Academic Leaderships Role in the Jordanian Universities in Escorting Digital Transformations

By

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Abstract

This current study aimed at identifying the academic leadership's role in escorting digital transformations at the Jordanian Universities, whereas the researcher utilized the analytical-descriptive approach, as the study sample consisted of (138) academic leader from the following Jordanian Universities: (The University of Jordan, Yarmouk University, and Tafila University), that were chosen according to simple random sampling. Moreover, the required data were collected via the designed questionnaire which was distributed upon three areas: Academic area, scientific research area, and managerial area). Indeed, the study concluded the following results: The degree of academic leaderships role at the Jordanian Universities in escorting digital transformations came in high degree at all areas, also the study showed a statically significant difference at the indication level ($\alpha \leq 0.05$) between the Means of study sample estimations regarding the academic leaderships role at the Jordanian Universities in escorting digital transformations attributed to job title variable in favor of (Department Head), for the academic position variable in favor of (Assistant Professor), and for years of experience variable in favor of (More than 10 years). Accordingly, the study recommended the necessity of university management interest in spreading the university vision for escorting digital transformations at all the occupational levels.

Keywords: Academic leaderships, Digital transformations, Jordanian Universities.

Introduction

In the later years; education had witnessed the impact of Information & Communication Technology blast as well as the emergence of digital technology, and this was accompanied with massive changes in peoples personal and occupational life all around the globe; which accordingly affected the society aspects. Hence, the digital technology become a part and parcel of people reaction whether in work, education, or accessing knowledge and information .

According to the emergence of the world health crises due to the outbreak of CORONA-Virus; the urgent need of an immediate digital intervention was explored; in order to save the educational situation and seeking for effective educational alternatives that would guarantee the education continuity with high-application-quality (Al-Thufairy, 2021).

A growing shifting has emerged in the forms of transmitting knowledge in the university, throughout creating a new educational environment in terms of content design and teaching method. Moreover, digital technology had a massive role in facilitating education and enhancing the performance in a flexible digital environment that suits and integrates with the nature of learners, educators, and learning content in addition to what does the human element have of personal devices and equipment (Abbas, 2021).

Digital transformation of universities means the following: Reconsidering in the entirety of the educational system elements of the university, Using advanced digital technology in all its managerial, educational, and research fields, Technology submission and using it in all organizational levels at the university, alongside with its diverse activities and services which are linked to the extensive use of Information & Communication Technology, and replacing the physical elements and processes with virtual ones, and Providing university services in an electronic form (Ahmad. 2021).

Digital transformation was considered as a new method that was spread all around the globe, which unique-innovative solutions and real creativities may be resulted from that assist in obtaining new thoughts and methods (Aditya, Ferdiana, & Kusumawardani, 2021). Moreover, the study of (Dereso, Kant, & Maheshwaran, 2021) revealed that the practices of digital technology, Information & Communication Technology, and the program of developing the education sector are all predicting the change regarding the education sector transformation in general; where the digital education contributes in establishing an infrastructure and base of information technique that are based on cultural grounds; in order to create the society of new generation for the requirements of the 21st century, and developing a positive orientation towards information technique, and thus; creating an evolved information society (Marbawi, Hamdiah, & Nurmala, 2022). Additionally, simulating issues and life situations placed inside the educational environment, gathering the human potentials in boosting scientific research skills and society service throughout preparing aware rational personalities (Fiangga, et, .al, 2021). In addition to the previous, granting the new generation a space of well future options and unlimited opportunities, and providing education with a future information service based on contact as well as meeting with other members from inside or outside the society (Tejasvee, et, .al, 2021).

Lifting universities in knowledge era and digital transformation required enhancing alongside with developing new methods and techniques for both teaching and training, since the domains of teaching and training opened new and massive scopes in the available means, the utilized new techniques and capabilities, and the advanced modern educational contents. Indeed, universities are now demand to seek for new educational models and means; to encounter many challenges globally (Kaputa, Loučanová, & Tejerina-Gaite, 2022).

It is now a must on universities to seek for the optimal appointing and use of modern digital techniques and products; in order to localize and combine them into the educational curricula and processes; for achieving the desired educational goals, and promoting the education quality alongside with its various outputs (Al-Shumari, 2022). The emergence of digital education was accompanied with modern concepts such as industrial intelligence technology, virtual classrooms, educational platforms, E-learning, and other concepts resulting from technology (Affouneh, et, .al, 2020). Furthermore, the universities culture had a massive influence on implementing the strategy of digital transformation in their institutions, and this is linked with other factors besides the technological aspects such as human resources, behaviors, and organizational culture (Hamdani, Maulani, Nugraha, Mubarok, & Herlianti, 2021).

Digital transformation process requires from universities the strategic planning, setting up a digital vision as it is supposed to be, net massage, specific goals for transformation process, and translating that into applicable plans. It also requires leadership potentials, features, and skills from the university management that reflects their believe and commitment extent towards the university digital transformation, phases, and steps (Ahmad, 2021).

