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Utilizing E-administration to Improve the Quality of Educational Services at Saudi Universities During COVID-19

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Abstract: The present paper aims to identify the reality of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19. It explores the most significant technical, human, economic, social, and administrative obstacles and the requirements of utilizing e-administration to make suggestions for utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19. The author developed and applied an interview form to (10) staff and faculty members. The paper results showed obstacles to utilizing e-administration at Saudi universities. The most significant technical issues were falsifying documents, corrupting programs and data, and cybercrimes. The human obstacles included the lack of training programs qualifying to handle the requirements of electronic work, sticking to regulations and inflexibility, and lack of laws and legislation regarding the privacy of information security. The social obstacles were the inadequate awareness of the importance of applying e-administration, and questioning the credibility of information via the e-administration means. The most significant economic obstacles were the ill funding of the e-administration training programs for staff members and the lack of financial incentives to distinguished staff members of e-administration. Furthermore, the most significant administrative obstacles included the lack of enthusiasm of the current administration for e-administration applications and the lack of assigning a department of e-administration at each college. The paper suggested linking the achievement of work to financial incentives using e-administration means and applications and enforcing the staff of Saudi universities to use e-administration applications. It recommends recruiting external experts to train the officials of the e-administration department and increasing the funds and incentives to distinguished staff in the departments of e-administration.

Keywords: Strategic vision, E-administration, Quality of educational services, COVID-19.

1. Introduction

E-Administration is one of the manifestations imposed by technological development in the twenty-first century on contemporary organizations. Scientific and technical progress and the spread of the World Wide Web (Internet) created new opportunities in the field of business in general and in educational organizations in particular. These opportunities helped to improve and develop administrative processes. The importance of the role of e-administration in the fields of business and providing educational services has grown, especially in the quality of educational service in universities, as well as its benefits in operating contemporary educational organizations and in making the right decisions [1].

E-Administration is the administration that uses different modern technological means and utilizes them effectively in its administrative processes from planning, organizing, coordinating, following up, and evaluating the implementation of all its work electronically in order to achieve its goals and to provide the necessary flexibility to respond to changes internally and externally. It is also an administrative strategy for the information age that aims to achieve better services for citizens and institutions. Especially with an optimal use of the available sources of information through employing human and moral resources in a modern electronic framework to optimize the use of time, money and effort, and to achieve the targeted requirements with the required quality [2].

Many writings and studies have indicated the importance and benefits of e-administration and its role in improving the quality of work performance in universities, which is mainly represented in providing privacy, security, confidentiality, speed and accuracy in storage and responding to the needs and desires of the beneficiaries of the educational process effectively. This leads to the satisfaction of beneficiaries, and provides comprehensive services at the lowest costs, effort and time, and the possibility of learning anytime and anywhere. This also saves effort and time for the teacher and student, provides accurate information on student performance supported by statistics and graphs, the ease of creating

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tests and different assessment methods, provides immediate feedback to the student, and the ease of updating and developing scientific content. As well as the possibility of individualizing and personalizing, the educational experience for each student. [10-3]

Therefore, countries took the initiative to apply e-administration in order to benefit from its advantages and interact with the current age. It leads the Kingdom of Saudi Arabia government to pay great attention to transform to electronic transactions. Accordingly, the Honorable Council of Ministers Resolution No. 235 dated 5/10/2004 was issued that based on the recommendations of “ways of enhancing cooperation to achieve the objectives of the comprehensive review and performance monitoring” seminar which was organized by the General Auditing Bureau of government agencies to use electronic means instead of traditional documents and traditional means [11]. The Kingdom of Saudi Arabia has also made tangible efforts to introduce technology in all institutions, so the Ministry of Education ensured its ten-year plan, developing the infrastructure of information and communication technology and utilizing it in education. It prepared a set of programs such as updating the information network linking the ministry with education departments and applying the electronic ministry project [12]. Accordingly, this trend will be inside the responsible in the Ministry of Education and education departments for transforming from traditional administration to e-administration and work to benefit from the services that the government provides for the transformation, knowledge renaissance and upgrading.

Educational institutions are using e-administration to raise the quality level of teaching and learning processes, improve their outcomes, and raise their ranking among universities. One of the most important standards of comprehensive quality in education is the efficiency of administrative systems in the education system. It has also become a component of quality and excellence. It has a special system in each university to manage teaching and learning processes and technical and administrative processes associated with this, to provide all the requirements and infrastructure that guarantee its effectiveness and continuity, and to provide its roles in an optimal way [13].

E-administration improves the quality of educational services in universities, because of its role in adopting and spreading education and knowledge, which is the main goal that it seeks to achieve. The public interest requires the provision of education services with the required quality from service providers in order to achieve benefit and maximize the impact, which raises the scientific level of service seekers (students), which is also reflected in other parties benefiting from student education services [1]. Therefore, the quality of the educational service is one of the core issues and the main test in university education, so some studies have addressed that the student, as a client or beneficiary, represents the core of the educational process. One of the recent trends in educational institutions is to consider the customer as the core of the institution's interest in building all plans and strategies to meet his needs and expectations and what exceeds these expectations [14, 15].

As the educational service in universities is a public service that works to meet the needs of the beneficiaries, from students, staff members, administration, public and private economic institutions, and society as a whole, using e-administration to improve the quality of this service has become today more than a necessity due to its ability to achieve the satisfaction to all beneficiaries of this service, and to improve the quality of the various aspects of the educational process, their inputs, operations and outputs. This will only be achieved by developing a practical strategy that emanates from a clear vision and mission of the university, and setting foundations and procedures for implementing this strategy [7].

The starting point in the quality of educational services lies in determining the required achievement, followed by the generalization of educational curricula which is capable of achieving these results, choosing the qualified students to study these educational curricula, achieving the quality of educational service outputs such as building knowledge and commitment to maximizing the performance of the educational process through appropriate exploitation for the necessary resources, holding seminars for continuous discussion, the renewed development regarding the quality of educational service, developing plans and projects to lead the basic tasks related to the quality of education in the educational institution, organizing and monitoring it, and achieving an environment full of awards and rewards for the distinguished academic and administrative staff [16].

The achieved benefits from applying the quality of educational service in universities also lie in the fact that applying the quality of educational service at universities achieves many benefits such as engaging the academic and administrative staff in continuous development and improvement, increasing the competitiveness ability of the university in its programs and plans which are compatible with the requirements of the accreditation authority and the labor market. Focusing on continues training and education to increase the efficiency of using the university's administrative and academic staff, improving the quality of graduate students, and aligning outputs with the needs of the labor market [16].

Hence, e-administration plays a role in improving the quality of educational services and achieving external customer satisfaction (students) about the educational system with all of its elements. The satisfaction of the students as one of the beneficiaries is an essential element of quality, whether in basic or university education. The educational

institution's aim is to satisfy those beneficiaries of the educational service and meet their needs. This is done by adopting strong relations with these students [17].

The success of applying e-administration is related to providing a set of necessary requirements, including organizational, technical, financial and human, and legislative requirements. The e-administration also needs to reshape the administrative hierarchy, define responsibilities, reforms, and develop education and training systems to suit the transformation to the electronic environment [18]. Al-Dosari [19] refers to the technical requirements that are represented in providing the appropriate infrastructure to establish the e-administration project, including media, networks, tools and techniques, and constantly developing them. Human requirements are also considered one of the most important requirements for the success of e-administration, which is represented in the well and high effective rehabilitation of the human element. Adequate funding must be provided, as well as working within a legislative environment that protects all the dealers and makes them work within a clear legal system, which leads to providing other requirements such as security requirements with the necessity for creating and spreading the culture of e-administration among all dealing parties.

The great importance of e-administration in general and in the field of education in particular, with the emergence of Covid 19, has resulted in a great change in all aspects of life, as this pandemic was as a severe test of the extent to which countries and governments are able to deal positively with emergency crises. It became certain that many concepts, practices, mechanisms and systems will change after Covid 19, and the field of education was not immune from these changes. Many countries around the world took instant decisions such as the closure of schools and universities in order to preserve students and teachers' lives, and society as a whole. The educational decision-makers faced a great challenge regarding the continuation of the educational process distantly or the closure of the study until the end of the crisis [20].

