The disruptive times of Covid-19: higher education leadership and management logistics in Arab nations

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Abstract: The COVID-19 Pandemic has changed many parts of the world, turning everything upside down in its path. Everything has changed, not just education, which has seen some unexpected changes in many places worldwide. There has been a rapid transition to online education in Arab nations due to COVID-19, which has both positives and cons. Most institutions can already adapt to education's digital teaching and learning-based future. In this study, a narrative non-systematic review methodology was used to examine the influence of COVID-19 on postsecondary education, the function of academic leaders, and the administration of Arab nations. For this investigation, a total of twenty-six pertinent scientific publications published by Arab countries were considered. Findings revealed that the psyche and emotions of students have been suffering from the limitations of the online higher education system. It was also noticed that students and teachers faced huge problems during this pandemic. The review also explored the strength of existing Middle Eastern countries' digital infrastructure facilities. Despite many limitations, instructors, institutions, and students learned many essential things during this critical COVID-19 period. Additionally, they learned how to adapt to a technology environment, which is crucial for professional success. The study's findings support the attitudes of students, teachers, leaders, managers, and other stakeholders toward online learning in challenging circumstances also in the field of logistics and transport.

1   Introduction

The COVID-19 Pandemic had a discernible impact on virtually every facet of life, but it profoundly affected educational institutions and the teaching and learning processes. The responses taken by higher education institutions to the Pandemic often fall into one of three categories: retaining in-class teaching with social distance, adopting hybrid models (blended learning, restricting the number of students on campus), or transitioning to online instruction [1]. As a safety measure against the COVID-19 risk, schools have been forced to stop all face-to-face education, including labs and other learning methods. Because of this, colleges and universities have started to take steps to prevent social isolation, and changes to the curriculum are quickly following online learning. Distributing content online is more practical since it has the potential to be a stimulating and interactive classroom. However, due to time constraints, the curriculum overhaul is expected to happen hastily and without adequate planning.

As of March 9, 2021, more than 116.5 million cases of COVID-19 and more than 2.5 million deaths from the disease had been reported worldwide. This includes Arab countries. Not only does the epidemic affect health, but it also affects social, political, economic, and religious issues [2]. In the same way, the Pandemic is affecting the education field. Scientists have been working hard to find a cure for this deadly virus, but they haven't been able to. Because of this, educational institutions have turned to online tuition methods to provide various services, such as teaching and administrative tasks. Tertiary education stakeholders must face many problems adapting to a new online environment. The right people in charge must deal with these problems as soon as possible.

Many studies have warned against confusing well-planned online learning, which requires careful instructional design, long planning, and specialized teaching infrastructure, with the quick and temporary shift to online learning during COVID-19 to keep instruction going. Different governments' solutions ranged from shuttering schools to adopting online education, and eventually leading to the development of a blended learning solution [3]. In this context, it has been argued that conflating quality online learning with emergency online learning may have a negative long-term effect on the former, as educators and students with limited or no prior experience with online learning may view it as a subpar alternative to face-to-face learning [4]. This difference is important because, despite countervailing data, online education is often seen as subpar to traditional classroom

instruction [5]. The need for pedagogical flexibility to prioritize students' well-being and access to equitable and inclusive learning settings is another key theme discussed in articles concerning the abrupt shift to online education [6]. Indeed, multiple studies have stressed the importance of educational institutions prioritizing their students' and educators' physical, mental, and psychological well-being over the necessity of teaching the curriculum [7]. After COVID-19, another set of studies looked at how students and educators viewed the growing trend of online learning. While the vast majority of these studies are limited to a single school or nation, there are also international surveys that poll students in as many as 62 different nations. These results show that, on average, students have adjusted well to the new classroom setting. Most experts, however, agree that a rich person's happiness is correlated with his or her socioeconomic level. In addition, a few of these studies highlight hurdles that could impede the efficient delivery of online education, such as the unreadiness of most institutions, faculty, and students to engage in massive and emergency online courses.

As the quantity of scientific papers grows fast, it is critical to identify the factors contributing to highly significant publications. A narrative review combined with a qualitative research methodology is beneficial in determining research findings for developing infectious disease outbreaks [8]. During the COVID-19 epidemic, several studies looked at the level of professionalism shown by school leaders and administrators as well as the challenges they faced in leading their schools with fewer people, less supplies, and greater distances between students and teachers [9]. School leaders need to be able to make quick decisions and take decisive action in times of high uncertainty in order to keep their students safe and produce great outcomes in leading for learning across a variety of delivery modalities [10]. A previous study on COVID-19 has focused mostly on analyzing the research performance of worldwide studies, but the research framework of COVID-19 in the Arab world has received far less attention. The difficulty is in ensuring that credentials gained via various educational pathways are recognized and valued equally. Distance learning must be just as good as, and lead to the same credentials as, classroom learning. In other words, there is a lack of narrative studies on COVID-19 in the Arab world that study research performance quantitatively, and the relationship between popular research themes has not been adequately documented [11]. This is a problem because COVID-19 is an important research topic. As a result, the purpose of this study was to evaluate the effect that Covid-19 has had on how Arab nations oversee the quality of their higher education systems. Because of its excellent IT (information technology) infrastructure, the higher education industry in the United Arab Emirates (UAE) was reasonably ready for the drastic change demanded by the coronavirus. The findings may uncover more effective techniques to locate an opportunity to transform the education infrastructure into a more sustainable approach. This might be made possible as a result of the findings.