University leaderships to be considered among the most essential ways in achieving the development goals of skills for faculty members, staff, and students, as well as developing the university culture, enhancing the level of communication and memberships with external bodies, and evolving the managerial processes (Harb, 2021). The importance of academic leadership at university is demonstrated by considering it the connection among all the workers including the faculty, also demonstrated in the university plans, its future visualizations, its ability on empowering the positive forces in the university, decreasing the negative aspects as mush as possible, in addition to encouraging workers and guiding them towards achieving goals (Al-Harbi, 2022). The results of (Sjöberg, & Lilja, 2019) study indicated that faculty considering positively towards utilizing digital technology in their educational practices linked to combining the technology in teaching with organizational and society processes which out of their direct control. Additionally, teachers consider themselves capable on learning the novel digital techniques and can learn rabidly to use the novel technology . Digital transformation is an entire comprehensive program, contact with the institution, its work method, and how to make informed and rapid decisions to simplify the processes, understanding its customers, providing services, developing products, utilizing assets, or other operational fields. Furthermore, digital education has become an inevitable necessity for transferring towards digitization, accompanied with a new set of 21st century skills represented in knowledge, required capabilities of the individuals to be knowledgeable Digitally (Ragab, 2022).

The study of (Isaeva, Kotliarenko, & Cherkasova, 2021) clarified that digital transformation of Higher Education requires integrating more efficient tools, hence, also it is a very promising concept to turn teaching lessons into the "Face to face" situation or recorded; to be open and available for teachers from different majors, post-graduate students, and the youth scientists . Some studies as (Neborsky, Boguslavsky, Ladyzhets & Naumova, 2021), demonstrated the university need for boosting technological equipment to enhance the quality of educational interaction in the learning process of the digital environment; guaranteeing the continuity of enhancing the digital qualification of teachers; and for creating an accessible digital educational environment. Additionally, (85%) of respondents in the future connect their occupational activities with the effective use of digital technologies .

The researcher considers that escorting digital transformation in the public Jordanian Universities assists in facilitating and enhancing the performance throughout creating a flexible digital environment that suits and integrates with what does the human element have of personal devices and equipment, also contributes in activating the university functions in terms of teaching, scientific research, and society service. So, under the evolution witnessed by the current era, and the intellectual and scientific elites that universities include, the role that comes accordingly, hence, this study was conducted in order to identify the academic leadership role in the Jordanian Universities in escorting digital transformations .

Statement of the Study Problem

In accordance to adopting the digital education to encounter the urgent conditions as an alternative in order to the educational process continuity by depending on utilizing digital technology and skills in the educational process under the evolution witnessed by the current era, and the intellectual and scientific elites that universities include; reflect their believe and commitment extent towards the university digital transformation, the success of its goals, and the role that comes accordingly in investing the reality data in a way that achieves the Jordanian Universities an competitive features to be distinguished among others; so it can maintain its sustainability and competing regionally and globally. Additionally, to be more flexible and effective in performing its functions, and keeping up with technical developments in the digital age, especially since digital transformation is sometimes not an optional transformation, or for

the scientific experiment, but rather for exceptional cases that may be imposed by circumstances, and thus, the digital transformation era becomes obligatory in the educational institutions; so in accordance to the aforementioned, the need to conduct this study emerged in order to identify the academic leaderships role of in the Jordanian Universities in escorting digital transformations.

Importance of the Study

The importance of the current study represented in the following:

This current study seeking at identifying the academic leadership's role in the Jordanian Universities in escorting digital transformations, and enriching the Arabic library in general and the Jordanian in particular towards the importance of escorting digital transformations. Furthermore, the theoretical aspect of the study importance lies in its benefit for post-graduate students and researchers in conducting similar studies about various age groups. Indeed, this current study assists in identifying the needs of academic leaderships in terms of training so they can be able to keep up with the digital transformations in order to employ for the success of the educational process. This study importance lies in identifying the academic leadership's role in the Jordanian Universities in escorting digital transformations, which provide them to focus on positive aspects of these transformations and recognizing the patterns as well as obstacles which encounter academic leaderships regarding these transformations.

The Study Objectives

This current study aims to achieve the following:

1) Identifying the academic leadership's role in escorting digital transformations at the Jordanian Universities.
2) Identifying the resulted differences from academic leaderships role at the Jordanian Universities in escorting digital transformations according to (Gender, Years of experiences) variables.

The Study Questions

This current study seeks to answer the following questions:

1) What is the academic leadership's role at the Jordanian Universities in escorting digital transformations?
2) Are there any differences in the level of academic leaderships role at the Jordanian Universities in escorting digital transformations according to (Gender, Years of experiences) variables?