Despite it being a sudden crisis, Covid 19 has provided an opportunity for educational institutions to evaluate education and exploit technology to improve the level of educational service provided to students [21]. The opportunity is available now to the educational institutions around the world to enhance their technological devices, and make their curricula more compatible with the changing times and sudden crises [22]. With the spread of Covid 19, colleges and universities closed the traditional face-to-face classrooms and transformed to distance teaching formats through the Internet as a safety procedure for students and staff members to limit the spread of this damned virus. Here artificial intelligence techniques played an important and pivotal role in the continuity of providing educational service for all students at different levels through e-learning systems, which relied on modern technologies, smart platforms and specialized gates that present all sciences and knowledge to students so that they can benefit from them during the periods of universities closure [23].

The Kingdom of Saudi Arabia has managed to apply e-administration in all of its government agencies, including ministries, government institutions and universities, with a good performance level of 60.5%. Specifically, the education and research sector achieved 70% in the transformation towards electronic transactions, but it did not meet the expectations. The Kingdom has supported the transformation of electronic transactions in all of its services by using (Yesser) program affiliated to the Ministry of communications and technology in the Kingdom to follow up and measure this transformation in Saudi government devices regularly. The results of the last seventh measurement report for 2016 at (Yesser program) found that the indicators of maturity in electronic transformation of Saudi government universities fall into modest performance levels (Red category (59%). As 61% of Saudi universities fall into the category of modest performance, 9% of these universities fall into the category of good performance, and 30% of those universities fall into the category of outstanding performance. The low level of electronic transformation performance in Saudi universities is insignificantly proportional to the financial capabilities available to them and the huge budgets allocated to these universities [24].

Accordingly, the Ministry of Higher Education in the Kingdom of Saudi Arabia sought to utilize technology to provide its services to its affiliated sectors, based on the directions of the Government of the Custodian of the two Holy Mosques in the transformation towards electronic transactions in all sectors according to Council of Ministers Resolution No. (7708/MB) on 8/9/2009) regarding the rules for applying electronic government transactions. As the Ministry of Higher Education was one of the first responders to this trend, and it works with the institutions of other countries by doing its best to reach an e-administration that leads a society which embraces the creative energies of the Saudi individual and qualifies him to be an active and effective element in his real life and society.

However, it has made the competition more difficult between universities - despite the trend towards effectively utilizing information and communication technology in most electronic services provided to students, staff members and employees- some of these universities are still thinking that the way to gain accreditation and quality can be achieved from the great interest in achieving the principles of quality applied to programs, departments, and colleges. At the same time, those universities do not pay enough attention to the administration with its services, which the

institution cannot succeed academically without them [25]. Abdel Nasser and Qureshi [26] proved that improving the quality of services provided to the beneficiary in accordance with service standards, working to reduce financial and time costs and raising the level of employees' performance through training are among the most important things that can be provided by the electronic management of the institution.

Despite the great importance of e-administration and its role in providing services, there are several obstacles to its role. Gorman [27] reported that the most significant obstacles included the difficulty of transformation from the traditional management style. Moreover, the leaders of higher education play a significant role in the change operations in their departments from traditional administration to e-administration by applying its various applications and means. Seresht, Fayyazi & Asl [28] concluded that the administrative obstacles to utilizing e-administration included the lack of technological awareness, lack of experience, and lack of desire to shift from the traditional administration to e-administration. These findings differ from Abdel Nasser and Qureshi [26] that e-administration relies primarily on a set of elements, including devices, equipment, software, and networks.

Al-Bashiri [29] indicated that there are administrative obstacles represented in routine procedures. Technical obstacles represented in poor maintenance and follow-up of devices, lack of guides explaining the mechanisms of applying e-administration, and the poor level of the infrastructure. Human obstacles represented in weak English language skills, the small number of administrators specialized in operating and maintaining computers, and the lack of awareness of the importance of information security. Financial obstacles represented in the limited role of the private sector in financial contribution, and the weakness of financial support. Alagha, Hajaj, and Kassab [30] concluded a positive correlation between the common administration styles and utilizing e-administration. They showed a difference in the university interests and providing the requirements of e-administration because there is a lack of legislation and development of the university organizations created initially for traditional administration. These findings supported the results of Alkhsabah [31] regarding the need to develop the current legislation and regulations to keep pace with electronic transactions of e-administration to support the utilization of e-administration in all administration works. Additionally, financial capabilities and budget should be provided to support utilizing e-administration in all administration works. These findings differ from Kanany [32] that reported no statistically significant difference in the correlation between the reality of utilizing e-administration and the level of organizational effectiveness, regulations, and rules. Ibrahim [33] recommended equipping the heads of departments with the required knowledge, skills, rules, and regulations to fulfill their tasks and responsibilities. Mohamed [34] showed that the most significant social obstacles to e-administration at Al-Azhar University from the perspective of the participants included testing the validity of information via the means of e-administration, whereas the most significant economic obstacles were the lack of funding for utilizing e-administration. Moreover, the administrative obstacles included red tape. Alkhenifr [35] illustrated that the participants agreed on the obstacles to e-administration in the General Department of Education in Riyadh in the light of Saudi Vision 2030. The financial obstacles were ranked first and followed by the technical, administration, human, and legislation and security obstacles. The most significant administration obstacles included the lack of action plans for utilizing e-administration and the lack of adjustment between the organizational structures and the requirements of e-administration. The most significant legislation and security obstacles included the lack of procedures for electronic accreditation in transactions between departments and the inadequate laws for utilizing e-administration. The most significant human obstacles were the limited opportunities of attending conferences and symposia of e-administration by the staff members and the lack of moral incentives for the distinguished members in the management of electronic programs and devices. The most significant financial obstacles included the lack of budgets for training the staff members in information systems and electronic techniques and the poor role of the private sector in the financial and moral contribution to utilizing e-administration. Furthermore, the most significant technical obstacles were the poor infrastructure and the lack of specific programs to fulfill the electronic operations. The participants agreed on the confrontation mechanisms, such as continuing training of the staff members in the electronic devices and programs, providing technical support, upgrading the electronic link between departments, keeping pace with the developments of e-administration, and approving incentives for the distinguished members of electronic work. Bakr, Hamad, and AL-Saudi [36] found that the obstacles to e-administration are the lack of material capabilities needed to buy devices and equipment, establish networks, design software and training, in addition to the weak legislation governing electronic work.

Despite the intense competition in the education sector in the Kingdom of Saudi Arabia, the reality of electronic services and transactions needs to be improved and developed in order to keep pace with universities that provide electronic services which gain the satisfaction and approval of their employees. The completion of administrative transactions needs time, effort and follow-up from the university's employees, including staff members and administrative staff, and depending on the direction of the Ministry of Education and universities towards investing information technology in providing all services to students in a specialized electronic way that supports decision makers to facilitate student transaction procedures and follow-up their implementation through websites, whether at the level of senior administration or at the level of colleges and vital departments at the university [37].

Hence, the present paper aims to identify the reality of e-administration to utilize it in improving the quality of educational services at Saudi universities during COVID-19. It also explores the most important technical, human, economic, social, and administrative obstacles and the requirements of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19. It became clear to the researcher, through reviewing the related (local, Arab, and foreign) literature, that related to e-administration, especially in educational institutions, has become an urgent necessity in order to achieve the goals of the educational process efficiently and effectively and to achieve the satisfaction of the beneficiaries, especially during the crisis facing educational institutions represented in Covid19, which makes the researcher concerned with utilizing e-administration to improve the services presents at Saudi Universities such as students' services.