In addition to the introductory section, the rest of this paper is organized as follows: State-of-the-art dealing with the most relevant and vital literature is highlighted in Section 2, and Section 3 presents the research methodology, data, and empirical models. Section 4 findings and discussions, and section 5 outlines the concluding remarks by providing concrete policy implications.

2   Research question

Taking these distinctions into account, the purpose of this study is to answer three primary research questions:

RQ1: Does COVID-19 impact the role of leaders and management in ensuring quality higher education?

RQ2: Can higher education institutions overcome critical situations like the COVID-19 Pandemic?

RQ3: Has COVID-19 provided an opportunity to transform the education infrastructure into a more sustainable system?

3   Research methodology

To conduct a review of the impact of COVID-19 on higher education in Arab nations, this review article employs a narrative non-systematic review method, which is a qualitative research method to describe and analyze Arab nations' experiences in responding to and dealing with the disruption caused by COVID-19. A non-systematic narrative review synthesizes several sources of research from which conclusions may be drawn and blends the reviewers' individual experiences and viewpoints into a thorough interpretation. The supplementary analysis based on the writers' self-awareness, reflective practice, and recognition of common educational phenomena strengthens the narrative review approach. This is due to the lack of scientific studies on the COVID-19 Pandemic's effects on higher education as well as the Pandemic's novelty and rarity.

Reviews, editorials, comments, and other relevant papers were also considered because there weren't many original, thorough empirical studies published in English. Thus, reports on the practical aspects of teaching and learning by students and professionals published in various media outlets as well as grey literature made up of opinions from experts and practitioners published in bulletins and newsletters, are included in the search. The data was collected using four significant electronic databases: EBSCOHOST, Scopus, Google Scholar, and Google WOS. The key search terms used were "COVID-19 and higher education" Higher education leadership and management during COVID-19, and "COVID-19 and online teaching in Arab countries.

Related Previous Research: Publications list related content information about online education in Arab

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Nations is presented in Table 1. Our review of the table shows that COVID-19 has revealed the strategic opportunity to transform the education infrastructure into a more sustainable way for many countries, especially Arab nations. Most of the research was done in Arab countries during the mature phase of COVID-19 using case studies and surveys. Some articles also proposed a model for emergency remote learning.

Table 1 Publications list related content information about online education in Arab Nations

Study	Citation	Country	Research Stream	Method	Sectors	Key Contributions
2020 Mohmmed	[12]	Oman (Arab)	Emergency remote teaching	Proposed and implemented model	Middle East College	Illustrate the Context, Input, Process, and Product (CIPP) model for evaluating the adopted model's effectiveness and application.
2021 Arar	[13]	Kuwait, Lebanon, Morocco, Palestine, and Qatar (Arab)	Ecological school leadership in Crisis	Semi-structured interviews	School	Reported various degrees of unrest among school administrators as well as insightful information on new pedagogical and leadership approaches at their schools in the post-COVID era.
2020 Kawamorita	[14]	Middle Eastern countries (Arab)	Role of Entrepreneurial Universities in COVID-19	Propose conceptual model	University	Stating the growing influence of academic entrepreneurship and demonstrating a fruitful option for Middle Eastern policymakers.
2021 Abushammala	[15]	Oman	private higher education and COVID-19	Survey	Postsecondary private institutions	Represents the insights of the higher education system
2021 Almomani	[16]	Jordan	Student's Belief and online education in COVID-19	Online descriptive survey	University	Educate decision-makers on how students' motivation and attitudes toward online learning will impact their future goals and choices.
2020 Crawford	[8]	20 Countries	higher education intra-period digital pedagogy responses	Desktop analysis approach	University	Evaluate how well higher education can adapt to the Pandemic.
2021 Fazza	[17]	Middle East (Qatar)	Online and blended learning in higher education	case study	University	Identify major challenges to students' engagement in online learning and propose possible solutions
2020 José Sá	[11]		Higher Education and COVID-19	Content analysis	Educational institutions	Information about the opportunities and threats that COVID-19 poses to higher education at a time when the sector must rethink its leadership models, engagement channels, and pedagogical approaches in order to ensure the sector's long-term viability is provided.
2020 Tanveer	[18]	Saudi Arabia	Online Learning and Education Sector	The survey, Predictive study, and SWOT	University	Emphasize how virtual classes affect students' academic outcomes.
2020 Mahyoob	[19]	Saudi Arabia	e-Learning for EFL and COVID-19	Survey	University	Analyze the new experiences of the students in online learning