Study Terminologies

The current study included the following terminologies & concepts :

- **Digital Transformation:** "Converting from a traditional system to a digital one that is based on Information & Communication Technology in all the fields of university work, under a set of requirements represented in setting up a strategy for the digital transformation, spreading digital transformation culture, designing digital educational programs, managing and funding the digital transformation, in addition to the human, technical, security, and legislative requirements" (Amin, 2018: 18)   .
- **Academic Leaderships:** "A group of faculty members assigned them to lead the managerial works at the university represented in the following: Deans and vice-deans of colleges, and heads of departments (Harb, 20221: 215).

The Study Limitations

This current study was limited on the following:

- **Human limits:** The study was applied on the students of Jordanian Universities.
- **Spatial limits:** The study was limited on the Jordanian Universities.
- **Time limits:** The study was applied on the second academic semester of the year (2022).

Previous Studies

The researcher reviewed a group of Arabic & Foreign studies related to the study theme:

(Al-Shumari, 2022) conducted a study that aimed at determining the availability degree of each element needed by universities to achieve the digital transformation requirements. Moreover, the study sample was limited to the University of Hail, also the study utilized the descriptive approach alongside with a questionnaire which was directed to a sample reached (200) faculty members from university leaderships on all levels: Head of department, dean and vice-dean of the college. Additionally, the study concluded multiple results the most important of which is the availability degree of each element needed by digital transformation at University of Hail are available in a well manner, where it reached (65.48%), also there were statistically significant differences in the scientific degree in favor of the degree of professor, while in gender in favor of males .

The study of (Hamdani, Maulani, Nugraha, Mubarok, & Herlianti, 2021) aimed at identifying the influence of culture on implementing digital transformation strategy upon private universities, as the data were collected throughout a questionnaire directed to (39) of senior executive managers from different private universities in Garut – West Java in Indonesia. Accordingly, the results showed that the culture of firms in the private universities had a significant effect on implementing the digital transformation strategy at their institutions, and this is linked to another factors other than the technological aspects such as human resources, behavior, and organizational culture.

(Neborsky, Boguslavsky, Ladyzhets & Naumova, 2021) conducted a study that aimed at identifying students' standings towards digital transformation at the university as well as evaluating their university digital environment. Moreover, the study utilized the descriptive approach, also a questionnaire was distributed over (126) respondents among 2–3-year students of Bachelor degree in educational areas of training at both Moscow State Pedagogical University and Udmurt State University. Indeed, the results showed that students illustrate the "Digital University" concept differently, and the understanding can be classified into the following: Digital environment, digital resources, and the web portals (A digital platform). Nevertheless, (33%) of students indicated that they study in a digital university, also the results revealed a generally acceptable level of students satisfaction regarding the transferring experience to distance learning. In addition to the previous, students evaluate the teachers digital skills with a higher degree than the universities managers, also students believe that universities are in need to boost technological equipment to enhance the quality of educational interaction in the learning process of the digital environment, to guarantee the continuity of enhancing digital qualification of teachers, to create an accessible digital educational environment. Hence, (85%) of respondents in the future indicated that they connect their occupational activities with the effective use of digital technologies.

(Elessamy, 2021), conducted a study that aimed at revealing the reality of digital transformation at the Faculty of Education - Tanta University under the spread of CORONA-Virus, as well as revealing the procedures that upon which the digital transformation must be. Moreover, both the descriptive and the questionnaire tool were utilized, whereas the last included seven cores: The digital transformation strategy at the college, students, faculty

members, study programs, the college infrastructure, management and finance, and electronic evaluation. Additionally, the questionnaire was applied upon an intentional sample from faculty members that reached (108) members, as the study concluded that the responses of the sample of faculty members were moderate for the first, third, fourth, and fifth cores, while their responses for the second, sixth, and seventh were low. As well as, the study concluded to the presence of statically significant difference about the questionnaire total and cores due to the difference of position variable, and all these differences were in favor of those who took over a managerial position, also the study concluded to the presence of statically significant difference between the sample responses according to the academic degree for the questionnaire total in favor of the professor category.

(Purwanto, Purba, Sijabat, & Bernarto, 2021) conducted a study that aimed at identifying the effect of the transformational leadership, quality of work life, digital transformation, leaders members exchange on the innovative work behavior, organizational citizenship behavior, and universities performance. Moreover, the quantitative research methods were utilized, and the data were obtained from the questionnaires distributed upon over (110) respondents of the Banten University at Indonesia. Indeed, the results showed that the transformational leadership has a significant effect on universities performance and on the innovative work behavior, but the transformational leadership has no significant effect on the organizational citizenship behavior, also the digital transformation has no significant effect on universities performance, on innovative work behavior, and on organizational citizenship behavior, nonetheless, innovative work behavior has no significant effect on universities.

