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Student Perspective of Classroom and Distance Learning during Covid-19 Pandemic: Case study

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The covid-19 pandemic is labelled as a worldwide health concern, chiefly impacting the process of education. E-learning becomes a significant substitute to reform and restructure the whole traditional learning system. With that being said, teachers and students are required to change their learning and teaching methods, related manners and behaviours, evaluation methods, or more of the same. This learning-based reform creates numerous benefits to the education process. However, these reforms still cause frustrations and tensions among both the teaching activities' beneficiaries and the actors of the education process. The current study aims to analyse the perspectives of the students on the classroom education acquired through distance learning amid the lockdown period of the covid-19 pandemic. The results of the study show that students have a positive perception of using e-learning and thus accept this new learning system in schools and universities. Empirically, the results of the study demonstrate that e-learning is a significant choice of learning at the level covid-19 crisis and other crises in the future. The current research paper's results give a hand in facilitating the mission of the educational institutions and policymakers so that this online-learning process is appropriately taken to the next level.

Keywords: virtual simulation, web-based application, multimedia, teaching, distance learning, covid-19, perception, readiness, students, technology acceptance model

INTRODUCTION

The covid-19 pandemic is considered one of the international health worries hitting the entire world with a key impact on the learning and teaching process. The most important challenge for the global education system in the last century was posed at the end of

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2019 by the outbreak of the new coronavirus pandemic. The novel coronavirus disease outbreak of late 2019 is regarded as one of the most significant challenges for the education system in the whole world. As stated by (Neuwirth et al., 2020), as of December of 2019, Wuhan of China has witnessed the occurrence of the new coronavirus dramatically growing into an international emergent health dilemma. Consequently, as of January of 2020, the World Health Organization (WHO) announces it as a global health concern and emergency case to public health (Daniel, 2020).

Amid the covid-19 pandemic, e-learning has become a key choice to reform the whole traditional learning system (Junaidi et al., 2022). As stated by Alsoud and Harasis (2021), students and teachers equally shall adjust their behaviors, their learning/teaching style, evaluation methods, and more of the same. Though this reform gives rise to more than a few benefits, it has produced frustrations and tensions between educators and the teaching activities' beneficiaries. In a learning atmosphere, information and communications technology (ICT) is broadly used to convey information for learning and teaching, as e-learning is recognized as a developing paradigm of up-to-the-minute education (Nikou & Maslov, 2021). Though e-learning has been continually discussed since the 1990s, only amid the covid-19 pandemic, the world entirely begins to concentrate on e-learning in the short and long term, converting and re-converting into a novel reality. As put by (Gherheș et al., 2021), numerous research papers and studies have emerged in this research area, as the area of research related to the e-learning process is gradually more fertile and fact-finding for researchers at the local and world levels.

E-learning is a learning-based method qualifying teachers to use intranets, Internet networks, or other means of computer network media to furnish students with the required materials (N. Abdallah et al., 2021b). E-learning mainly relies on the Internet, technology, and other forms of devices that are accessed by some potential beneficiaries (Sadeghi, 2019). The experiences of students with quality learning are not only associated with the capabilities and skills of teachers to entice attention during the e-learning process but also with their characteristics, training, and digital skills (Szopiński & Bachnik, 2022). Given the new covid-19- based procedures and events, alongside the internationally imposed quarantine; e-learning is now a key pillar as one of the ideal and practical solutions for the learning process (O. Abdallah; Radha et al., 2020 (Maqableh & Alia, 2021). With that being said, it is argued that to recognize the optimal factors impacting the decisions of the individuals to take part in e-learning in the internationally imposed quarantine, wide-ranging research constructed on a holistic approach is required.

Therefore, the current work aims to tackle this issue by considering the experiences of students participating in e-learning. A theoretically integrated model consisting of numerous antecedent factors is designed to answer the question of the study. The related literature review shows that most previous studies are carried out to pinpoint attitudes and perceptions of students on using e-learning. However, studies associated with attitudes and perceptions of students on using e-learning amid the covid-19 pandemic at the local level and context are still few and thin on the ground. Within the virtual

learning and teaching context, it is now more pivotal to explore the learners' beliefs and inclination apropos of this new teaching approach (Succar et al., 2022).

Hence, the objective of the study is to investigate the perspectives of the student of classroom learning fully attained via distance learning amid the countrywide covid-19 lockdown at the Faculty of Islamic Law at An-Najah National University. Achieving the objective of the study suggest new methods to moderate the feedback and preferences of the students on using the distance learning approach in future outbreaks and develop the online learning method in the tertiary and postsecondary education.

