the most important of which are cases of intense competition , which calls on university leaders to realize and understand the standards to ensure the quality of higher education, which is a feature of advanced universities and their way to survival and growth by focusing on appropriate means and methods, including the adoption of digitization and the trend towards using modern electronics and building an advanced system for work methods and administrative decisions in order to achieve efficient outputs. Therefore, there was a need to use advanced systems and technologies that provide information in order to contribute effectively to improving the quality of higher education.

Digitization is the main assistant and driver for university organizations in the practice of their work, as it is one of the strengths in enhancing their competitive advantage.

The first topic: Research methodology

First: The research methodology

1- Research problem: The research problem emerged in the weak awareness of the relationship between digitization and improving the quality of higher education in the surveyed organizations, and the reflection of the impact of this relationship in raising the level of quality of higher education for university organizations. From this point of view, the research problem can be formulated in the following questions:-

A. What is the level of application of digitization to improve the quality of higher education in the surveyed organizations?

B. Determining the impact of digitization on improving the quality of higher education in the surveyed organizations?

2- Research importance: The importance of the research lies in what digitization achieves by using smart applications to improve the quality of higher education in the surveyed organizations, and the possibility of using modern software and highlighting its importance in raising the quality of higher education in the surveyed organizations, as well as the importance of the two variables surveyed (digitization, and the quality of higher education) where they were not studied together before in the university environment in Iraq and Lebanon as an Arab model.

3- Research Objectives: The current research aims to identify the availability of requirements for the efficient and effective application of digitization in the researched organization, and indicate the impact that the use of digitization plays in improving the quality of higher education for the surveyed organizations, as well as knowing the possibilities that the research organization enjoys to enhance work with those applications.

4- Research assumes: The research attempts to negate or prove the main hypothesis that there is a significant effect of digitization in improving the quality of higher education in the research organization, from which the following sub-hypotheses are branched:

A- There is a significant effect of digitization in improving the quality of libraries.

B- There is a significant effect of digitization in improving the quality of scientific research.

C-There is a significant effect of digitization in improving the quality of teaching curricula.

5- Search limits

A- Temporal limits: The current research continued for the period from 06/31/2021 to 3/31/2022.

B- Spatial boundaries: The research included a sample of teachers working in the universities of Iraq and Lebanon as human and spatial boundaries.

Second: Research community and sample

The comprehensive inventory method was used, as the study population consisted of professors of the faculties of administration and economics in Iraqi and Lebanese universities, where the sample included (240) professors during the second semester of the academic year (2021-2022), and we reached a number of answers amounting to (97) of them, by (65) teacher belongs to the Iraqi Al-Mustansiriyah University, and (32) teacher belongs to the Lebanese University.

1- Reason for sample selection: The Lebanese University and Al-Mustansiriyah University in the state of Iraq were chosen as an Arab model to show the reality of digitization in Arab universities.

2- The distribution of the study sample: The sample was distributed according to the variables (gender, age, and the extent of possession of technological skills) as shown in table (1).

Table (1) Characteristics of the research sample

Source: Prepared by researchers based on the results of the questionnaire n = 97.

University	Sex		Age (year)			Possess technology skills	
	Mal	Female	30-45	45-55	up 55	Yes	No
Almustansiriyha	29	36	16	32	17	63	2
Lebanese	15	17	20	10	2	32	0

Third: previous studies

1- The study (Jassim and Salman, 2020), entitled "The Impact of Digital Education on Student Academic Achievement ", aimed to introduce digital education and its types. The findings of the research that e-learning in Iraq suffers from many obstacles, starting with the lack of infrastructure and the training of administrative, and educational staff as a result of the adoption of google forms was limited to a certain type of exam question, which led to an unfamiliar increase in the students' scores compared to the test scores in the traditional situation.

2- A study (Azmi, 2019), entitled " Digital Education and Labor Market Skills: Basic Concepts and Practical Experiences in the Era of the Digital Revolution", aimed at identifying the labor market skills most in need of future jobs in light of the challenges of the Fourth Industrial Revolution, and the concept of digital education and its role in qualifying these skills. One of the most important findings of the study is that digital education plays a prominent and vital role in acquiring and developing the skills, knowledge and attitudes necessary to meet the needs of the current and future labor market, and that digital education provides an external, renewable and appropriate digital environment for students that contributes to bringing about the learning process internally according to the planned goals in an efficient and effective manner.