(Dereso, Kant, & Maheshwaran, 2021) conducted a study which aimed at identifying the digital transformations at the Higher Education sector in the comprehensive Universities of Ethiopia post to COVID (19) periods. Hence, this study was relied upon the descriptive approach, and the study sample consisted of (296) employee from Bule Hora University – Ethiopia, as for collecting data; a questionnaire was utilized. Moreover, the results showed that the practices of digital technology, Information & Communication Technology, and the program of developing education sector are all predicting (51.8%) of change regarding the education sector transformation generally.

(Isaeva, Kotliarenko, & Cherkasova, 2021) conducted a study which aimed at identifying the digital transformation and evaluating the work of universities professors on the base of modern electronic techniques in the context of education digitalization. Furthermore, the study sample consisted of (43) professor of six Russian universities, one university from Thailand, and two European universities, whereas all were interviewed distantly. Indeed, the study results showed that the digital transformation of Higher Education requires integrating more efficient tools, also it is a very promising concept to turn teaching lessons into the "Face to face" situation or recorded; to be open and available for teachers from different majors, post-graduate students, and the youth scientists.

(Almotrif, 2020), conducted a study that aimed at investigating the ability extent of digital transformation in public & private universities in Saudi Arabia, in addition to monitoring the reality of digital transformation between them under the world crises and disasters. Moreover, the study was applied upon a sample of faculty members that consisted of (100) member from the public universities and (100) member from the private universities. Hence, the study concluded to the presence of statistically significant differences between public & private universities regarding the availability extent of material elements required for digital transformation in favor of the public universities, the presence of statistically significant differences between public & private universities regarding

the availability extent of digital efficiencies upon the faculty members in favor of the private sector workers, and the presence of statistically significant differences between public & private universities regarding the possibility of education digital transformation under the crises in favor of the private universities.

(Sjöberg, & Lilja, 2019) conducted a study in the aim of identifying the contribution of digital transformation in Higher Education and the technology integration in education relate to practicing teaching of faculty members at the universities. Additionally, the study was relied upon the descriptive and qualitative approaches, also the study sample consisted of (254) faculty member at a small Swedish university where a questionnaire was distributed upon them, alongside with a focus group interview conducted with sic participants. Moreover, the results indicated to that faculty members are hesitant yet positive towards using digital technology in their educational practices, the integration of technology in teaching is associated with organizational and society processes which out of their direct control, and teachers consider themselves capable on learning the novel digital techniques but do not apply their knowledge in their educational practices. Despite those teachers generally feel safe while using digital technology and thinking they can learn faster by using new technology; yet they do not experience the new technology similarly during the educational process.

Distinguish the Current Studies from the Previous Ones: The current study was distinguished from the previous studies for being among the ones that addressed the following: The academic leadership role in escorting digital transformations, addressed the digital transformation topic which become an irreplaceable part in the educational process, and the possibility of presenting multiple of recommendations and suggestions to activate the academic leadership's role in the Jordanian Universities in escorting digital transformations.

Methods & Procedures

Down below a description of the study population and sample, the study instrument, methods of checking its validity and reliability, study variables, and statistical processing that were utilized to conclude the study results.

The Study Methodology

The researcher utilized the analytical-descriptive approach that corresponds with the study nature, via collecting the required data using the designed questionnaire.

The Study Population

The study population consisted of all academic leaderships in the following universities: (The University of Jordan, Yarmouk University, and Tafila University) during the second academic year (2021/ 2022) numbering (217) academic leader; including (45) collage dean and (172) department head.

The Study Sample

The study sample consisted of (138) academic leaderships were chosen by simple random sampling, and table (1) clarifies the distribution of the sample according to its variables.

Table (1): *Distribution of the study sample according to its variables*

Variables	Categories	Frequency	Percentage
Gender	Male	97	70.29%
	Female	41	29.71%
Job Title	Collage Dean	30	78.26%
	Department Head	108	26.81%
Academic Position	Professor	37	26.81%
	Associate Professor	45	32.61%
	Assistant Professor	56	40.58%
Years of Experience	Less than 5 years	34	26.64%
	From 5 – 10 years	60	43.48%
	More than 10 years	44	31.88%
	Total	138	100.00%

The Study Instrument

The study utilized the questionnaire of "Academic leaderships role at the Jordanian universities in escorting digital transformations", and the questionnaire consisted of (30) item distributed upon three areas; which are: Academic area that included (10) items, scientific research area that included (9) items, and managerial area that included (11) item.

The Validity

In order to check the questionnaire validity, it was presented on a committee of professional and experienced arbitrators numbering (12) form the faculty members in the Jordanian Universities, as the guidelines and proposals of jury members were taken into account, where the linguistic structure of some items were modified only when six arbitrators agree unanimously on. A questionnaire similar to the Likert scale was utilized to determine the degree of academic leaderships role at the Jordanian Universities in escorting digital transformations on the following manner: (Totally Agree, Agree, Neutral, Disagree, Totally Disagree), also the following digital estimations were given: (5, 4, 3, 2, 1) respectively. Furthermore, the following statistical scale for distributing the Means throughout calculating the extent that equal (5-1=4), and dividing the extent on the categories number (4÷5=0.80), consequently, you will obtain the following gradations:

- From 1.00 – less than 1.80 very low stage degree.
- From 1.80 – less than 2.60 low stage degree.
- From 2.60 – less than 3.40 moderate stage degree.
- From 3.40 – less than 4.20 high stage degree.
- From 4.20 – 5.00 very high stage degree.