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						and determine the viability of the virtual learning methods.
2022 Moussa	[20]	UAE	Students' Academic Success and Happiness Levels while COVID-19	Oxford Happiness Questionnaire (OHQ)	University	During the COVID-19 lockdown, assess the level of happiness among college students and its related to their academic progress.
2022 Vajpeyi Misra	[21]	UAE	COVID-19 and Mental Health of Minority Arab Higher-Education Students	cross-sectional study	university, academic college	Draws attention to the various, distinct issues that minority kids with low socioeconomic status confront. Campus initiatives are required to support students' emotional needs.
2020 Buheji	[22]	Bahrain, Iraq, and Russia	Emergency remote education	case study	education organizations	In the 'new normal' post-pandemic, a hybrid strategy that combines in-person and online learning is the way to go.
2021 Al-Ghurbani	[23]	Saudi Arabia	Technology in higher education during COVID-19	Questionnaire	University	Contribute to resolving the problems that the use of ICT in higher education in Saudi Arabia is facing, notably those that have emerged amid the COVID-19 Pandemic.
2021 Alsmadi	[24]	Saudi Arabia	Digitalization of learning during COVID-19	Survey	University	In the future, encourage educational institutions to digitize their course materials.
2020 Hussain	[25]	Qatar	Distance Learning During Pandemic	Case study	Internationally Accredited Undergraduate Pharmacy Program	In future academic years, share some reflection points for integrating technology-enhanced learning in distance education.
2021 Cifuentes-Faura	[26]	Spain, Oman, Nigeria, and Cambodia	COVID-19 on higher education	cross-sectional	University	Cross-cultural knowledge of how COVID-19 has impacted students' well-being, behaviors, and learning.
2021 Chaudhry	[27]	UAE	Real-time online delivery channel in crisis	Survey	Higher Education Institutions	Concerns for academics and decision-makers who advocate the success elements of e-learning delivery methods in this area.
2021 Khaoula	[28]	Morocco	Covid-19 on Higher Education	Case study	Higher Education Institutions	Provide examples of Morocco's higher education landscape.
2020 Krafft	[29]	Arab Countries	Academic challenges and COVID 19	Survey	University	Reflect impediments to research from several COVID-19 socioeconomic limitations perspectives.
2021 Alghamdi	[30]	Saudi Arabia	Higher education in the post-COVID-19 era	descriptive-qualitative research design	University	In nations like Saudi Arabia, where remote education is still infancy, students have quality access to online learning.

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2020 Lily (a)	[31]	Arab countries	Distance Education to Pandemic	Propose conceptual model	Education Institutions	Examining numerous implications through the review of interviews, social media posts, and online classes.
2021 Alshaikh	[32]	Saudi Arabia	COVID-19 on the educational process	Technology–Organization–Environment (TOE) framework	University	Highlighted key issues for the higher education authorities.
2022 Lily (b)	[33]	Arab countries	Coronian Education	Observation Method	University	Produces insights to the academicians from the perspectives of coronin education's digital, domestic, and political domain in Arab countries.

Key findings of twenty-six (26) published articles on online higher education during COVID-19 in Arab nations were analyzed and tabulated in Table 1. The current research, which is based on an analysis of 26 papers about Arab countries that weren't part of any systematic evaluation, shows that COVID-19 has highlighted the strategic potential to restructure the education infrastructure of many countries in a more sustainable way. Maximum studies were conducted during the maturity period of COVID-19 in the Arab and Middle East countries with the case study and survey methods. Some articles also proposed a model for emergency remote learning.

3.1 Online platforms and lecturer transformation

Significant challenges arose when delivering online lectures utilizing various information technology devices. Teachers who formerly taught in live classrooms may need to embrace new methodologies to achieve effective teaching outcomes, impacting tertiary education quality. Furthermore, children in isolated and rural places may lack network capacity, limiting their educational opportunities. Additionally, instructors on recorded broadcast networks could encounter issues with licensing while sharing expertise. Figure 2 depicts the transition of lecturer materials for students. If the model is circular, students may join the learning cycle at any moment and continue to collect information. An online lecture, which may be given on any of the available platforms, is the starting point for the subjective delivery of education. These online lectures provide a complete overview of the topic and an opportunity for students to raise questions concerning the subject or the complete component. These online lectures are now being taped and made available to students through the intuitions platform and social media (MS Kaizala). Students who experience Internet connection problems or have restricted bandwidth can see the recorded lectures a second time.
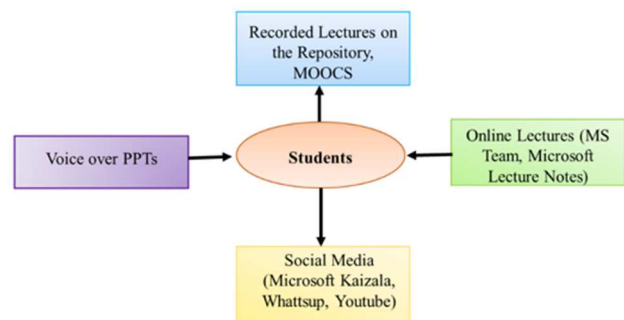

Figure 1 Transformation process of lecturer materials to the students of a Middle East College [15]

With days of the directions, many university lecturers and colleagues began investigating all accessible videoconferencing software with social media. Emails, BlueJeans, Zoom, GoToMeeting, Skype, WhatsApp, ezTalk, and the university's Moodle platform were also utilized. After hearing about the great experiences of several faculty members with the Zoom platform, the institution decided to acquire Zoom Enterprise versions for faculty usage. These versions were then integrated into the university's learning platform, Moodle, with the help of the university's software department. Now that almost all second-semester programs have been finished, there is little question that using the online method has allowed students to complete the semester even during challenging circumstances.