3- The study (Al-Saudi, 2019), entitled " A comparative study of some foreign and Arab digital universities and the possibility of benefiting from them in the Arab Republic of Egypt", aimed to identify the theoretical foundations of digital university education in the contemporary world, and to identify the reality of the digital university of the State of Mexico and the objective digital universities in France and the University of Tunis, identifying the similarities and differences between foreign and Arab countries and explaining them in the light of some different social science concepts. The most important research results are the lack of availability of modern technologies in Egyptian universities, the weakness of the Internet in many of them, in addition to the low extent to which faculty members benefit from

technological and informational developments, which led to a low level of digital transformation in Egyptian universities.

4- A study, (Jamshed, 2018), entitled "Promising digital university: a pivotal need for higher education transformation", aimed to monitor problems and ways to adapt to the digitization process in a successful manner, and then propose a digital model for higher education institutions in order to implement a digital strategy for each university. In order to benefit associated with technological progress. Among its findings is that higher education institutions are in urgent need of applying modern technology to remain relevant to contemporary technological progress. The study also guides higher education institutions to understand the urgent need to adopt strategic plans that help achieve the process of digital change for better education.

5- The study (Maltese, 2016) entitled "Foundations of Digital Universities" aimed to identify the intellectual aspects that are the essence of interest in digital libraries, in addition to programs, research projects and individuals. The universities need to keep data and information on different sources. One of the findings of the study is to suggest different methods for dealing with such sources that lead to the establishment of digital universities, and this requires modern methods, models of information and data, methods of control, and infrastructure capable of supporting a wider range of services.

The second topic: the theoretical side of the research

First: digitization

1- The concept of digitization:

Contemporary studies related to digitization indicated that it is characterized by the extensive use of information and communication technologies and advanced systems in storing, retrieval and dissemination of information to the beneficiaries. The researchers differed in defining a unified concept of digitization according to their different scientific backgrounds. Some of them defined it as “the use of electronic devices technologies in order to improve the performance of organizations through developing the process of exchanging information between the administrative levels in the organization and the surrounding environment” (Yaghoubi & Sargazi, 2014, p. 369). The other defined it as “the system through which the competitive business of organizations is performed and helps to bring about major changes in the ways in which business is performed, due to the ability of this system to analyze the internal and external environmental factors, which helps the organization to have a strategic advantage in order to achieve superiority over others in the future “(Callon, 2014, p. 150).

2- Benefits of digital education:

There are many benefits and advantages provided by digital education, which have become a justification for the necessity of applying it and making it a future option for higher education institutions, including (Abbas, 2015, p. 305):

A- Digital education provides a huge amount of information free of charge and without the need for constant frequency to the educational institution or libraries and thus helps in raising the efficiency of performance and quality of education and raising the value of the educational process.

B- Digital education helps reduce the economic cost of the educational process in a more comprehensive manner by eliminating travel, attending lectures and shortening time.

C- Digital education is a modern technical means that allows the learner to devise new ideas and the need to focus on them, assemble and organize them in an easier way.

D- It provides the advantage of updating information and constantly renewing it, which makes the learner in constant contact with the developments that occur in the world of knowledge.

E- Digital education contributes to obtaining educational outcomes at a high level, characterized by the level of advanced knowledge and good qualification in terms of its use of modern technical means provided by that system.

3- Components of digitization

A) Hardware: It is the physical entity that includes (various input and output devices, storage devices, physical media and the central processing unit) for the purpose of connecting the parts together. The computer is the main axis of these devices and equipment, whose effects are clear in contemporary organizations as one of the pillars of development to transfer the organization to the digital world of electronics through the transformation of traditional information into digital form (Alter, 1999, p. 42). This concept is not only limited to hardware but also physical messages and resources used to process data and information (O" Brien, 2002, p. 13).

B) Software: Computer software is considered to be the driving force that directs computers. Good selection of these devices is not sufficient to implement a computerized system suitable for the nature of the organization's business if it is not accompanied by a careful selection of appropriate operating and application software for these businesses. Also, software, especially application software, can be purchased ready-made or be specially designed to suit the nature and needs of the organization to the fullest extent. (Khudair, 2014, p. 244).