The Reliability

In order to check the questionnaire reliability, coefficients of reliability were calculated according the Test-Retest method, since it was applied on a pilot sample outside the study sample numbering (27) academic leader, and that is by applying it twice with two weeks time-lapse between the first application and the second one. Additionally, Pearson Correlations between the results of the two applications were calculated, where the reliability coefficients of areas ranged between (0.84 – 0.90), and the reliability coefficients value of the questionnaire as a whole reached (0.92) which considered an acceptable value for conducting a study similar to the current one.

-        *The Study Variables*
The study included the following variables:

Intermediate Variables:
-        Gender: Two categories: (Males, Females).
-        Job Title: Two levels: (Collage Dean, Department Head).
-        Academic Position: Three levels: (Professor, Associate Professor, Assistant Professor).
-        Years of Experience: Three levels: (Less than 5 years, from 5 – 10 years, more than 1-years).

Dependent Variable: The academic leaderships role at the Jordanian Universities in escorting digital transformations, which explained by Means of the academic leaderships estimations on items and areas of the questionnaire designed according to.

Statistical Processing

The following statistical processing were utilized: Means, Standard Deviations, Multiple Variation Analysis (MANOVA), Four-way ANOVA, and Scheffe' Test.

Discussion & Presentation of the Study Results

Down below a presentation and discussion of the concluded results, after the researcher collected data via the study instrument; which the questionnaire of "Academic leaderships role at the Jordanian universities in escorting digital transformations" and presented it according to the study questions.

Results and discussion of first question: What is the academic leaderships role at the Jordanian Universities in escorting digital transformations?"

To answer this question, Means & Standard Deviations were calculated of the study sample estimations regarding the areas of academic leaderships role at the Jordanian Universities in escorting digital transformations, as clarified down below in table (2).

Table (2): *Means & Standard Deviations of the study sample estimations regarding the areas of academic leaderships role at the Jordanian Universities in escorting digital transformations in the descending order according the Means*

#	Item	Item N	Means*	SD	Degree
1	Academic Area	10	3.88	0.60	High
2	Managerial Area	11	3,78	0.45	High
3	Scientific Research Area	9	3,72	0.64	High
	Areas as a whole	**30**	**3.80**	**0.49**	**High**

*Maximum Degree of (5)

Table (2) demonstrated that the academic area ranked in first with Mean of (3.88) and Standard Deviation of (0.60), the managerial area ranked in second with Mean of (3.78) and Standard Deviation of (0.45), while the scientific research area came in the last rank with Mean of (3.72) and Standard Deviation of (0.64), and the Mean of the study sample estimations of the questionnaire as a whole reached (3.80) with Standard Deviation of (0.49) which corresponds with the high stage degree.

The previous is attributed to that the academic leaderships at the Jordanian Universities work on achieving the requirements of universities digital transformations throughout providing the modern techniques to serve the educational process, as well as the keenness of academic leaderships on providing everything that may contribute in the success and development of the educational process, and for the importance of escorting digital transformations in obtaining the efficiency and lifting the quality of the educational process. Indeed, this result agreed with the one of (Al-Shumari, 2022) study that concluded to multiple results, the most important of which is the availability degree of each element needed by the digital transformation at University of Hail are available in a well manner, also with the study of (Hamdani, Maulani, Nugraha, Mubarok, & Herlianti, 2021) which showed that the firms culture in the private universities had a significant effect of implementing the digital transformation in its institutions.

Means and Standard Deviations were calculated of the study sample estimations regarding the areas of academic leaderships role at the Jordanian Universities in escorting digital transformations, where it came in the following manner:

First: Academic Area:
Table (3): *Means and Standard Deviations of the study sample estimations regarding the academic area in the descending order*

#	Paragraphs	Means*	SD	Degree
1	Working on providing the technical support to apply the digital techniques in digital education	4.09	0.79	High
2	Working on providing digital learning sources related to the curricula	4.07	0.71	High
3	Working on providing modern training software of the E-Learning for the faculty members	4.04	0.72	High
5	Defining the students training needs in relation to digital education	4.03	0.69	High
6	Following up with updated new software of digital techniques	3.89	0.77	High
9	Working on providing the modern training software of digital education for students	3.87	0.77	High
8	Contributing to provide training courses for the faculty members which related to the use of digital techniques in the E-Learning	3.86	0.74	High
4	Setting up a guiding brochure for students to know how to deal with the digital content	3.84	0.71	High
7	Working on providing evaluative information for the outputs of the digital education	3.69	0.78	High
10	Working on providing the feedback that aims at developing the use of digital techniques in the digital education	3.43	0,90	High
	Area as a whole	**3.88**	**0,60**	**High**