Table 2 demonstrates the benefits and drawbacks of various instructional delivery modes commonly used in education. However, in the present pivotal COVID-19 period, a compromise model that combines the key benefits of both instructional delivery techniques while avoiding the downsides is required. Arab nations, as a result, developed a specific framework for transformation to address these issues and guarantee the continuity of the educational process.

Table 2 Numerous online teaching approaches and their advantages and disadvantages [15]

Methods	Advantages	Disadvantages
Online classes	Students will get the chance to ask questions about the issue after receiving a thorough description.	The online courses emphasize theoretical knowledge more than practical skills, which will be challenging to acquire during the COVID-19 Pandemic.
Lecture recordings	Students having trouble connecting to the internet or having limited bandwidth can catch up using recorded lectures.	The difficulty of downloading the complete lecture will always exist due to the limited availability of Internet data. Additionally, students won't be able to suggest equations or find solutions to their previously asked questions.
PPT voice over	The main advantage of the voice-over PowerPoint slides method is that it has a small file size and uses a limited Internet connection to offer brief lesson indications on each slide.	Voice-over PowerPoint is ineffective for most theoretical explanations. Since students could find it difficult to comprehend the solution methods, voice-over PPT cannot be used to provide the majority of theoretical concepts.
MOOC	Because it was planned and prepared in advance, it provides well-structured and arranged lectures. The text typically discusses the learning objectives and outcomes.	Not all modules have it available. Additionally, some kids may have trouble enrolling because it is not free. Access to the Internet is a hurdle as well.
Via social media	Teachers and students can communicate in real-time thanks to social media sites like MS Kaizala and YouTube. It might also be used to pass along hints or make brief notes. Additionally, because it consumes the least amount of Internet traffic, it is the easiest method of communicating with students. The majority of this software is also preinstalled on the students' mobile devices.	The primary drawback would be the distraction kids experience when using social media platforms such as MS Kaizala and YouTube, where their attention is distracted. It's also difficult to have meaningful conversations or make insightful observations due to a lack of communication. Furthermore, there are tough questions about the validity of YouTube sources.

3.2 Arab country's research contribution during COVID-19

One of the researchers has researched COVID-19 regarding the Arab world's expanding contribution to international research. The United States and the United Kingdom are at the core of cooperation and have the most significant partnership with Arab nations, according to the Author's research. The 6131 COVID-19 papers had contributions from 25,562 institutions in total. A network of cooperation between Arab nations and between Arab and non-Arab nations is shown in Figure 2. The majority of COVID-19-related articles that the Author found came from Arab nations. King Abdulaziz University came in second, King Saud University in first, and Cairo University in third. Furthermore, Saudi Arabia had four of the top ten institutions, indicating that the nation has several potent research groups in this area.
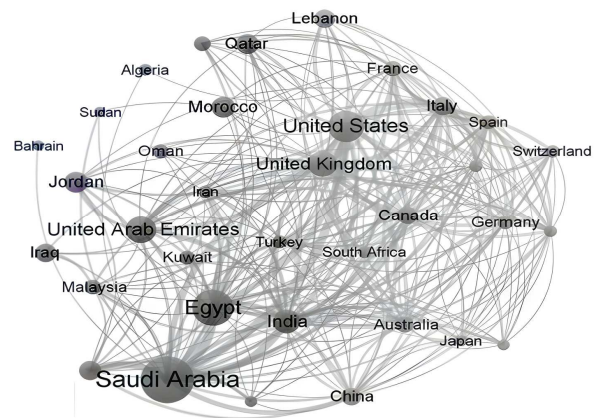

Figure 2 A network of collaboration visualization between Arab countries as well as Arab and non-Arab countries [34]

Figure 3 depicts the Arab countries' publication contributions to COVID-19, as published by Sa'ed H. Zyoud (2021). Saudi Arabia produced the most COVID-19 publications (2186, or 35.65%), followed by Egypt (1281, or 20.78%) and the United Arab Emirates (UAE), which produced 719, or 11.73%. Saudi Arabia is ranked first in this finding for output. Kuwait, Lebanon, and the United Arab Emirates are placed second, third, and fourth,