C) Communication networks: They are coordinated networks of information technology components that support individuals working together, including sharing hardware, information, software, and communications with each other (Haag & Keen, 1996, p. 170).

D) Individuals: Individuals are the most important element in most computer information systems, around which all dimensions of digitization revolve as the vital part that deals with them as they manage, operate, program and maintain the system (Stair & Reynolds, 2003, p. 16).

Second: Improving the quality of higher education

1- The concept of improving the quality of higher education: it is represented in the efforts made by education workers to raise and improve the unity of the educational product, in proportion to the desires of the beneficiary and with the capabilities, characteristics and characteristics of the educational product unit (Al-Jatrouri, 2011, p. 5).It also means the driving force required to push the educational system effectively to achieve its goals and mission entrusted to it by society and the various parties related to education (Ahmed, 2012, p. 3).

2-The importance of improving the quality of higher education: The reasons for paying attention to quality in education in general and in university education in particular are as follows (Abbas B., 2011, pages 6-7):

A- The educational organization’s product is the most expensive and rarest product in any society, because the success of non-educational organizations in achieving their goals can only come after the success of the educational systems in preparing and rehabilitating the members of the community well, and therefore the progress of society depends largely on the quality of the educational product. University education accounts for a large amount of the state budget because it is at the top of the list of important social activities such as basic and secondary

education, health care, social security ... etc., so attention is given to the quality of university education institutions to maximize the return behind this spending.

B - Many developing countries have taken upon themselves the huge expansion of education, considering it the main factor in economic and social development and achieving equality and justice. This was accompanied in some cases by sacrificing some quality conditions in education, which led to the poor preparation of many graduates for life and work. The increasing academic desire at the global level to develop new knowledge about quality led some researchers to pay attention to quality at both the theoretical and applied levels.

The third topic: the practical aspect of research

First: descriptive analysis of the research variables

1- Descriptive analysis of the survey form of Al-Mustansiriyah University: The analysis included the averages (arithmetic mean, standard deviation) of the research variables in order to identify the general trend of the opinions of the sample members.

Table (2): Descriptive analysis of the independent variable (digitization)

At Al-Mustansiriyah University

sequence of phrases	Phrase text	average Arithmetic	standard deviation
1.	There is a use of educational technology in your university.	3.48	0.970
2.	You believe that the educational technology system available at your university contributes to the growth and development that is taking place in raising the level of international university rankings.	2.98	1.091
3.	Your university provides educational technology that contributes to education throughout the student's life.	3.27	0.980
4.	Your university conducts training courses on the use of modern educational technology for teachers, which contributes to mastering its use.	3.95	0.694
5.	Your university counts the number of research papers published online under the scope of the university's website and international journals, and the availability of reports for them.	4	0.777
6.	You think that the popularity of the university's website leads to raising the level of the university's international rankings.	3.95	0.856
7.	Your research and research products are published through your university's website.	3.80	0.955
8.	Your university provides libraries that enable you to browse their contents through the local and international network.	3.56	0.833

sequence of phrases	Phrase text	average Arithmetic	standard deviation
1.	There is a digitization of the libraries in your university and therefore books, theses and dissertation are downloaded from the library website.	4.02	0.857
2.	The library in your university has a database of its components that can be accessed and browsed, which is a factor in its quality.	3.66	0.821
3.	There is a use of computers and the Internet in the library, which enables researchers, students and professors to complete their research.	3.38	0.826
4.	The library at your university uses automated documentation programs used in library science, which enhances the quality of the library.	4.08	0.620
5.	There is a communication network used to link between libraries and information centers at the university.	3.88	0.718
	Total marks	3.83	0.575
9.	There are applications and electronic mechanisms that prevent digital fraud.	3.40	0.844
	Total marks	3.54	0.588

It is clear from table (2) that the research sample showed a general trend towards positive approval after digitization, with a mean of 3.54 and a standard deviation of 0.588, and it became clear that most of the terms fall within the approval rating. The second paragraph "You believe that the educational technology system available at your university contributes to the growth and development that is taking place in raising the level of international university rankings" showed a tendency towards neutrality, with a mean of 2.98 and a standard deviation of 1.091, so it is necessary to determine the needs of learners and the requirements of the course before choosing the type of technology used.