*Maximum Degree of (5)

Table (3) clarifies that paragraph number (1) stated that: "Working on providing the technical support to apply the digital techniques in digital education" ranked at first with Means of (4.09) and Standard Deviation of (0.79), paragraph number (2) that stated: "Working on

providing digital learning sources related to the curricula" with Means of (4.07) and Standard Deviation of (0.71), while paragraph number (10) stated that: "Working on providing the feedback that aims at developing the use of digital techniques in the digital education" ranked at last with Means of (3.43) and Standard Deviation of (0.90), and the Means of the study sample estimations for the area as a whole amounted (3.88), and Standard Deviation of (0.60) which corresponds with the high stage degree.

The previous indicates on the academic leaderships role in boosting the technological equipment to enhance the quality of educational interaction in the educational process of the digital environment; the continuity of enhancing digital qualification of the teachers; the keenness of academic leaderships on creating an accessible digital educational environment at any time and from everywhere. Indeed, this result disagreed with the one of (Neborsky, Boguslavsky, Ladyzhets & Naumova, 2021) study which showed that universities need to boost technological equipment to enhance the quality of educational interaction in the educational process of the digital environment; to guarantee the continuity of enhancing digital qualification of the teachers; and to create an accessible digital educational environment. Moreover, it disagreed with the results of (Sjöberg, & Lilja, 2019) study that indicated the faculty members are hesitant yet positive towards using digital technology in their educational practices, also disagreed with the results of (Isaeva, Kotliarenko, & Cherkasova, 2021) study which demonstrated that digital transformation of Higher Education requires integrating more efficient tools, and it is a very promising concept to turn teaching lessons into the "Face to face" situation or recorded; to be open and available for teachers from different majors, post-graduate students, and the youth scientists.

Second: Scientific Research Area:

Table (4): *Means and Standard Deviations of the study sample estimations regarding the scientific research area in the descending order*

#	Paragraphs	Means*	SD	Degree
16	Collecting information and facts from their digital sources	3.96	0.76	High
18	Working on providing students with the skills of dealing with digital libraries and encyclopedias alongside with data bases	3.89	0.75	High
17	Working on providing students with the skills of using the digital scientific research tools and global search engines	3.86	0.76	High
11	Modern electronic references are provided constantly	3.72	0.75	High
12	Encouraging the communication between the faculty members to exchange digital learning experiences	3.66	0.77	High
14	Organizing periodic workshops related to the use of digital techniques in digital education	3.63	0.80	High
15	Developing a data base for scientific researches to facilitate the different society institution to benefit from	3.61	0.81	High
13	Working on providing an essential data base for the progress of digital education processes	3.58	0.74	High
19	Working on employing the digital education curricula to achieve the developmental society requirements	3.57	0.86	High
	Area as a whole	**3.72**	**0,64**	**High**

Maximum Degree of (5)

Table (4) clarifies that paragraph number (16) that stated: "Collecting information and facts from their digital sources" ranked in first with Means of (3.96) and Standard Deviation of (0.76), paragraph number (18) that stated: "Working on providing students with the skills of dealing with digital libraries and encyclopedias alongside with data bases" ranked in second with Means of (3.89) and Standard Deviation of (0.75), while paragraph number (19) that stated: "Working on employing the digital education curricula to achieve the developmental society requirements" ranked at last with Means of (3.57) and Standard Deviation of (0.86), and the Means of the study sample estimations for the area as a whole amounted (3.72), and Standard Deviation of (0.64) with a high degree.

The researcher attributed the reason of this result to the awareness and knowledge of academic leaderships due to the role of escorting digital transformations in encouraging students to deal with software and technical support methods, as well as the role of applying digital transformation in rapidly completing members and students dealings, thus ensuring the constant evaluation of the content, and the available capabilities and comparing them with international standards to support scientific research.

Third: Managerial Area:

Table (5): *Means and Standard Deviations of the study sample estimations regarding the managerial area in the descending order*

#	Paragraphs	Means*	SD	Degree
23	Determining the training faculty needs in relation to digital education	3.93	0.68	High
26	Developing a suitable & clear mechanism to overcome obstacles that encounter applying the E-Learning	3.92	0.60	High
24	Working on providing sufficient number of faculty members capable on using digital education	3.88	0.69	High
25	Working on providing the required electronic devices for digital education processes	3.84	0.69	High
29	Reviewing the successful international models applied in leading universities regarding this area	3.83	0.58	High
22	Working on providing the required infrastructure to apply digital techniques in the digital education	3.80	0.67	High
27	Working on providing a suitable solution for the upcoming issues on the digital education process	3.79	0.69	High
28	Working on presenting periodic reports about the progress of digital education process	3.70	0.70	High
30	Working on providing the required maintenance of the E-Learning devices & means	3.66	0.70	High
21	Employing digital techniques software in the managerial process related to supervision on digital education	3.65	0.75	High
20	Working on developing the organization structure of universities and colleges which in turn allows the digital transformation	3.59	0.81	High
	Area as a whole	**3.78**	**0.45**	**High**