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respectively. Yemen and Lebanon are rated third and eighth, respectively.
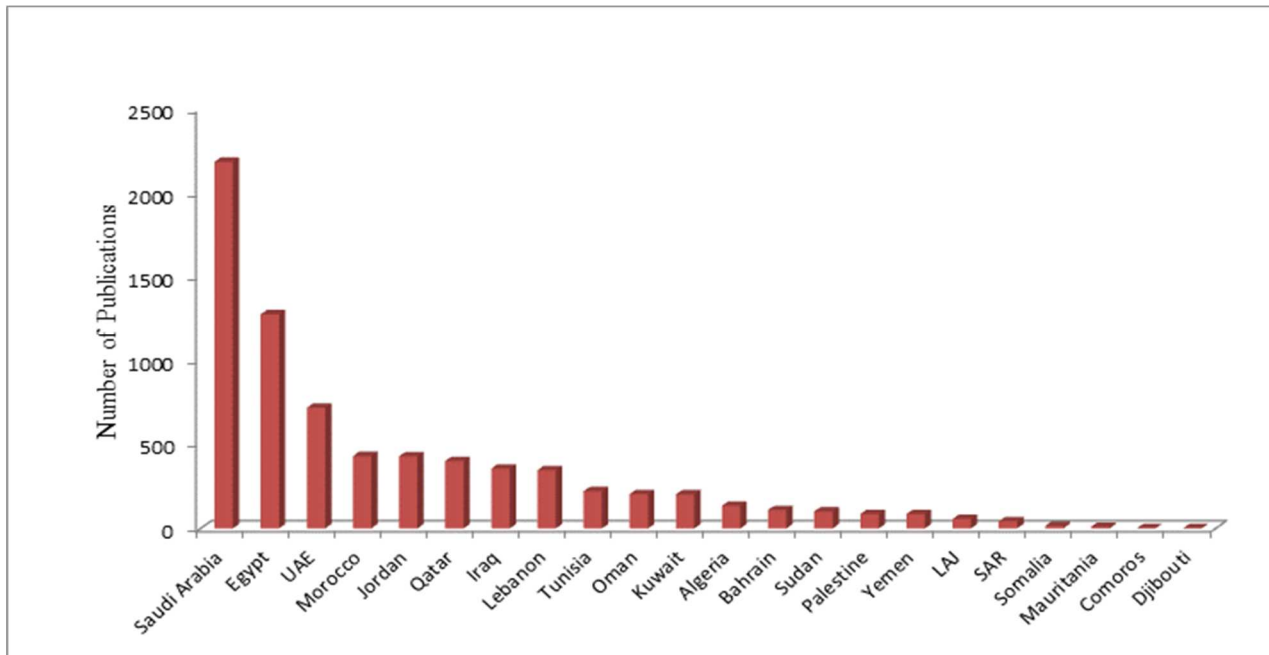

Figure 3 Involvement of Arab nations in COVID-19 research [34]
(Note: UAE = United Arab Emirates, SAR = Syrian Arab Republic, LAJ = Libyan Arab Jamahiriya)

Research on higher education students during the COVID-19 Pandemic and the role of nations was done by Deng et al. in 2021. According to this Author's finding, the figure publications are shown in Figure 4. Figure 4 depicts 110 research publications published in 31 countries during the COVID-19 crisis. The majority of the publications (51.36%) were published in China, with 9 (8.18%) coming from transnational research and 5 (4.55%) coming from the United States and Saudi Arabia. The figure in the UAE and Bangladesh is 4 (3.64%). Scholars published a minimum number of papers (1, 0.91%) in Qatar, Kuwait, Morocco, Malaysia, Italy, Lebanon, Ukraine, Egypt, Ethiopia, Pakistan, Slovakia, Switzerland, and Uganda.
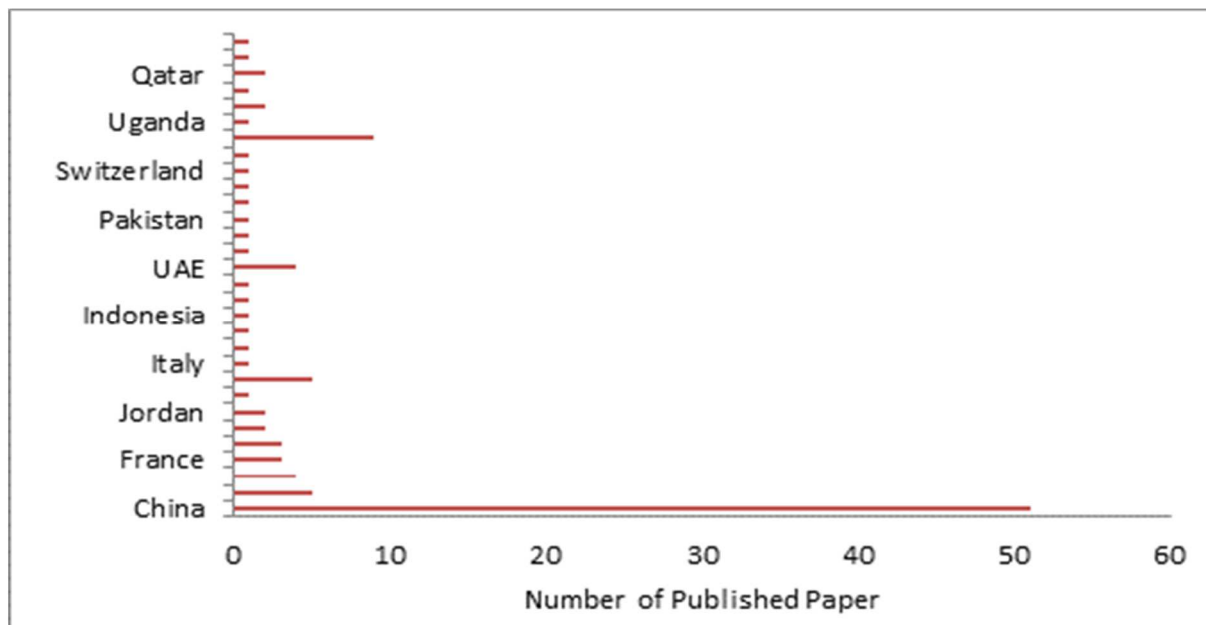