Table (3): Descriptive analysis of the dependent variable (library quality) at Al-Mustansiriyah University

It is evident from table (3) that the research sample showed a general trend towards approval of the library quality dimension, with a mean (3.83) and a standard deviation (0.575). It turned out that the most important phrases in the answer are the following two phrases "There

is a digitization of the libraries in your university, and thus books, theses and dissertation are downloaded from the library website" with an arithmetic average (4.02), and "the library in your university uses the automated documentation programs used in library science, which enhances the quality of the library "with an arithmetic average (4.08). This means that digitization projects require appropriate financial resources, and these funds can only be available under national planning and joint cooperation, in addition to the phrase "there is the use of computers and the Internet in the library, which enables researchers, students and professors to complete their research" tends towards neutrality with an arithmetic average (3.38), with a standard deviation of (0.575). The weakness of the use of the Internet in libraries is one of the manifestations of the absence of the technological environment in libraries in terms of the availability of their infrastructure and basic requirements.

Table (4): Descriptive analysis of the dependent variable (quality of scientific research) at Al-Mustansiriyah University

sequence of phrases	Phrase text	Average Arithmetic	standard deviation
1.	In your university, educational technology is used, which helps in scientific research in a short time and at a lower cost, which contributes to achieving the quality of education and raising the level of the university's international ranking.	3.58	0.864
2.	Technological techniques contribute to the completion of your scientific research.	3.52	0.970
3.	All completed research is published on your university's website, which rises the university's ranking globally.	3.45	1.046
4.	Increasing spending on scientific research has led to raising the level and quality of scientific research.	3.57	0.918
5.	Weakness of scientific information centers and low documentation and library services at your university has led to scientific and technological dependence on developed countries.	3.09	1.057
	Total marks	3.57	0.728

It is clear from table (4) that the research sample showed a trend towards approval of the positive after the quality of scientific research, with a mean of (3.57) and a standard deviation of (0.728), and it became clear that most of the statements fall within the approval rating, except for the phrase "weakness of information centers Scientific and low documentation services and libraries in your university has led to scientific and technological dependence on developed countries." This means that the university must give priority to research to strengthen its competitive position in scientific research to achieve its strategic goals such as cooperation with bodies concerned with scientific research and publication and to provide appreciation and scientific recognition to those of its members who publish motivate them financially or morally.

Table (5): Descriptive analysis of the dependent variable (quality of teaching curricula)

At Al-Mustansiriyah University

sequence of phrases	Phrase text	average Arithmetic	standard deviation
1.	New technological methods have been introduced that are used in teaching that has contributed to achieving the quality of higher education.	3.56	0.833
2.	There is an improvement in the quality of services provided by your university, such as new methods that are in line with the scientific development that is taking place and increase the effectiveness of education.	3.40	0.844
3.	There is communication between the administration and the student via e-mails, especially regarding exams and final results.	4.02	0.857
4.	The university administration seeks to own the latest technology in order to improve and develop the services provided at the university, especially the education service.	3.66	0.821
5.	Your university has introduced new teaching curricula in line with the changes in technology.	3.38	0.826

6.	Digital education helped introduce teachers to electronic programs used for the purpose of education.	4.08	0.620
7.	The lecture is prepared in an understandable and clear technical style.	3.88	0.718
8.	The programs used are designed to raise the level of the student's educational attainment.	3.58	0.864
9.	There is a discussion by students when uploading the lecture on the technique used.	3.52	0.970
10.	Students are obligated to attend the electronic lectures on the specified dates.	3.45	1.046
11.	Digital education and the updated curricula contribute to the development of knowledge, experiences and knowledge of the new and keep pace with development in the age of speed, which helps in qualifying graduates for the requirements of the modern digital labor market.	3.57	0.918
12.	Digital education has contributed to solving the problem of unemployment by providing job opportunities.	3.09	1.057
13.	Digital education technology has helped link educational development with economic development and provides the community with young productive energy by providing them with the necessary training.	3.38	1.011
	Total marks	3.62	0.678