2. Literature Review

E-administration is a contemporary approach to develop administration, get rid of the problems and improve work through using modern technical methods, which are efficient, effective and speed. It also seeks to transform organizations, including universities, into electronic organizations that use technology and the internet to accomplish educational and administrative functions. Hence, many previous studies have focused on e-administration and its use in the educational process in universities. For instance, Mellivell [38] recommended providing brochures and delivering lectures to raise the awareness of beneficiaries and employing the software created by the university for teaching and administration. Abu Ashour & Al-Nimri [39] indicated that the level of applying e-administration at Yarmouk University from staff members' point of view was high, while the level of its application from the administrators' point of view was moderate. Ka'aki [40] found that there is a need to organize the technical environment, a need for staff members to exploit the electronic environment and to utilize it appropriately in the educational process, and a need to have the appropriate number of electronic equipment from students and staff members' point of view. Al-Subhi and Al-Sulaimani [41] focused on the e-administrative transactions that take place on the e-administration gate of the King Abdullah bin Abdel-Aziz Library at Umm Al-Qura University from administrators' point of view. The study also indicated that one of the most advantages is to facilitate and improve work in terms of speed and accuracy in achieving it. Shalaby [42] found e-administration role in saving effort and cost, and its compatibility with the latest developments in technology and its impact on organizational development in the Islamic University from upper and middle administration point of view. It also found that some workers did not have knowledge of some electronic applications due to obstacles such as lack of incentives, and technical and human capabilities. Al-Itani [43] found that there is totally agreement from academics, students and administrators point of view on getting advantages from applying e-administration at King Abdulaziz University in their work, and a return on the overall performance of the university. Abu Nasser & Al- youssef [44] found the availability of applying e-administration had a moderate degree in academic departments from King Faisal University staff members' point of view.

The quality of educational service is seen as an administrative philosophy in which all employees of the educational institution work together to achieve and meet the needs and expectations of the external customer (students) and to achieve their satisfaction with the performance of the educational service. Many studies have focused on the quality of educational service in universities such as Salman [45], which aimed to demonstrate the quality of university services from Al-Aqsa University students' point of view. The results of the study indicated that the quality of university services was concentrated between weak and intermediate, and there were statistically significant differences due to the gender variable between males and females favoring females in the quality of service level. Other studies dealt with the extent of students' satisfaction with the educational service as one of the dimensions of achieving the quality of services in universities such as Hamed Al-Qudah & khalifat [46] which found that the satisfaction of Moata University students with university services from their point of view was intermediate. Al-Fayez [47] found that the level of the academic satisfaction among Faculty of Education at the Islamic University of Gaza students reached 74.40%. Kara and Deshield, [48] found that there is a positive relationship between students' satisfaction and their intention to stay in college or university. Accordingly, educational institutions with student orientation have a greater opportunity to satisfy the needs and desires of their students, and then keep them until their graduation, compared to other universities that do not care about the satisfaction of their students. This was confirmed by Baykal, et al. [49] which found that the mean of student satisfaction was high in the first year, decreased in the second year, then rose again in the third year, and then fell to a minimum in the fourth year.

Many studies dealt with the relationship between e-administration and the quality of educational service. For example, Felck [6] concluded a positive relationship between knowledge of the computer and its level of use in e-administration. Thus, training courses in e-administration and computers should be carried out. Abdel-Mawajda [50] aimed at identifying the requirements affecting the use of e-administration and its importance in improving the quality of services provided in the directorates of education in southern Jordan. The study reached to a set of results such as the requirements affecting the use of e-administration in the education directorates and the level of services provided

according to the respondents' perceptions was intermediate, and there was an impact of the requirements (human, technical, administrative, financial, organizational culture) in improving the quality of services provided by the directorates of education. Al-Khattabi [51] investigated the impact of applying e-administration and the quality of educational service level provided to students in the Faculty of open Education at the Yemeni University of Science and Technology. It found that the quality of services provided to students ranked first, while the quality of services in terms of material and reliability aspects came to a relatively high degree. Abdel Nasser and Qureshi [26] found that there was a significant and positive correlation between e-administration (hardware and equipment, software, communication network, knowledge makers) in developing the administrative work (planning, organization, guidance, control, and decision-making) in higher education institutions. This was confirmed by Ali [15] which found that there were statistically significant differences for e-administration in its dimensions to achieve the concept of comprehensive quality and excellence and effectively raise the performance level of the academic programs through e-learning and self-evaluation, in a way that increases confidence and accuracy in the outcomes of university education. Qureshi [52] developed a theoretical proposal for e-administration and its role in achieving comprehensive quality in pre-university education. Saqr [53] and Abu Zayd and Higazi [54] found a positive relationship between applying e-government and the dimensions of comprehensive quality management in improving the quality of university service. Al-Baqour [55] investigated the relationship between information technology (hardware, software, database, information networks) and knowledge sharing and their impact on ensuring the quality of higher education at Taif University. Al-Rahoumi and Idris [56] found that the use of e-systems at King Khalid University positively affects the improvement of administrative functions through improving the planning, organization, direction and administrative control processes at King Khalid University.

In light of the emergency conditions of Covid-19 around the world, which led to the closure of schools and universities in most countries of the world, countries had no choice but to rely on online media to ensure the provision of education during the closure period. Stakeholders in ministries and universities were forced to use e-administration in the educational process. In light of this, many studies have investigated this point such as Abu Ragab [20], which identified e-administration and its role in improving the quality of the educational process during Covid-19, the obstacles of applying e-administration, and the mechanism of activating e-administration during Covid 19. Al-Zahrani [57] aimed to know the attitudes of Umm Al-Qura University staff members towards utilizing e-learning tools in the educational process during Covid 19. The results of the study showed that there are positive attitudes toward utilizing e-learning tools in the educational process during Covid 19. Oyaba and Saleh [21] aimed to assess the students' transformation to distance education during the university's closure due to Covid 19. The results of the study showed that there is an adaptation to the crisis and an acceptable readiness for distance education, as well as there are physical and human obstacles that limit students' interaction with the activities available on different electronic platforms. Aboagye et al. [58] aimed to reveal the challenges facing higher education students when transforming to e-learning during Covid 19. The study revealed that students did not have sufficient preparation for distance learning. Demuyakor [59] aimed to evaluate the degree of international students' satisfaction in higher education institutions in China regarding the experience of e-learning during Covid 19. The results of the study revealed that implementing higher education programs online was an important idea and that the majority of students supported this initiative significantly. Raheem & Khan [60] aimed to show the importance of the role of e-learning during Covid-19. The study confirmed that technology played a major role during the current crisis and that e-learning tools helped students to learn.

Subedi et al. [61] evaluated the impact of e-learning between students and teachers during Covid 19. The study revealed that merely half of the teachers were not satisfied with their virtual classrooms, and 64.4% of the students were able to enter their e-virtual classrooms. El-zaki and Swilam [62] aimed to know students' perceptions of the transformation of Saudi universities to e-learning during Covid 19, and they found that continuing to adopt e-learning in some courses even after the end of Covid 19 provides students with greater opportunities for interaction and participation. Salem [63] aimed to identify the most important educational problems resulting from the outbreak of the pandemic and identify the most important problems they faced during the crisis and their suggestions to overcome them. The study found that the actual compatibility between students' opinions and university decisions in facing Covid 19 was weak, and the majority of the students agreed to use e-learning during Covid 19. Al-Azmi [64] also aimed to shed light on the Corona crisis and to identify the most important advantages of e-learning in educational institutions during this crisis. The research found a set of proposed mechanisms to face the challenges of e-learning. One of the most important of these challenges is the use of new platforms and ensuring adequate follow-up with students.

3. Commentary

Reviewing the literature showed that the results of the previous studies tackled three domains:

- I. The level of applying e-administration at university ranged from moderate to high, recommending publishing bulletins and lectures to educate the beneficiaries and introducing the importance of using e-administration in the

academic and administrative fields.

- II. The features of applying e-administration at university education included facilitating and improving work in terms of speed and accuracy, saving money and effort, complying with technology updates, organizational development, and improving the level of provided educational services. However, the obstacles included a shortage of motivational incentives and a lack of financial, technical, and human capabilities.
- III. There were positive attitudes toward employing e-administration in education during COVID-19, recommending the continuity of e-learning in some courses even after COVID-19 to allow better interaction and sharing.