Figure 4 Published papers on higher studies and COVID-19 in various countries

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4 Findings and discussions

I. Impact of COVID-19 on Arab Countries' Higher Education

With new teaching pedagogies and educational resources, COVID-19 has revolutionized the educational field. Students completed their studies through various online platforms even throughout the COVID-19 Pandemic. The results of these platforms and methods for online education vary by nation. Infrastructure, pedagogy, policy, and support from educational leadership all contribute to this diversity in educational efficacy. Due to COVID-19 and the fast transition from offline campuses to digital platforms like Google Classroom and Zoom, students have experienced various challenges. The absence of consistent internet connectivity, speed, quality, accessibility, and availability of electronic media and applications was the first barrier that students had to overcome [16]. According to the survey by Almomani et al., 80% of Jordanian students believe that the standard of instruction has declined. However, the Author also underlined that there are many successful outcomes despite the students' displeasure with educational methods. The students adapted modern information and communication resources, including Wikipedia and encyclopedia databases, YouTube videos, and eBooks.

Additionally, in a study from 2021 showed that using online resources for learning requires students to put in extra time and effort. Another issue for international students confined to dorms, because they cannot return to their home countries is their inability to pay tuition. Due to the absence of lab classes, education quality has dropped. Using online learning platforms also creates an imbalanced workload and makes it impossible to track students' learning progress. According to another author, the home environment can hinder students' ability to study and retain information due to a lack of focus and discipline. This is just another consequence of home-based, distance learning. Teachers' familiarity with technology and their ability to impart knowledge to pupils through electronic methods may have an influence on students. Students were impacted by the lack of access to research and laboratory practicals. This research highlights the importance of tutoring and classroom instruction in assisting students in understanding course material. Due to this barrier to innovation and research, universities will not be able to evolve into entrepreneurial units or entrepreneurial universities, enabling them to create jobs, disseminate knowledge, and promote national growth and development. Numerous studies explain the idea of university entrepreneurs being inventive through research.

The global Pandemic made it challenging to disseminate practical knowledge and disabled labs, a barrier for entrepreneurial universities. Some authors studied the difficulties entrepreneurial universities in the Middle East confront due to COVID-19. There is a dearth of private and governmental investment with difficulties in start-up management, technological transfer, incubators, and networking. A thriving economy, information transfer, and social well-being are supported by universities. Despite their budgetary constraints, colleges can operate with greater entrepreneurial enthusiasm by concentrating more on external demands and developing novel ways to impart information and instruction to students and businesses. One example is Oman, where universities are moving toward online teaching methodology using various digital tools as a last resort to the pandemic problem, state that entrepreneurial colleges contributed to the proactive stance taken by most Middle Eastern nations.

II. Management and Leadership in Universities for the Online Education System

Responding to the demands of adjusting to contemporary communication media, providing education and knowledge to its students, and training to its academia was challenging for the management and leaders. Universities in nations like Oman, Saudi Arabia, Kuwait, and the UAE used the coronavirus's effects to improve the information and communication systems that were already a component of their face-to-face curricula. The existence of private universities in nations like Oman further justifies providing educational services to students through digital platforms suggested by the Ministry of Higher Education, Research & Innovation in 2020. These private institutions have the web infrastructure in place to give audio and video lectures online since they release their coursework and course materials online. The integration of ICT into the educational process is crucial to its success.

Consequently, Oman is raising its level of technical literacy through cutting-edge technology equipment, smart devices, and computer apps [35]. The availability of electronic tools for education and communication among Oman's pupils results from the country's pervasive habit of using computers and other gadgets for interaction. A similar online platform has been established by the Jordanian Ministry of Education, allowing teachers to share their materials and students to engage in lectures through designated television channels. The Omani government is attempting to bring telecommunications and internet access to rural communities. The COVID-19 prevalence shows that underfunded organizations and less fortunate students who lack access to online learning infrastructure may respond to such a catastrophe. For example, two of the researchers questioned whether higher education institutions could handle the next era of digital learning. Egypt's private schools are using the country's preexisting internet infrastructure to provide students with access to online courses. British University in Cairo and American University in Cairo undertake online education with Moodle, Blackboard, Zoom, email, Microsoft Class Notes, and Microsoft Team Software, among other communication technologies. Although academics and students were aware of these communication channels before the pandemic, their use of all these digital tools and software has increased. These articles discuss the presence

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of private universities in the Middle East. Large numbers of students attend the public universities in Cairo and Alexandria. That could make transitioning to an online education system more difficult suggested by the Ministry of Higher Education and Scientific Research in 2014. Live lecture streaming is a choice by Alexandria University, demonstrating the school's strong network, hardware, and software capabilities. The United Arab Emirates University and the University of Sharjah embraced the Blackboard platform described in The National and UAEU in 2020. With the knowledge obtained from the first e-University in the UAE, Hamdan Bin Mohammed Smart University, established in 2009 to deliver online learning easily, these Universities quickly improved in response to COVID-19. Even professors and other educators are taking part in training for using digital pedagogy and the internet to deliver education. These case studies of Oman, the United Arab Emirates, Egypt, and Jordan demonstrate how these nations utilize their developed digital infrastructure to mitigate the negative effects of COVID-19.