It is evident from table (5) that the research sample showed a general trend towards approval of the quality dimension of teaching curricula, with a mean of (3.62) and a standard deviation of (0.678), and it turned out that most of the phrases fall within the classification of approval, and the phrase (your university has developed new teaching curricula in line with changes in the field of technology) achieved an arithmetic average of (3.38). This means that there is no study of the current reality in the light of the knowledge economy, as this study includes teaching methods, and evaluation methods, and the following two phrases (digital education contributed to solving the problem of unemployment by providing job opportunities, digital education technology helped to link educational development with economic development and

development and provides the community with young productive energy by providing them with the necessary training), also fall into the neutrality since the reality of technology in education has recently entered and the impact of its results on the future of jobs has not been shown.

2- Descriptive analysis of the survey form at the Lebanese University

Table (6): Descriptive analysis of the independent variable (digitization)

At the Lebanese University

sequence of phrases	Phrase text	average Arithmetic	standard deviation
1.	There is a use of educational technology in your university	4.13	0.554
2.	You believe that the educational technology system available at your university contributes to the growth and development that is taking place in raising the level of international university rankings.	3.66	0.971
3.	Your university provides educational technology that contributes to education throughout the student's life.	3.47	0.983
4.	Your university conducts training courses on the use of modern educational technology for teachers, which contributes to mastering its use.	3.25	1.016
5.	Your university counts the number of research papers published online under the scope of the university's website and international journals, and the availability of reports for them.	3.39	1.174
6.	You think that the popularity of the university's website leads to an increase in the university's international rankings.	4.13	1.040
7.	Your research and research productions are published through your university's website.	3.41	1.132
8.	Your university provides libraries that enable you to browse their contents through the local and international network.	3	1.191
9.	There are applications and electronic mechanisms that prevent digital fraud.	3.03	1.257

	Total marks	3.50	0.718

It is clear from table (6) that the research sample showed a general trend towards positive approval after digitization, with an arithmetic mean (3.50) and a standard deviation (0.718). It turned out that all the statements fall within the approval rating, while the three statements in the following paragraphs (4,5,8,9) are within the neutrality rating with successive arithmetic mean (3.25, 3.39, 3, 3.03). It is necessary to determine the learners' needs and the course requirements, study before choosing the type of technology used, and the use of applications that prevent digital fraud.

Table (7): Descriptive analysis of the dependent variable (library quality)
At the Lebanese University

sequence of phrases	Phrase text	average Arithmetic	standard deviation
1.	There is a digitization of the libraries in your university and therefore books, theses and letters are downloaded from the library website.	3.06	1.162
2.	The library in your university has a database of its components that can be accessed and browsed, which is a factor in its quality.	3.53	1.077
3.	There is a use of computers and the Internet in the library, which enables researchers, students and professors to complete their research..	3.25	0.950
4.	The library at your university uses automated documentation programs used in library science, which enhances the quality of the library.	3.34	1.004
5.	There is a communication network used to link the libraries and information centers in the university.	3.22	1.070
	Total marks	3.25	0.916

It is evident from table (7) that the research sample showed a general trend towards neutrality in the dimension of library quality, with a mean of (3.25) and a standard deviation of (0.916).The weak use of the Internet in libraries is one of the manifestations of the absence

of the technological environment in libraries in terms of the availability of their infrastructure and basic requirements.

Table (8): Descriptive analysis of the dependent variable (quality of scientific research)

At the Lebanese University

sequence of phrases	Phrase text	average Arithmetic	standard deviation
1.	In your university, educational technology is used, which helps in scientific research in a short time and at a lower cost, which contributes to achieving the quality of education and raising the level of the university's international ranking.	3.63	0.907
2.	Technological techniques contribute to the completion of your scientific research.	4.28	0.729
3.	All completed research is published on your university's website, which rises the university's ranking globally.	3.81	0.821
4.	Increasing spending on scientific research has led to raising the level and quality of scientific research.	4.03	0.861
5.	Weakness of scientific information centers and low documentation and library services at your university has led to scientific and technological dependence on developed countries.	3.87	0.922
	Total marks	3.91	0.641

It is clear from table (8) that the research sample showed a trend towards positive approval after the quality of scientific research, with a mean of (3.91) and a standard deviation of (0.641), and it became clear that all the statements fall within the approval rating, which means that the university gives priority to research it has the opportunity to strengthen its competitive position and help it achieve its strategic goals, such as cooperation with bodies concerned with scientific research and publication, providing appreciation and scientific recognition to those of its members who publish internationally, and motivating them financially or morally.