The author employed the literature and results in phrasing questions, defining the tool's domains, and reviewing the theoretical frameworks of e-administration, which helped have a good and clear background about the concept of e-administration.

4. Questions

The study aims to answer the following questions:

1. What is the reality of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 from the perspective of the staff and faculty members?
2. What are the obstacles to utilizing e-administration to improve educational services at Saudi universities during COVID-19 from the perspective of the staff and faculty members?
3. What are the requirements for utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 from the perspective of the staff and faculty members?
4. What are the suggestions for utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19?

5. Objectives

This study aims to:

1. Identify the reality of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 from the perspective of the staff and faculty members.
2. Highlight the obstacles to utilizing e-administration to improve educational services at Saudi universities during COVID-19 from the perspective of the staff and faculty members.
3. Identify the requirements of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 from the perspective of the staff and faculty members.
4. Make suggestions for utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19.

6. Significance

- Theoretical significance: The paper aims to highlight the reality and obstacles to utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19, which is important for universities that seek to keep pace with technological advancements and develop performance. Therefore, it is hoped to add to the Arab literature and pave the way for further studies on the developments of COVID-19.
- Practical significance: It is hoped that the paper benefits the officials of universities to identify their reality to utilize e-administration. The paper makes suggestions to utilize e-administration to improve the quality of educational services at Saudi universities during COVID-19.

7. Methodology

Method

The paper adopted the qualitative approach by developing intensive (in-depth) interviews to collect data that could not be obtained using the questionnaire only.

Sampling

A sample of (10) faculty and staff members at Saudi universities were intentionally selected and distributed as follows:

- Academic qualifications: (6) Ph.D. holders, (3) bachelor holders, and (1) master holder.

- Position: (7) faculty members and (3) staff members, as shown in table (1).

Table (1): The distribution of the study sample according to the variables

Research sample variables		Sample	
		Frequency	%
Academic Qualification	Bachelor's	3	30%
	Master's	1	10%
	6	6	60%
	Total	10	100%
Position	Faculty member	7	70%
	Staff members	3	30%
	Total	10	100%

Tools

1. Interview

1. Defining the objective of the interview: An interview card was used with the participants to achieve the four objectives of the study. The interview was adopted because it fits this objective. According to Abu Allam [65], the interview is extensively used in educational and psychological studies to collect data about the phenomena that are not observed directly, which fits the present study.
 2. Developing the draft of the interview: The author developed the draft of the interview based on the relevant educational literature to include two parts: Part One covered the preliminary data (academic qualification and position), whereas Part Two included four basic questions, expressing the four objectives and sub-objectives of the first question based on a three-point scale (yes- no- sometimes).
 3. The items of the first main objective revealed the reality of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 based on (planning- organization- participation and decision-making- guidance and counseling- follow-up, evaluation, and monitoring). Therefore, the author employed the studies of Alareshy [66], Khallouf [67], Abu Ashour and Al-Nimri [39], Al-Anzi [68], Ibrahim [33], Castro and Tomàs [69], Floyd and Dimmock [70], and Kampmann [71]. The items of the first objective were as follows:
 - Items (1-4): Reality of planning e-administration
 - Items (5-7): Reality of organizing e-administration
 - Items (8-10): Reality of decision-making of e-administration
 - Items (11-12): Reality of guidance and counseling of e-administration
 - Items (13-15): Reality of follow-up, evaluation, and monitoring of e-administration
 4. The second main objective was related to the (technical, human, social, economic, and administrative) obstacles to utilizing e-administration to improve the quality of educational services at Saudi universities. To prepare the items of the objective, the author utilized the studies of Gorman [27], Seresht et al. [28], Kanany [32], Abdel Nasser and Qureshi [26], Al-Bashiri [29], Alagha et al. [30], Alkhsabah [31], Alkhenifr [35], Mohamed [34], and Abdelsalam [72].
 5. The third main objective covered the (administration, technical, human, and financial) requirements of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19.
 6. The fourth main objective provided a proposal to activate utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19. The suggestions were economic and administration. To prepare the items of the objective, the author utilized the studies of Mellivell [38], Felck [6], Al-Bashiri [29], Alagha et al. [30], Mohamed [34], and Ibrahim [33].
- Validating the tool: The interview questions and the scale were presented to (5) experienced professors of e-administration. According to the reviewers' suggestions, simple modifications were made.

* Answering research questions:

1. Answer to the first question

To answer this question, frequency, relative weight, percentage, and rank of the reality of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 were calculated.

Table (2): The frequency, relative weight, percentage, and rank of the reality of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19

Items		Total sample					
		Frequency			Relative weight	Percentages	Ranking
		Yes	sometimes	No			
1	Does e-administration improve the speed of getting information on all staff members?	10	0	0	30	100	1
2	Does e-administration provide an electronic monitoring system?	10	0	0	30	100	1
3	Does e-administration facilitate monitoring job performance?	10	0	0	30	100	1
4	Does e-administration provide electronic archives of processes?	9	1	0	29	96.7	2
5	Does e-administration promote communication among the different administrative elements?	9	1	0	29	96.7	2
6	Does e-administration save time, effort, and money?	9	1	0	29	96.7	2
7	Does e-administration help guide all staff members?	9	1	0	29	96.7	2
8	Does e-administration reduce the administrative burden?	8	2	0	28	93.3	3
9	Does e-administration improve the speed of problem-solving and decision-making?	8	2	0	28	93.3	3
10	Does e-administration improve the speed of distributing and implementing university-related decisions?	8	2	0	28	93.3	3
11	Does e-administration help provide the required information for making appropriate decisions?	8	2	0	28	93.3	3
12	Does e-administration help evaluate the achievement and quality of works?	8	2	0	28	93.3	3
13	Does implementing e-administration improve the quality of educational services at Saudi universities?	6	4	0	26	86.7	4
14	Does e-administration provide alternative administration plans?	7	2	1	26	86.7	4
15	Does e-administration reduce planning procedures and problems?	7	2	1	26	86.7	4
Total					424	94.2%	

Table (2) shows that the percentage of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 ranges (86.7%-100%). This result agrees with the findings of Abu Zayd and Higazi [54] and Saqr [53] that reported a positive relationship between applying e-government and the domains of comprehensive quality management in improving the quality of university service.

Items (1, 2, and 3) are ranked first with a percentage of (100%). The result of item (1) agrees with the result of Al-Subhi and Al-Sulaimani [41] that e-administration helps facilitate and improve the speed and accuracy of work. It also matches Shalaby [42] that e-administration plays a role in saving effort and cost and improving the quality of service. It agrees with Al-Khattabi [51] that reported that the quality of e-administration services at the University of Science and Technology in Yemen was ranked first, including the financial and accreditation aspects and Al-Rahoumi and Idris [56] that e- systems at King Khalid University positively affected improving the administrative functions. This finding matches Raheem and Khan [60] that e-learning tools helped students learn and El-zaki and Swilam [62] that e-learning gave the female students at Saudi universities a greater opportunity for interaction and participation.

The result of items (2 and 3) agrees with the result of Ibrahim [33] that e-administration helps improve plans by providing information and alternative plans and reduce problems.

Items (13, 14, and 15) were ranked last with a percentage of (86.7%). That is, seven participants agreed that e-administration helps facilitate the monitoring task of the performance of administrators and faculty to promote the assessment of performance and work quality easily. This finding agrees with Abdel Nasser and Qureshi [26], Al-Baqour [55], and Ibrahim [33] that e-administration promotes the performance level of employees.

The total score of the scale rated (94.2%) suggests the importance of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19. This result agrees with Al-Zahrani [57] that reported positive attitudes toward utilizing e-learning during COVID-19.

2. Answer to the second question

To answer this question, frequency, percentage, and rank of the reality of the technical, human, social, economic, and administrative were calculated.