Maximum Degree of (5)

Table (5) demonstrates that paragraph number (23) that stated: "Determining the training faculty needs in relation to digital education" ranked in first with Means of (3.93) and Standard Deviation of (0.68), paragraph number (26) that stated: "Developing a suitable & clear mechanism to overcome obstacles that encounter applying the E-Learning" ranked in second with Means of (3.92) and Standard Deviation of (0.60), while paragraph number (20) that stated: "Working on developing the organization structure of universities and colleges which in turn allows the digital transformation" ranked at last with Means of (3.59) and Standard Deviation of (0.81), and the Means of the study sample estimations for the area as a whole amounted (3.78), and Standard Deviation of (0.45) which corresponds with the high stage degree.

This result is attributed to the qualified and specialized cadres to deal with digital transformation, and to create a mutual and known digital vision between the management members, namely reconsidering the education and training systems to follow up the modern transformation needs, in addition to preparing the digital management members and the psychological, behavioral, technical, and physical readiness, alongside with other adaptation needs with digital management and its development. Nevertheless, this result agreed with the one of (Elessamy, 2021) study which concluded to the presence of statically significant difference about the total questionnaire and its cores due to the differences of position variable, and all these differences were in favor of who took over a managerial position.

Results and discussion of second question: "Are there any statistically significant differences at the indication level (α≤0.05) between the Means of the study sample estimations on the academic leaderships role at the Jordanian Universities in escorting digital transformations according to (Gender, Job title, Academic position, and Years of experiences) variables?"

To answer this question, the Multiple Variation Analysis (MANOVA) was applied, and table (6) down below clarifies the previous.

Table (6): *Results of Multiple Variation Analysis of differences according to (Gender, Job title, Academic position, and Years of experiences) variables*

Variation Source	Areas	Sum of Square	D. F	Mean Square	F. Value	Sig.
Gender Hotelling's=0.019 P=0.458	Academic	0.043	1	0,043	0.117	.734
	Scientific Research	0.317	1	0.317	0.777	.380
	Managerial	0.029	1	0.029	0.138	.711
Job Title Hotelling's=0.185 P=0.027	Academic	2.985	1	2.985	8.156	.003*
	Scientific Research	2.648	1	2.648	6.490	.009*
	Managerial	2.041	1	2.041	9.719	.002*
Academic Rank Wilks Lamda=0.192 P=0.027	Academic	8.004	2	4.002	10.934	.001*
	Scientific Research	0.21	2	0.105	0.257	.773
	Managerial	0.054	2	0.027	0.129	.879
Years of Experience Wilks Lamda =0.187 P=0.012	Academic	1.35	2	0.675	1.844	.162
	Scientific Research	6.354	2	3.177	7.787	.006*
	Managerial	0.424	2	0.212	1.010	.368

Error	Academic	47.942	131	.366
	Scientific Research	53.471	131	.408
	Managerial	27.549	131	.210

- *Statistically significant at level (α≤0.05)*

Table (6) demonstrates the following:

1. The presence of statistically significant differences between the study sample estimations regarding the areas of academic leaderships role at the Jordanian Universities in escorting digital transformations attributed to (Gender) variable.

The previous information can be attributed to that academic leadership of both genders are escorting digital transformations by same conditions and capabilities. Hence, this result disagreed with the one of (Al-Shumari, 2022) that concluded to multiple results and the most important of which is the availability degree of each element needed by digital transformation in favor of males.

2. The presence of statistically significant differences between Means of study sample estimations regarding all areas of academic leaderships role at the Jordanian Universities in escorting digital transformations attributed to the (Job title) variable, and this is in favor of job title estimations (Department Head).

The previous information can be attributed to the works nature done by the head of department in the Jordanian Universities such as accessing data and information, documenting events, massaging and communication, the transferring of scientific material, interactions throughout the learning activities, communicating with officials and specialists, and others, all of the above cannot be done unless escorting digital transformations that now represents an irreplaceable part.

3. The presence of statistically significant differences between the study sample estimations regarding the areas of academic leaderships role at the Jordanian Universities in escorting digital transformations, except the academic area; is attributed to the academic position variable, and in order to determine the sources of these differences, the (Scheffe' Test) was utilized as demonstrated in table (7) below.