Table (9): Descriptive analysis of the dependent variable (the quality of teaching curricula)

At the Lebanese University

sequence of phrases	Phrase text	average Arithmetic	standard deviation

1.	New technological methods have been introduced that are used in teachings that have contributed to achieving the quality of higher education.	3.81	0.859
2.	There is an improvement in the quality of services provided by your university, such as new methods that are in line with the scientific development that is taking place and increase the effectiveness of education.	3.81	0.821
3.	There is communication between the administration and the student via e-mails, especially regarding exams and final results.	4.06	0.914
4.	The university administration seeks to own the latest technology in order to improve and develop the services provided at the university, especially the education service.	3.50	0.916
5.	Your university has introduced new teaching curricula in line with the changes in technology.	3.31	1.148
6.	Digital education helped introduce teachers to electronic programs used for the purpose of education.	4.09	0.734
7.	The lecture is prepared in an understandable and clear technical style.	3.94	0.878
8.	The programs used are designed to raise the level of the student's educational attainment.	3.84	0.954
9.	There is a discussion by the students when uploading the lecture on the technique used.	3.84	0.884
10.	Students are obligated to attend the electronic lectures on the specified dates.	3.78	0.870
11.	Digital education and the updated curricula contribute to the development of knowledge, experiences and knowledge of the new and keep pace with development in the age of speed, which helps in qualifying graduates for the requirements of the modern digital labor market.	4	0.718
12.	Digital education has contributed to solving the problem of unemployment by providing job opportunities.	3.63	0.942
13.	Digital education technology has helped link educational development with economic development and provides	3.81	0.896

	the community with young productive energy by providing them with the necessary training.		
	Total marks	3.75	0.672

It is evident from table (9) that the research sample showed a general trend towards approval of the quality dimension of teaching curricula, with a mean of (3.75) and a standard deviation of (0.672). It turned out that most of the phrases fall within the approval rating, except for the phrase "Your University has developed new teaching curricula in line with the changes taking place in the field of technology" , with an arithmetic average of (3.31), which requires the university to update the curricula at its university according to the requirements of the times.

Second: Hypothesis Testing

1- Testing hypotheses from the point of view of the teachers of the Iraqi University of Al-Mustansiriyah . Simple regression method was used to test the null hypotheses, and the results of the hypotheses tests were as follows:

The main hypothesis: There is a significant effect of digitization in improving the quality of higher education in the research organization.

Table No. (10) Results of testing the hypothesis of the impact of digitization in improving the quality of higher education

Sig probability value	R correlation coefficient	R^2 coefficient of determination
0.000	0.512	0.262

It is clear from the hypothesis test result from table (10), that there is an effect of digitization in improving the quality of higher education, where the significant SIG was 0.00 less than 0.05, and therefore we reject the null hypothesis and accept the alternative hypothesis, and this means that there is a statistically significant effect of digitization in improving the quality of higher education. It is also noted that there is a significant correlation of 51.2%, and it is considered a direct linear relationship. R2 estimated the contribution of the independent variable (digitization) to the interpretation of the dependent variable (higher education quality) at 26.2%. From this hypothesis the following sub-hypotheses emerge:

First sub-hypothesis: There is a significant effect of digitization in improving the quality of libraries.

Table (11): Results of testing the hypothesis of the effect of digitization in improving the quality of libraries

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Sig probability value	R correlation coefficient	R^2 coefficient of determination
0.027	0.274	0.075

It is clear from the hypothesis test result from table (11), that there is an effect of digitization in improving the quality of libraries, where the significant SIG was 0.027 less than 0.05, and

therefore we reject the null hypothesis and accept the alternative hypothesis, that is, there is a statistically significant effect of digitization and improving the quality of libraries 27.4% is considered a direct linear relationship. R2 estimated the contribution of the independent variable (digitization) to the interpretation of the dependent variable (library quality) at 7.5%.

Second sub-hypothesis: There is a significant effect of digitization in improving the quality of scientific research.