Table (3): The frequency, percentage, and rank of the technical obstacles to utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19

Alternatives	Frequency	Percent	Ranking
1 Computer fraud (data entry/ data storage/ data processing)	9	90%	2
2 Falsifying documents	10	100%	1
3 Corrupting programs and data	10	100%	1
4 Destroying computer	9	90%	2
5 Stealing data and computer programs	9	90%	2
6 Illegal copies of programs	10	100%	1
7 Intelligence-related activities	9	90%	2
8 Cybercrimes	10	100%	1

(*) The respondents can choose more than one alternative (N= 10).

Table (3) illustrates that (100%) of the participants agree on the most technical obstacles to utilizing e-administration at Saudi universities, namely falsifying documents, corrupting programs and data, illegal copies of programs, and cybercrimes.

Nine participants (90%) agree on the technical obstacles to utilizing e-administration at Saudi universities, including computer fraud (data entry/ data storage/ data processing), destroying the computer, stealing data and computer programs, and intelligence-related activities. This finding agrees with Shalaby [42] that reported the lack of financial capacities at the Islamic university from the perspective of top and middle administration. It also matches Alkhenifr [35] that concluded that the most significant technical obstacles include the lack of specific programs to fulfill electronic operations.

The technical obstacles may include the lack of adequate infrastructure for applying e-administration, the lack of follow-up and maintenance by specialists, and the growing development of electronic devices and programs.

Table (4): The frequency, percentage, and rank of the human obstacles to utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19

Alternatives	Frequency	Percent	Ranking
1 Lack of qualified human cadres	9	90%	2
2 Lack of training programs qualifying to handle the requirements of electronic work	9	90%	2
3 Sticking to regulations and inflexibility	10	100%	1
4 Shortage of trained manpower on the maintenance methods of e-administration systems and programs	10	100%	1
5 Failure to provide the necessary electronic networks to facilitate the pace of work appropriately	9	90%	2
6 Lack of laws and legislation of the privacy of information security	10	100%	1
7 Using outdated devices that do not allow keeping pace with the transformation to electronic work	9	90%	2

(8*) The respondents can choose more than one alternative (N= 10).

Table (4) shows the percentage of the human obstacles to utilizing e-administration at Saudi universities during COVID-19 ranges (90%-100%). This result generally agrees with Shalaby [42] that reported human obstacles to

utilizing electronic applications. It matches Oyaba and Saleh [21] that indicated human obstacles to student interaction with the available activities via electronic platforms.

All (10) participants rating (100%) agree on the most significant human obstacles to utilizing e-administration at Saudi universities, namely sticking to regulations and inflexibility, shortage of trained manpower on the maintenance methods of e-administration systems and programs, and lack of laws and legislation of the privacy of information security. This result agrees with Al-Bashiri [29] that reported the lack of specialists in the operation and maintenance of computer devices. It matches Abdel Nasser and Qureshi [26] and Al-Baqour [55] that showed a correlation between the devices of utilizing e-administration, on one hand, and the quality of education and keeping pace with the transformation to electronic work, on the other. It corresponds with the results of Ibrahim [33] that recommended equipping the heads of departments with the required knowledge, skills, rules, and regulations to fulfil their tasks and responsibilities and Alkhenifr [35] that the most significant human obstacles include the limited opportunities of attending conferences and symposia of e-administration by the staff members. It matches the findings of Abu Ragab [20] that indicated several obstacles to utilizing e-administration, especially during COVID-19, including the lack of regulation of using e-learning and e-administration and the lack of experts to activate e-administration.

The human obstacles to e-administration may result from the lack of training programs in e-administration, as shown by (70%) of the participants who reported that they did not join any relevant training programs. They may be caused by the huge administrative burdens and the lack of incentives.

Table (5): The frequency, percentage, and rank of the social obstacles to utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19

Alternatives	Frequency	Percent	Ranking
1 Inadequate awareness of the importance of applying e-administration	10	100%	1
2 Resistance to change, development, and keeping pace with technology among some university affiliates	9	90%	2
3 Difficulty of getting used to utilizing e-administration	9	90%	2
4 Reluctance to assume the responsibility for electronic decisions and keep pace with development	10	100%	1
5 Questioning the credibility of information via the e-administration means	9	90%	2

(*) **The respondents can choose more than one alternative (N= 10).**

Table (5) illustrates that (100%) of the participants agree on the most technical obstacles to utilizing e-administration at Saudi universities, namely inadequate awareness of the importance of applying e-administration and reluctance to assume the responsibility of electronic decisions and keeping pace with the development. These results are due to the belief of most faculty members that the mission of e-administration is not serious. This finding agrees with Mohamed [34] that the most significant social obstacle to e-administration at Al-Azhar University includes questioning the credibility of information via the e-administration means. It matches the findings of Al-Bashiri [29] that reported the lack of awareness of information security and Hamdy [73] that reported several administrative, human, technical, programming, and financial difficulties of using e-administration, requiring the dissemination of technology in the administrative and building operations, preparing good generations for this approach by fostering confidence in electronic transactions. It also agrees with Alareshy [66] that suggested that good planning is essential for preparing the employees for e-administration. Almasoud [74] recommended encouraging e-administration by administrators and motivating the staff members to use administrative information technology.

Table (6): The frequency, percentage, and rank of the economic obstacles to utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19

Alternatives	Frequency	Percent	Ranking
1 Expensive electronic devices and software	9	90%	2
2 Ill funding of the e-administration training programs of staff members	10	100%	1
3 Low budgets allocated to the development of electronic devices	9	90%	2
4 Low budgets allocated to the support and maintenance of computer devices	9	90%	2
5 Lack of financial incentives to distinguished staff members of e-administration	10	100%	1

(*) **The respondents can choose more than one alternative (N= 10).**

Table (6) illustrates that (100%) of the participants agree on the most economic obstacles to utilizing e-administration at Saudi universities, namely ill funding of the e-administration training programs for staff members and lack of financial incentives for distinguished staff members of e-administration. This result agrees with Shalaby [42] that reported the lack of financial capabilities for technology development and Al-Bashiri [29] that reported financial obstacles, including the limited role of the private sector in funding and poor funding. It matches the results of Alkhsabah [31] that

recommended providing the financial capabilities and funding for applying e-administration in all administrative work. Mohamed [34] argued that the most significant economic obstacles to e-administration at Al-Azhar University include the lack of funding. The result corresponds with Alkhenifr [35] that the financial obstacles were ranked first, including the lack of moral incentives for the distinguished and the limited budget for training the employees in information and technology. It agrees with Bakr et al. [36] that the obstacles to e-administration included the lack of budget to buy devices and equipment, establish networks, develop programs, and hold training. It matches the findings of Oyaba and Saleh [21] regarding the financial obstacles to student interaction with the available activities via the different electronic platforms and Abu Ragab [20] that the high costs of the design and production of software are the most significant problems to utilizing e-administration.

Financial obstacles to utilizing e-administration may result from its high costs and the poor role of the private sector in supporting the utilization of e-administration.

Table (7): The frequency, percentage, and rank of the administrative obstacles to utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19

Alternatives	Frequency	Percent	Ranking
1 Lack of assigning a department of e-administration at each college	10	100%	1
2 Lack of action plans with clear objectives of transforming the traditional to e-administration	9	90%	2
3 Lack of enthusiasm of the current administration to e-administration applications	10	100%	1
4 Lack of legal controls and legislations in the e-administration of the university	9	90%	2
5 Lack of accurate and comprehensive databases at the university	9	90%	2
6 Lack of integration between the departments regarding the application of e-administration	10	100%	1
7 Slow keeping pace with the developments of utilizing e-administration by the Ministry of education	7	70%	3

(*) **The respondents can choose more than one alternative (N= 10).**

Table (7) illustrates that (100%) of the participants agree on the most administrative obstacles to utilizing e-administration at Saudi universities, namely lack of assigning a department of e-administration at each college, lack of enthusiasm of the current administration to e-administration applications, and lack of integration between the departments regarding the application of e-administration. This result agrees with Ka'aki [40] that reported the need for organizing the technical environment. It matches the results of Alkhenifr [35] that the most significant administrative obstacles were the poor agreement between the organizational structures and the requirements of applying e-administration.