III. Transformation of online education through proper educational leaders and management system during COVID-19.

Planning policies and programs that can influence the establishment and execution of an online education system with high satisfaction among academia and students is crucial for educational leadership and management. Several studies conducted surveys to better understand students, and teachers' situations and the readiness of the digital infrastructure at universities. Understanding the drivers, obstacles, and opportunities facing all the stakeholders in the education sector will enable leadership and management to support the educational community. Effective results can be attained by implementing well-planned tactics and an active approach. Top-level administrators, such as the dean, provost, chancellor, and trustee, need to understand that online education is crucial to the financial health and growth of the university. Current educational leadership and management practices should be updated to include new Internet offerings. This report identifies several issues that the management and leaders of the university can address. Two significant devolved powers of any higher education institution were also covered by Tanveer et al. [18]. In his view, universities might provide online learning and teaching experiences that had engaged in education design capital if they enlisted the essential planner participation and updated and restructured the learning organizations into efficient and controlled units. Regarding this, Wenzel, Stanske, and Lieberman outline four ways firms might handle a crisis: cutting costs, sticking it out, innovating, and leaving. The only viable option for universities in the current COVID-19 crisis is innovation through the entrepreneurial engagement of staff and students to design and implement cutting-edge solutions to the exigency of providing education services online. Universities can create digital infrastructure with the money they save from campus activities and maintenance. The university's administration may require instructors to present course material to students using synchronous and asynchronous modes. so that they may focus on the topic at hand without being distracted by background noises or slow internet. He argues that in order to give their students with a quality education, educators need to acquire skills in online pedagogy and digital literacy. It may be challenging for educators and school administrators to keep tabs on student organizations and their members' activities and progress. Financial difficulties faced by institutions and students are another issue of concern. Numerous studies revealed that COVID-19 increased unemployment, which made it more difficult for students to pay their tuition. Because of this, educational administrators and leaders can set up simple payment plans or fee reductions until the crisis returns to normal. For remote learning procedures and supporting student programs, adequate money is crucial. To understand the priority of the needs, management and leadership need to be aligned in the educational unit. Due to ineffective teaching techniques and the subsequent lack of memory of the content, many students may choose to drop out of the courses. Due to their inability to handle a variety of software programs and digital technologies, students may prefer traditional teaching techniques despite the potential advantages of online education. Leadership in higher education has the power to reduce students' workload and screen time while also making essential policies and programs more engaging in the classroom. Bailey and Lee advocated locating a suitable Learning Management System (LMS) to support students' educational requirements since they saw the necessity for new technology for learning as a fearless call for leadership and management. Solutions to the challenges posed by COVID-19 and the implementation of a digital learning infrastructure in universities. The transition to online education is made through educational leaders and administration throughout COVID-19.

IV. Educational leadership and management for online education sustainability.

Leadership and management are crucial in creating a sustainable online education system by developing a comprehensive framework considering digital transition needs. Leaders can outline all the restrictions and challenges associated with the shift to online learning. Leaders can evaluate all the components and participants in the educational system and incorporate all needs at the individual, group, and organizational levels. Leaders can help if the educational system undergoes a new change and has a common vision and objectives. reiterate their emphasis on universities as people-oriented institutions where internal actors like students and academic staff and external actors like politicians, the press, quality assurance agencies, and the local community interact. Leaders must discover ways to foster teamwork despite divergent values,

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cultures, ideas, and viewpoints to bring all internal and external stakeholders together to respond to the crisis. A company's leadership may orchestrate all of these moving parts to achieve a greater goal. Leadership may find it challenging to make judgments when there is a dispute over the creation of regulations and when academic institutions have various aims, standards, and processes. Therefore, academic leaders can concentrate on preventing conflicts and other small concerns among the managers and other academic personnel. Leaders can assist management in staying on track to meet a more significant organizational objective. Create a sustainable online education system to adopt sustainability leadership. Leal Filho et al. defines sustainability leadership as a process where the roles of leaders and management are distinct but complementary, as stated by Sá & Serpa. He says leaders have a crucial role in promoting these policies and programs as part of the sustainable leadership process developed by academics and politicians.