Table (12): Results of testing the digitization hypothesis in improving the quality of scientific research

probability value Sig	R correlation coefficien	R^2 coefficient of determination
0.003	0.367	0.135

It is clear from the hypothesis test result from table (12), that there is an effect of digitization in improving the quality of scientific research, where the significant SIG was 0.003 less than 0.05, and therefore we reject the null hypothesis and accept the alternative hypothesis, that is, there is a statistically significant effect of digitization and improving the quality of scientific research, and it is also noted that there is a correlation Significant by 36.7%, and it is considered a direct linear relationship. R2 estimated the contribution rate of the independent variable (digitization) in the interpretation of the dependent variable (the quality of scientific research) at 13.5%.

The third sub-hypothesis: There is a significant effect of digitization in improving the quality of teaching curricula.

Table (13): Results of the digitization hypothesis test in improving the quality of teaching curricula

probability value Sig	R correlation coefficient	R^2 coefficient of determination
0.000	0.488	0.239

It is clear from the hypothesis test result from table (13), that there is an effect of digitization in improving the quality of teaching curricula, where the significant SIG was 0.00 less than 0.05, and therefore we reject the null hypothesis and accept the alternative hypothesis, that is, there is a statistically significant effect of digitization and improving the quality of teaching curricula significant with a percentage of 48.8%, and it is a direct linear relationship. R2 also estimated the contribution of the independent variable (digitization) to the interpretation of the dependent variable (the quality of teaching curricula) at 23.9%.

2- Testing hypotheses from the point of view of the Lebanese University teachers

The main hypothesis: There is a significant effect of digitization in improving the quality of higher education in the research organization.

Table (14): Results of the digitization hypothesis test in improving the Quality of higher education

Sig probability value	correlation coefficient R	R^2 coefficient of determination
0.000	0.734	0.539

It is clear from the hypothesis test result from table (14), that there is an effect of digitization in improving the quality of higher education, where the significant SIG was 0.00 less than 0.05, and therefore we reject the null hypothesis and accept the alternative hypothesis, that is, there is a statistically significant effect between digitization and improving the quality of higher education. Significant correlation of 73.4% and it is a direct linear relationship.R2 estimated the contribution of the independent variable (digitization) to the interpretation of the dependent variable (higher education quality) at 53.9%. From this hypothesis the following sub-hypotheses emerge:

First sub-hypothesis: There is a significant effect of digitization in improving the Quality of libraries

Table (15): Results of the digitization hypothesis test in improving the quality of libraries

Sig probability value	correlation coefficient R	coefficient of determination R^2
0.000	0.686	0.471

It is clear from the hypothesis test result from table (15), that there is an effect of digitization in improving the quality of libraries, where the significant SIG was 0.00 less than 0.05, and therefore we reject the null hypothesis and accept the alternative hypothesis, that is, there is a statistically significant effect of digitization and improving the quality of libraries. 68.6% is considered a direct linear relationship. R2 estimated the percentage of contribution of the independent variable (digitization) in the interpretation of the dependent variable (library quality) at 47.1%.

Second sub-hypothesis: There is a significant effect of digitization in improving the quality of scientific research.

Table (16): Results of the digitization hypothesis test in improving the quality of scientific research

Sig probability value	R Correlation coefficient	Coefficient of determination R^2
0.002	0.526	0.276

It is clear from the hypothesis test result from table (16), that there is an effect of digitization in improving the quality of scientific research, where the significant SIG was 0.002, which is less than 0.05, and therefore we reject the null hypothesis and accept the alternative hypothesis, that is, there is a statistically significant effect of digitization and improving the quality of teaching curricula. There is a significant correlation of 52.6%, and it is considered a direct linear relationship. R2 estimated the percentage of the contribution of the independent variable (digitization) in the interpretation of the dependent variable (the quality of teaching curricula) at 27.6%.

The third sub-hypothesis: There is a significant effect of digitization in improving the quality of teaching curricula.