Most of the participants (90%) agreed that the most significant administrative obstacles to utilizing e-administration include the lack of action plans with clear objectives of transforming the traditional to e-administration, the lack of legal controls and legislations in the e-administration of the university, and the lack of accurate and comprehensive databases at the university. This result agrees with Gorman [27] and Seresht et al. [28] that the most significant administrative obstacles include the lack of desire and difficulty to transform to e-administration. However, it differs from Abdel Nasser and Qureshi [26] that e-administration depends on a set of elements, i.e., devices, equipment, software, and networks.

The result agrees with Al-Bashiri [29] that reported administrative obstacles, such as the lack of the importance of information security, Alagha et al. [30] regarding a positive correlation between the dominant leadership styles and utilizing e-administration, and Bakr et al. [36] regarding the poor legislations of e-work. However, it differs from Kanany [32] that reported no statistically significant difference in the correlation of the reality of utilizing e-administration and the level of organizational effectiveness, rules, and regulations.

The administrative obstacles to utilizing e-administration may result from the lack of specialists of planning and the lack of organizational rules and regulations, causing poor electronic coordination between departments and the lack of electronic accreditation procedures between the departments.

3. Answer to the third question

To answer this question, the frequency, percentage, and rank of the requirements for utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 were calculated.

Table (8): The frequency, percentage, and rank of the requirements for utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 were calculated.

Alternatives	Frequency	Percent	Ranking
1 Changing the traditional to the virtual model of administration	10	100%	1
2 Providing qualified staff trained in the techniques of e-administration	9	90%	2
3 Simplifying work procedures and steps	9	90%	2
4 Reducing the administrative burden	10	100%	1
5 Providing an easy-to-use system	8	80%	3
6 Continuous development of the program	9	90%	2
7 Providing much information on the staff members online	10	100%	1
8 Creativity and knowledge generation	10	100%	1
9 Linking the e-administration of the university to all electronic systems	9	90%	2
10 Providing a modern network of communication and data and a well-developed telecommunication infrastructure	9	90%	2
11 Providing personal computers, laptops, scanners, and printers.	9	90%	2
12 Providing firm cybersecurity methods and procedures	9	90%	2
13 Allocating adequate and substantial budget	8	80%	3
14 Providing human cadres trained in computer management	9	90%	2

(*) **The respondents can choose more than one alternative (N= 10).**

Table (8) illustrates that the percentage of the requirements for utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 ranges (80% - 100%). This result agrees with Abdel-Mawajda [50] that aimed to identify the requirements of e-administration, including improving the quality of services.

All the participants agreed on the most significant requirements, namely changing the traditional to the virtual model of administration, reducing the administrative burden, Providing much information on the staff members online, and creativity and knowledge generation.

The result of item (1), approved by all participants, matches the results of Alagha et al. [30] that reported the lack of developing the university structures developed primarily for traditional administration.

Answer to the fourth question:

To answer this question, the frequency, percentage, and rank of the suggestions for utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 were calculated.

Table (9): The frequency, percentage, and rank of the suggestions of utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19 were calculated.

Alternatives	Frequency	Percent	Ranking
1 Providing electronic communication networks (Internet- Intranet- Extranet)	9	90%	2
2 Recruiting external experts to train the officials of the e-administration department	10	100%	1
3 Organizing awareness-raising programs on the importance and necessity of applying e-administration to all affiliates	9	90%	2
4 Linking financial incentives to utilizing e-administration at the different departments	10	100%	1
5 Increasing the fund of utilizing e-administration	10	100%	1
6 Utilizing software in instruction and administration	9	90%	2
7 Developing legislation and laws on e-administration applications	9	90%	2
8 Conducting proficiency tests of the English language, such as TOEFL, for the applicants to vacancies at university	10	100%	1
9 Holding more courses and training workshops to raise awareness of e-administration applications	9	90%	2
10 All of the above	6	60%	3

(*) **The respondents can choose more than one alternative (N= 10).**

Table (9) illustrates that all the participants agreed on recruiting external experts to train the officials of the e-administration department, linking financial incentives to utilizing e-administration at the different departments, increasing the fund of utilizing e-administration, and conducting proficiency tests of the English language, such as

TOEFL, for the applicants to vacancies at university. This finding agrees with Mohamed [34] and Ka'aki [40] that indicated the importance of the appropriate utilization of the electronic environment by the members of educational institutions.

The result of suggestions (4 and 5) match the findings of Abu Ragab [20] regarding activating the system of incentives and awards. The result of suggestion (8) matches Al-Bashiri [29] that indicated the weak skills of the English language, as an obstacle to utilizing e-administration and stressed the importance of training courses in e-administration and English language for the staff. This result is logical.

Nine participants (90%) agreed on providing electronic communication networks, organizing awareness-raising programs on the importance and necessity of applying e-administration to all affiliates, utilizing software in instruction and administration, developing legislation and laws on e-administration applications, and holding more courses and training workshops to raise awareness of e-administration applications. The results of (3 and 9) agree with Abu Ragab [20] that suggested raising awareness of utilizing e-administration and Mellivell [38] that recommended providing brochures and delivering lectures to raise the awareness of beneficiaries and employing the software created by the university for teaching and administration. It matches Felck [6] that concluded a positive relationship between knowledge of the computer and its level of use in e-administration, requiring training courses in e-administration and computers. It agrees with Alkhsabah [31] regarding the need to develop the current legislation and regulations to keep pace with electronic transactions of e-administration.

Linking work achievement and financial incentives to using the means and applications of e-administration is one of the most important means of achieving the electronic work and commitment of the staff members of Saudi universities using e-administration applications because they are keen on stability, increasing revenue, and achieving tasks. It requires the support of decision-makers at the university to utilize e-administration. The mechanics and procedures of supporting all administration and teaching structures on campus should be taken to ensure fulfilling the requirements of e-administration and making the required legislation. Moreover, a participant suggested delivering courses in cloud storage and cyber security.

8. Results

The study concluded the following results.

1. Utilizing e-administration is important to improve the quality of educational services at Saudi universities during COVID-19 as it provides alternatives, reduces the planning procedures and administrative problems, and provides a control system of functional performance.
2. E-administration is not applied adequately at Saudi universities because the current system of education management does not help do so because of the following obstacles
 - a. Technical obstacles include (falsifying documents, corrupting programs and data, and cybercrimes). Therefore, the study recommends improving the required infrastructure, privatization of maintenance and technical support, and recruiting experts to provide solutions, such as King Abdulaziz City for Science and Technology.
 - b. The human obstacles included (the lack of training programs qualifying to handle the requirements of electronic work, sticking to regulations and inflexibility, and lack of laws and legislation of the privacy of information security). The study recommends enabling the staff to attend specialized conferences and seminars, providing appropriate training workshops, and encouraging creativity and innovation. It also recommends developing legislations and laws of utilizing e-administration, coordination between departments, and utilizing e-administration in all administrative works.
 - c. The social obstacles were (the inadequate awareness of the importance of applying e-administration and questioning the credibility of information via the e-administration means).
 - d. The economic obstacles were (the ill funding of the e-administration training programs for staff members and the lack of financial incentives for distinguished staff members of e-administration). The study recommends making alternative funding plans to apply e-administration and concluding partnerships with the private sector to support utilizing e-administration.
 - e. The administrative obstacles included (the lack of enthusiasm of the current administration for e-administration applications and the lack of assigning a department of e-administration at each college). The study recommends making strategic plans to utilize e-administration and re-engineering the administrative operations to promote utilizing e-administration.
3. The study suggests the following items to promote utilizing e-administration:

- Changing the traditional to the virtual model of administration.
 - Reducing the administrative burden.
 - Providing much information on the staff members online.
 - Creativity and knowledge generation.
4. Based on the results and suggestions, the study recommends the following items to promote utilizing e-administration to improve the quality of educational services at Saudi universities during COVID-19
- Recruiting external experts to train the officials of the e-administration department.
 - Linking financial incentives to utilizing e-administration at the different departments.
 - Conducting proficiency tests of the English language, such as TOEFL, for the applicants to vacancies at university.
 - Developing legislation and laws on e-administration applications.
 - Improving the electronic link between departments regarding the utilization of e-administration.
 - Keeping pace with developments to utilize e-administration.