Putri, Mirzania, and Hartanto's research demonstrates the importance of leaders in establishing sustainability in organizations. by holding the organization's members accountable and in charge of achieving institutional goals using leadership techniques or modes that they find most appealing. Excessive time spent in front of screens, feelings of isolation, and inactivity are all factors that policymakers should consider. The effects of COVID-19 on Middle Eastern students' mental and physical health are demonstrated in this study. With an Equality Impact Assessment, leadership must strike a balance between all external and internal influencers without sacrificing the needs of higher education institutions for health, safety, and high-quality instruction. He added that decision-making by the leadership might be made without having an impact on the gender balance in an academic organization. The American Council on Education (ACE) suggests that all leaders in higher education interact with students and provide attention to the mental and emotional health and well-being of all stakeholders. Leaders, according to the Reimers and Schleicher paradigm, should use several channels of communication to learn about and address the issues of all stakeholders and students. There are times when the academic community, including the students, might benefit from the guidance of a leader. We want to draw attention to one more component: managers and leaders should evaluate and track educators to determine how well kids are performing regarding learning outcomes and how effectively teachers are teaching. According to Timmis et al., the assessment component of universities is still in its infancy. To meet the online education system, faculty members and academia must adapt the evaluation method.

5 Problem and benefits findings

The above discussion shows the following problems and benefits of online higher education at the Universities of Arab countries.

Problems: Digital barriers between students and staff were quickly revealed due to the lack of internet access in several communities in the hinterland regions where some students and employees reside. Additionally, students cannot access the internet using computers, laptops, or tablets that are present in the classroom. There was a lack of practical instruction for the students and enough prior training for lecturers on the demands of online learning. Because of their social isolation, they were unable to participate in lab or fieldwork for needed courses. Internet service providers' lack of preparedness for such demands and unexpectedly heavy internet traffic lead to slow internet speeds at home. When questions are asked, there is typically little to no feedback, and many students no longer contribute to the class discussion as they would in a conventional face-to-face situation. Due to power outages or connectivity issues, neither students nor teachers can complete their work on time. Students and staff frequently compromise with deadlines and even the standard anticipated of their product when they cannot use technology tools to complete their tasks promptly because of their numerous constraints. Many lecturers are compelled to use multiple-choice questions in online exams due to the restricted chances for assessment monitoring, and many students cannot use video services during some live class exercises and tests.

Many students who were accustomed to the traditional face-to-face method of instruction found the online method challenging. Some students, overwhelmed by the transition to online learning, were disrespectful to their teachers. Most students found it difficult to concentrate during online instruction because many had to finish their assignments from home, where they were exposed to various distractions and other household difficulties. The quick transition caused some students to feel worried and anxious. As a result of being overwhelmed by schoolwork and other commitments, several students discussed feelings of hopelessness, mental health issues, and even suicide at this time. As a result of the transition from traditional to online learning, computers and other portable technological devices are used extensively in our daily educational and teaching activities. As a result, numerous security flaws, virus exposure risks, hacking potentials, and other cyber-security threats exist.

Benefits: Online resources developed significantly compared to other resources because so many lecturers and students had access to online blogs, papers, websites, and other related resources. One of the benefits of moving to online education is that it allows for the recording of live courses, meetings, and other interactions in the cloud. There is a rising utilization of the available resources. Before COVID-19, Moodle and other platforms were not generally used, but they are comprehensively and

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frequently used now. Upgrades to university technology include buying hardware and licensing, particularly add-ons to support the organization's Moodle and Zoom video conferencing systems. Technology and other online resources for education and learning allowed faculty and staff to investigate different learning possibilities. Professors and the university administration looked into the potential for blended learning. Working remotely enables faculty and students to remain involved outside a traditional university classroom.

6 Conclusion

Arab countries have abruptly shifted to online pedagogical education due to COVID-19, which has shown certain disparities and presented some challenges and advantages. This study helped us better understand how higher education leadership and administration contribute to learning, research, innovation, and serving the country in times of need. Most universities in Arab countries made the proactive decision to switch to a digital, touchless online system during the COVID-19 Pandemic. In this review, we looked at academic works that discuss difficulties and possibilities brought on by the COVID-19 eruption. Four significant problems are looked at concerning these difficulties. First, it is determined that students lack the confidence to use digital tools and mediums as a mode of education while juggling issues with money, mental health, and physical exhaustion. This is because of how the COVID-19 pandemic has affected universities and the productivity of both students and faculty. They also lament the quantity and quality of instruction that is declining. Issues with connectivity, internet speed, and a lack of digital infrastructure are also mentioned.

Regarding the second issue, it was discovered that before the COVID-19 epidemic, some nations, including the UAE, Kuwait, Oman, Egypt, Saudi Arabia, and Jordan, had digital education systems in place, particularly by private colleges. The third concern reveals that the Arab world was helped along the path to online education by the use of legacy digital technologies and media. Regarding the most recent concerns, it may be possible to envision a situation where strong leadership may compel all interested parties to work together toward a single organizational objective, including students, faculty, staff, researchers, corporations, and political activists. It considers both internal or on-campus concerns, such as infrastructure, staff skills and attitudes, facilities, learning resources and applications, and innovative solutions, as well as external/off-campus ones, such as technology infrastructure, Arab family culture, student attitudes, the labor market, and employers' appreciation of online learning. To create policies and programs that will promote growth and development, educational leaders and managers may find this study helpful in understanding the challenges and opportunities associated with the sustainable online digital medium of education.

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