Table (7): *Results of (Scheffe' Test) of the differences at the academic area according to the academic rank variable*

Academic rank		Professor	Associate Professor	Assistant Professor
	Means	3.72	3.75	3.95
Professor	3.72		0.03	*0.23
Associate Professor	3.75			*0.20
Assistant Professor	3.95			

- *Statistically significant at level (α≤0.05)*

Table (7) demonstrates the presence of statistically significant differences between the study sample estimations for the academic positions (Professor, Associate Professor) from one hand, and the Means of estimations for the academic position (Assistant Professor) from the other hand in favor of the academic position estimations (Assistant Professor).

It is to be noted that all academic leaderships of all academic ranks are tending towards escorting digital transformations throughout their digital experience and qualifications.

Nevertheless, the ones of (Assistant Professor) position have greater orientations towards digital transformations due to their escorting, and the educational future that will be completely relied upon digital transformation. Moreover, this result disagreed with the one of (Al-Shumari, 2022) study that concluded to multiple results the most important of which is the availability degree of each element needed by digital transformation at The University of Hail are available in a well manner, whereas it amounted (65.48%), and there were statistically significant differences in the scientific degree in favor of the (Professor) position.

- The presence of statistically significant differences between the Means of study sample estimations regarding the academic leaderships role at the Jordanian Universities in escorting digital transformations except the scientific research area; attributed to years of experience variable, and for determining the sources of these differences, (Scheffe' Test) was utilized as demonstrated in table (8).

Table (8): *Results of (Scheffe' Test) for the differences regarding scientific research area according to years of experience variable*

Years of Experience		Less than 5 years	From 5 – 10 years	More than 10 years
	Means	3.63	3.67	3.92
Less than 5 years	3.63		0.04	*0.29
From 5 – 10 years	3.67			*0.26
More than 10 years	3.92			

- *Statistically significant at level (α≤0.05)*

For the years of experience, table (8) clarifies the presence of statistically significant differences between the study sample estimations for (Less than 5 years, and from 5 – 10 years) from one hand, and the Means of the study sample estimations for (More than 10 years) from the other hand in favor of the estimations of years of experience (More than 10 years).

The previous information is attributed to the fact that escorting digital transformations is a leadership pattern based on employing technology as a general orientation in scientific research area, also as a detailed practice that included all events and methodological and non-methodological activities; in order to adapt with technological progress; to benefit the provided features by technological progress in managing the academic leaderships role in the scientific research area.

The Four-way Variation Analysis was conducted of differences between the study sample estimations regarding the areas of academic leaderships role at the Jordanian Universities in escorting digital transformations as a whole according to gender, job title, academic position, and years of experience, where the results were as demonstrated in table (9).

Table (9): *ANOVA Analysis for the differences regarding the areas of academic leaderships role as a whole according to gender, job title, academic position, and years of experience*

Variables	Sum of Square	D. F	Mean Square	F. Value	Sig.
Gender	.031	1	.031	.129	.721
Job Title	.224	1	.224	.937	.335
Academic Position	3.632	2	1.816	7.598	*.007
Years of Experience	.895	2	.447	1.872	.158
Error	31.302	131	.239		
Total	2021.496	137			

- *Statistically significant at level (α≤0.05)*
  Table (9) demonstrates the following:

- No statistically significant differences between the Means of study sample estimations regarding academic leaderships role at the Jordanian Universities in escorting digital transformations as a whole; attributed to gender, job title, and years of experience variables.
- The presence of statistically significant differences between the Means of study sample estimations regarding the areas of academic leaderships role at the Jordanian Universities in escorting digital transformations as a whole; attributed to the variable of academic position, and for determining the sources of these differences, (Scheffe' Test) was utilized as illustrated in table (10) down below.

Table (10): *Results of (Scheffe' Test) for the differences regarding the academic leaderships role as a whole according to the variable of academic position*

Academic Position		Professor	Associate Professor	Assistant Professor
	Means	3.70	3.73	3.89
Professor	3.70		0.03	*0.19
Associate Professor	3.73			*0.16
Assistant Professor	3.89			

- *Statistically significant at level (α≤0.05)*
  Table (10) clarifies the presence of statistically significant differences between the study sample estimations for the academic positions (Professor, Associate Professor) from one hand, and the estimations Means of academic positions (Assistant Professor) from the other hand in favor of the academic position (Assistant Professor); due to work modernity for the assistant professor in the area of digital transformations in the educational process.

Recommendations

Under the results concluded by the researcher, accordingly, a group of the following recommendations were concluded:

- The necessity of university interest in spreading the university vision for escorting digital transformations at all occupational levels.
- International experiences exchange throughout benefiting universities experiences in escorting digital transformations.
- Sending constant & ambitious training programs to develop the capabilities of academic leaderships at the Jordanian Universities in escorting digital transformations throughout providing the material, human, and organizational capabilities.
- Conducting more future research studies; in order to highlighting the relationship nature between the academic leaderships at the Jordanian Universities in escorting digital transformations.
- Forming permanent teams for digital transformations of academic leaderships at the Jordanian Universities in escorting international digital transformations; in order achieve sustainability and benefiting from experiences.

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