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References

- [1] N.M. Farhan, The impact of E-administration on the quality of educational service in Yemeni private universities: a case study of Science and Technology University as a model. M.A. Thesis, University of the Holy Quran and Islamic Sciences, (2019).
- [2] N.M. Belkhair, The role of e-administration in reducing administrative corruption: a field study on King Abdulaziz University female employees. M.A. Thesis, King Abdulaziz University, Jeddah, (2016).
- [3] E.A. Abu Khatwa, Designing an electronic learning environment to integrate the “Moodle and Facebook” system and its impact on developing university students’ cognitive achievement and systemic thinking, *ASEP*, **39 (Part II)**, (2013).
- [4] D.W. Agnew, *Administrative obstacles to technology use in West Virginia public schools: A survey of West Virginia principals*, West Virginia University, Virginia, (2011).
- [5] M. Al-Tuwairqi, The reality of applying e-administration in the administrative work of the Ministry of Education. M.A. Thesis, Imam Muhammad bin Saud University, (2017).
- [6] C. Felck, Using Computers in Croatia National University Divisions, *Journal of Research in Higher Education*, **2 (1)**, 111-169 (2010).
- [7] R. Harouch, Using e-administration to improve the quality of educational services in Algerian universities, *Algerian Journal for Social Sciences and Humanities*, **3 (4)**, 1-39 (2015).
- [8] M. Jervis and M. Masoodian, How do people attempt to integrate the management of their paper and electronic documents?, *Aslib Journal of Information Management*, **66 (2)**, 134-155 (2014).
- [9] H. Seresht, E-Management: Barriers and Challenges in Iran. Ph.D. Thesis, Dollamed Tabateebe University, (2009).
- [10] A. Totolo, Adoption and use of computer technology among school principals in Botswana secondary schools, *The International Information & Library Review*, **43 (2)**, 70-78 (2011).
- [11] Muhammad bin Abdullah bin Khanin, in, Education Office in Al- Dilam, 2018.
- [12] Electronic Products, in, Ministry of Education, 2018.
- [13] D.A. Al-Qarni, E-learning management systems in university education and ways to benefit from them: a

- comparative study of a number of Arab and foreign universities, *Saudi Journal of Social Studies, King Saud University - Saudi association for Social Studies*, **(4)**, 12-44 (2020).
- [14] S.M. Al-Azzawi and W.Q. Karim, An exploratory study of the availability of quality and reliability indicators in selecting staff members at Diyala University from its teachers' point of view of, *Babylon University Journal for Human Sciences*, (2014).
- [15] O.A. Ali, E-administration as a tool for achieving comprehensive quality management and excellence in Sudan: An analytical and applied study on Sudan University for Science and Technology. PhD Thesis, Sudan University of Science and Technology, (2016).
- [16] Z. Azzam, The role of higher education institutions in developing the quality of educational services outputs in Jordanian universities, *The Arab Journal for University Education Quality Assurance*, **7 (17)**, 141-160 (2014).
- [17] A.S. Al-Janabi, *Means of Improving staff members' Performance of at the University Education*, faculty of Jurisprudence, Kufa University, (2012).
- [18] B.A. Al-Alaq, *Digital administration: fields and applications*, The Emirates Center for Consulting Studies and Research, Abu Dhabi, (2005).
- [19] H.S. Al-Dosari, Attitudes of public school principals in Kuwait towards e-administration after Corona pandemic "Covid 19", *Childhood and Education Journal, Alexandria University - Faculty of Kindergarten*, **12 (43)**, 429-453 (2020).
- [20] W. Abu Ragab, E-administration and improving the quality of kindergartens' educational process in the light of the Corona pandemic, *Arab Journal of Specific Education*, **5 (18)**, 71-94 (2021).
- [21] S. Oyaba and A. Saleh, Evaluating distance education experience in the light of COVID-19 from students' point of view: A case study at Ghardaia University, Algeria, *Studies in Humanities and Social Sciences Journal*, **3 (3)**, 133-175 (2020).
- [22] C.M. Toquero, Challenges and opportunities for higher education amid the COVID-19 pandemic: The Philippine context, *Pedagogical Research*, **5 (4)**, em0063 (2020).
- [23] G.A. Al-Dahshan, Education After Corona Pandemic: Challenges and Opportunities, in: the Fourth International Conference for the Development of Arab Education : E-learning management is an imperative to solve educational problems caused by the Corona crisis, Pioneers of Excellence Academy for Training, Consultation and Human resources Development sponsored by the International Journal of Research and Studies, 2020.
- [24] E. Ashry, The role of e-administration in achieving the quality of educational service at Taibah University in Madinah from external customer's point of view, *Scientific Journal of Research and commercial Studies. Helwan University - Faculty of Commerce and Business Administration*, **32 (4)**, 155-230 (2018).
- [25] A. Badie and K. Al-Sarayrah, A proposal for developing quality management and assurance standards in Jordanian universities in the light of e-learning techniques, in: The Arab International Conference for Quality Assurance of Higher Education, Jordan, 2011.
- [26] M. Abdel Nasser and M. Qureshi, The contribution of e-administration to develop administrative work in higher education institutions: A case study of the faculty of Science and Technology - University of Biskra – Algeria, *Researcher Journal*, **9 (9)**, 87-100 (2011).
- [27] P.J. Gorman, The leader's role in the adoption and utilization of electronic communications and the Internet by off-campus college faculty, (1999).
- [28] H.R. Seresht, M. Fayyazi and N.S. Asl, E-management: Barriers and challenges in Iran, *E-ower Kraklead*, 1-11 (2008).
- [29] M. Al-Bashiri, Obstacles of applying e-administration in the administrations of Umm Al-Qura University from administrators and staff members' point of view. M.A. Thesis, Umm Al-Qura University, (2011).
- [30] M. Alagha, K. Hajaj and A. Kassab, The relationship between some organizational variables and the application of e-administration at the Palestinian universities in Gaza Strip, *Journal of Al-Azhar Faculty of Education*, **14 (1)**, 73-103 (2012).
- [31] M. Alkhsabah, Reality of use of electronic management and its impact on job performance in Tafila Technical University, *International Journal of Academic Research in Accounting, Finance and Management Sciences*, **7 (1)**, 329-341 (2017).