Table (17): Results of the digitization hypothesis test in improving the Quality of teaching curricula

Sig probability value	R Correlation coefficient	R^2 Coefficient of determination
0.062	0.334	0.112

It is clear from the hypothesis test result from table (17), that there is an effect of digitization in improving the quality of teaching curricula, where the significant SIG was 0.062 more than 0.05, and therefore we accept the null hypothesis and reject the alternative hypothesis, that is, there is no statistically significant effect of digitization and improving the quality of teaching curricula. Significant correlation with a percentage of 33.4%, and it is a direct linear relationship. R2 estimated the contribution of the independent variable (digitization) to the interpretation of the dependent variable (the quality of teaching curricula) at 11.2%.

Fourth topic: conclusions and recommendations

First: Conclusions

1- Digitization in higher education increases the chance of obtaining distinguished outcomes.

2- The absence of the technological environment in the libraries in terms of the availability of infrastructure and basic requirements in the libraries of Al-Mustansiriyah and the Lebanese universities.

3- Digitization has an impact on generating knowledge and creativity, urging students to use technical means and creating educational programs that students need, and allowing them to control the study material by expressing their opinions and views.

4- The results of hypothesis testing showed a statistically significant effect between digitization and the quality of higher education according to the study sample in Iraqi and Lebanese universities, which reflects universities' awareness of the importance of digitization in education.
5- The neutrality of the sample's opinions about the phrase "weakness of scientific information centers and the decline in documentation services and libraries at your university led to the scientific and technological dependence of developed countries" indicates the possibility of scientific and technological dependence on developed countries.
6- Digitization projects require appropriate financial resources, and these funds can only be available under national planning and joint cooperation.
7- There is no study of the current reality in light of the knowledge economy in the two universities in terms of introducing new teaching curricula in line with the changes taking place in the field of technology.
8- There are no clear mechanisms to prevent digital fraud at the Lebanese University.
9- The Lebanese University lacks training courses on the use of modern educational technology for its professors.
10- Members of the surveyed community did not benefit from digital education in providing job opportunities.
11- Digital educational technology has not helped link educational development with economic development.

Second: Recommendations

1- The learners needs and course requirements must be determined before choosing the type of technology used in both universities, as well as using applications that prevent digital fraud at the Lebanese University.
2- Calling on the Lebanese and Iraqi governments to develop distance education tools and give them the necessary care to achieve the civilizational advancement and well-being of peoples, and to generalize the use of the Internet with all its services in education.
3- The need for higher education institutions to provide an educational environment rich in electronic devices in universities, and to ensure that the professor is able to own technology, while directing attention to securing infrastructure: electricity and the Internet, in addition to the technical needs of computers, media, free internet and everything that helps to make the e-learning process successful.
4- Continuous evaluation of the effectiveness of the technology used and the proposed curriculum, and its keeping up with the continuous development in both universities, and setting standards for distance learning and the characteristics and characteristics of the classroom.
5- Digital transformation in education, by using the digital tools available to the teachers, so that this innovation results in exciting ways to enrich the educational environment, and interest in digitizing the libraries of Al-Mustansiriyah University and the Lebanese University.
6- Raising the budgets of digital education in the Iraqi and Lebanese ministries, enhancing scientific research and supporting researchers in the fields of knowledge technology, and innovating specialized departments concerned with developing e-learning, with an emphasis on interaction in the learning process between professor and student and strengthening the feedback processes.

7- Forming an Arab scientific network that includes groups of Arab researchers for the purpose of cooperation and participation between universities and scientific research institutions and the related meetings, workshops, seminars and scientific conferences with the aim of enriching scientific knowledge and the Arab world, developing scientific research methods and investing it in addressing Arab social problems and issues, investing in that digital space and digital applications in general.
8- Allowing Arab universities to organize online lessons permanently by adopting distance learning as an educational option with academic credibility, legislating its certificates and issuing decrees that encourage its accreditation control its course, and improve the level of its outputs.
9- Reducing the traditional and routine methods of teaching, which are futile, and adopting global experiences and modern trends in the field of education.
10- Develop appropriate systems and incentives to encourage faculty members and increase their motivation towards digital education, and provide appreciation and scientific recognition to those who do international publishing and motivate them financially or morally.
11- Giving priority to scientific research in the two universities to strengthen the competitive position.
12- Develop training programs to train faculty members at the Lebanese University in order to be able to use the latest digital technologies.
13- Linking universities to the requirements and needs of the labor market locally and internationally to achieve comprehensive development.

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