- [32] M. Kanany, The reality of utilizing e-administration and relationship to organizational effectiveness at Saudi universities from the perspective of academic leaders: A comparison between public and private universities. Ph.D. Thesis, Yarmouk University, Jordan, (2010).
- [33] A. Ibrahim, A proposal to develop the administrative performance of heads of departments at Al-Azhar faculties based on e-administration, *Journal of Al-Azhar Faculty of Education*, **36 (175)**, 43-100 (2017).
- [34] E. Mohamed, Social, economic, and administrative obstacles of e-administration at Al-Azhar University and means of confrontation from the administrators' perspective, *Journal of Al-Azhar Faculty of Education*, **37 (177)**, 889-977 (2018).
- [35] A. Alkhenifr, Obstacles to utilizing e-administration at the Saudi Ministry of Education based on the Saudi Vision 2030 and confrontation mechanisms, *Journal of Al-Azhar Faculty of Education*, **37 (178)**, 179-226 (2018).
- [36] A. Bakr, M. Hamad and R. AL-Saudi, Developing pre-university education schools in Egypt in the light of e-administration, *Faculty of Education Journal- Kafr El-Sheikh University*, **20 (3)**, 470-490 (2020).
- [37] H. Al-Omari and A. Al-Shanqiti, A proposed conception of e-administrative services provided to Taibah University employees in light of the requirements of comprehensive quality management, *Saudi Journal of Higher Education*, **(9)**, 71-109 (2013).
- [38] L. Mellivell, British University E-Management in Hong Kong Setting, *Higher Education in Hong Kong. v (6)*, **(2)**, 32-77 (2007).
- [39] K.M. Abu Ashour and D.J. Al-Nimri, The level of applying E-administration at Yarmouk University from staff members and administrators' view, *The Jordanian Journal of Educational Sciences*, **9 (2)**, 199-220 (2013).
- [40] S. Ka'aki, Challenges facing quality assurance and accreditation systems for virtual programs in the light of international experiences, *Arab Journal of the Quality of Education*, **2 (1)**, 17-36 (2015).
- [41] H. Al-Subhi and A. Al-Sulaimani, The e-administration gate of King Abdullah bin Abdulaziz Library at Umm Al-Qura University, in: the 20th Conference of the Arab Federation for Libraries and Information (I Know), entitled "A New Generation Model of Information Systems and Specialists: A Future Vision", Saudi Arabia, 2009.
- [42] J. Shalaby, The reality of e-administration in the Islamic University and its impact on organizational development. M.A. Thesis, Islamic University, Gaza, (2011).
- [43] F.Y. Al-Itani, Applying e-administration at King Abdulaziz University: an exploratory study of academics, students and administrators' attitudes, *King Abdulaziz University Journal for Economics and administration*, **26 (2)**, 3-5 (2012).
- [44] F.M. Abu Nasser and I.Y. Al-Youssef, The reality and obstacles of e-administration in the academic departments as viewed by King Faisal University staff members, *Shaqra University Journal*, **9 (63)**, (2018).
- [45] M. Salman, The level of quality of university services as realized by students of Al-Aqsa University in Gaza according to the quality of services scale, *Al-Aqsa University Journal, Human Sciences Series*, **(17)**, 10-50 (2012).
- [46] M.A. Hamed Al-Qudah and A. Khalifat, The satisfaction degree of Mutah University students about university services from their point of view, *Al-Manara journal*, **19 (1)**, (2013).
- [47] H.A. Al-Fayez, Alternative future scenarios for transforming to e-administration in Saudi universities, *the International Specialized Educational Journal*, **6 (2)**, (2017).
- [48] A. Kara and O.W. DeShields, Business student satisfaction, intentions and retention in higher education: An empirical investigation, *Marketing Educator Quarterly*, **3 (1)**, 1-25 (2004).
- [49] U. Baykal, S. Sokmen, S. Korkmaz and E. Akgun, Determining student satisfaction in a nursing college, *Nurse Education Today*, **25 (4)**, 255-262 (2005).
- [50] M. Abdel-Mawajda, Factors affecting the use of e-administration and its importance services quality provided in the working education directorates in southern Jordan: a field study, *Journal of Al-Azhar Faculty of Education*, **163 (1)**, 852-856 (2015).
- [51] F. Al-Khattabi, The degree of applying e-administration and its impact on the quality of services provided to

students: Yemen University for Science and Technology. M.A. Thesis, Adan University, (2016).

- [52] A.H. Qureshi, E-administration: An approach to achieve comprehensive quality in pre-university education in Egypt, *The Educational Journal*, **(45)**, (2016).
- [53] S. Saqr, Impact of e-government application on comprehensive quality and the quality of university services level: An applied study on the services of Zagazig University, *Journal of Commercial Research*, **1 (33)**, 317-357 (2011).
- [54] S. Abu Zayd and H. Higazi, The impact of applying e-government and the dimensions of comprehensive quality management in improving service quality level: An applied study on Jordanian government institutions, in: the first Arab Conference of Excellence Sustainability and Competitiveness in the public and private institutions, Arab Administrative Development Organization, Jordan, 2008.
- [55] K. Al-Baqour, The role of information technology and knowledge sharing and their impact on achieving quality assurance in higher education: An applied study at Taif University, *Administrative Sciences Studies Journal*, **43 (1)**, 4-19 (2016).
- [56] A. Al-Rahoumi and A. Idris, The role of e-systems in improving administrative functions at King Khalid University from the academics and employees' point of view, *Ama Rabak-American Arab Academy for Science and Technology*, **7 (23)**, 4- 27 (2016).
- [57] S. Al-Zahrani, Attitudes Umm Al-Qura University staff members towards utilizing e-learning tools "Blackboard" in the educational process due to Corona virus, *The Arab Journal of Specific Education*, **14**, 357-376 (2020).
- [58] E. Aboagye, J.A. Yawson and K.N. Appiah, COVID-19 and E-learning: The challenges of students in tertiary institutions, *Social Education Research*, 1-8 (2021).
- [59] J. Demuyakor, Coronavirus (COVID-19) and online learning in higher institutions of education: A survey of the perceptions of Ghanaian international students in China, *Online Journal of Communication and Media Technologies*, **10 (3)**, e202018 (2020).
- [60] B. Raheem and M.A. Khan, The role of e-learning in COVID-19 crisis, *International Journal of Creative Research Thoughts*, **8 (3)**, 3135-3138 (2020).
- [61] S. Subedi, S. Nayaju, S. Subedi, S.K. Shah and J.M. Shah, Impact of E-learning during COVID-19 pandemic among nursing students and teachers of Nepal, *International Journal of Science and Healthcare Research*, **5 (3)**, 68- 76 (2020).
- [62] A. El-Zaki and M. Swilam, The experience of e-learning in the light of the Coronavirus Pandemic as realized by university students: A field study, *Faculty of Education in Ismailia Journal*, **49**, 234-285 (2021).
- [63] A.A. Salem, University education in light of the Corona virus pandemic: the educational rooting of the crisis and students' proposals to treat it: a field study, *Educational sciences journal*, **28 (3)**, 112-153 (2020).
- [64] K.Z.O. Al-Azmi, Proposed mechanisms to meet the challenges of e-learning in light of the Corona pandemic: an analytical study, *Ramah Journal for Research and Studies, Center for Research and of Human Resources Development, Ramah*, **(61)**, 290-311 (2021).
- [65] R. Abu Allam, *Methods of qualitative, quantitative, and mixed research*, Dar Almasera, Amman, (2013).
- [66] M. Alareshy, The applicability of e-administration at the Department of Education in the Hoy Capital. M.A. Thesis, Umm Al-Qura University, Saudi Arabia, (2008).
- [67] E. Khallouf, The reality of utilizing e-administration at the high public schools in the West Bank from the principals' perspective. M.A. Thesis, An-Najah National University, Palestine, (2010).
- [68] H. Al-Anzi, The level of applying e-administration in the University College in Haql Province: A field study, *Journal of Al-Azhar Faculty of Education*, **34 (163)**, 741-760 (2015).
- [69] D. Castro and M. Tomàs, Development of manager-academics at Institutions of Higher Education in Catalonia, *Higher Education Quarterly*, **65 (3)**, 290-307 (2011).
- [70] A. Floyd and C. Dimmock, 'Jugglers', 'copers' and 'strugglers': academics' perceptions of being a head of department in a post-1992 UK university and how it influences their future careers, *Journal of Higher Education Policy and Management*, **33 (4)**, 387-399 (2011).
- [71] J. Kampmann, Reflective decision making among university department heads across academic disciplines.

- Ph.D. Thesis, University of South Dakota, USA, (2012).
- [72] R. Abdelsalam, Mechanisms of applying e-administration at the Directorate of Education in Assiut, *Journal of Educational Sciences*, **3 (1)**, 158-192 (2020).
- [73] M. Hamdy, Difficulties of using e-administration in the management of high schools for boys in Mecca. M.A. Thesis, Umm Al-Qura University, Saudi Arabia, (2008).
- [74] K. Almasoud, Material and human requirements for utilizing e-administration in public schools from the perspective of principals and deputies in Al-Rass Governorate. M.A. Thesis, Umm Al-Qura University, (2008).