Literature Review

E-Learning Initiative in Palestine Higher Education

E-learning refers to the method of learning that puts together the related Information and Communication Technologies (ICTs) (Amir et al., 2020). The amalgamation of innovative learning approaches and technological resources has greatly changed the teaching and learning processes. The increasing use of the learning management systems (LMS) helps in supporting e-learning, where e-learning software is used to enable teachers to enhance the learning process among learners (N. A. Abdallah, 2018). As the IS has been tremendously developed in higher education, academic institutions all over the map strongly invest in several learning management systems (LMS) so that e-learning services are duly managed and delivered. As said by Abdallah et al., (2019), several factors such as the universities' continual requirements to cut costs and huge efforts to offer up-to-the-minute programs and majors compatible with the various needs of learners to increase enrollment rates also promote the universities' need to engage in adopting the concept of web-based learning systems.

Like many countries, Palestine actively matches the western countries in adopting information technology systems to assist in expanding the nation. The process of quick access to precise resources, data, and communications majorly impacts the process of national expansion. In particular, the effect of e-learning and information technology is similarly important on openness, sustainable development, and global human communication. The recently IT-based development report announced by the Solutions for Development Consulting Co of Palestine strongly recommends applying ICTs in the basic education stage through the two-party partnership of public higher academic institutions and related private investments.

Using the up-to-date ICT, the Information and Communication Technologies have overwhelmed the Palestinian Higher education institutions (PHEI), as the proliferation of ICT is regarded as a primary and important implication of the Palestinian continuing conflict. Palestinians think of ICT as an essential instrument to survive hardships, sustain life, and simplify the rise of more closely associated communities, as the internet and information access play a key role in consolidating the social structure (Saidam, 2007). This has created the necessity among these institutions to adopt and use the newly born technologies in the learning and teaching methods, producing e-learning hubs for countless institutes and universities. As put by (Goi & Ng, 2008), these novel e-learning hubs are multipurpose ones as they practically manage the long-distance

learning and teaching aid support. Shraim (2012) states that the out-of-the-way Palestinian towns and hamlets currently witness a widespread of desktop and laptop computers, alongside the Internet. The support related to the use of e-learning at the level of the Palestinian institutions of higher education is on the increase at various levels thanks to its capabilities in deciding on endless issues (Affouneh & Raba, 2017).

The COVID-19 Pandemic Impact on Education

With the recent covid-19 pandemic hitting the entire world, the Palestinian Ministry of Education has been forced to stop face-to-face learning and teaching classes and shut all educational bodies for the time being. Using the online learning platforms activates the so-called distance learning at various levels. Quarantine lockdowns are put in place on one-third of the whole population on the globe to combat the covid-19 spreading (Mishra et al., 2020). This procedure leads to several hard implications such as the closures of schools and universities.

The learning process has been negatively influenced by this pandemic. The governmental decrees related to this new health situation have prioritized the two-part goal which is to combat the covid-19 spreading by keeping social distance and stopping having face-to-face classes and interactions. On the grounds of this, the traditional classroom environment, along with its classes is replaced with a virtual or online environment using the appropriate computer technologies (Almuraqab, 2020). It is a key point to consider the direct effect of distance learning on the learning process and the emergent social concerns in preserving the new type of learning. How distance learning impacts education is broadly reviewed and investigated by a few researchers. The results of their studies show that distance learning is best characterized by providing various advantages such as guaranteeing the continuous process of learning, confirming permanent learning, and decreasing the high costs related to traditional learning (Alsoud & Harasis, 2021). The impact can be seen in its related procedures on the educational system, along with the learning experience and feedback associated with accessing study materials and research sources (Öçal et al., 2021). Yet, numerous challenges related to e-learning stem from the hitting of the covid-19. With that being said, the factors and critical challenges of using e-learning amid the covid-19 pandemic are pinpointed (Almaiah et al. (2020). It is shown that the covid-19 pandemic is a serious health problem affecting the e-learning approach, thus necessitating adaptation and innovation by higher education institutions to handle the emergent challenge.

As said by Hebebci (2020), the absence of on-campus socialization hinders the efforts of the students in the distance learning method to organize group projects. Equally, Sadeghi (2019) confirms that the use of distance learning amid the pandemic brings about key cons such as employing complex technology, distracting learners with high degrees, losing social relations, having very few chances of face-to-face meetings with lecturers, and refusing online degrees by the job recruiters. Gherheș et al., (2021) argue that E-learning is constructed on the Internet, technology, and several technical devices that are partially accessed by possible beneficiaries. The experiences of students with quality learning are not only associated with the capabilities of teachers t but also with their characteristics, training, and skills.

Research Framework and Hypotheses Formulation

The literature review of the previous studies necessitates designing a purposeful framework to furnish a complete insight into the study problem being discussed. The approaches and concepts used to develop the theoretical framework and hypotheses are detailed in this section. Consistent with Sekaran and Bougie (2016), a theoretical framework refers to a conceptual model of how a relationship is logically theorized among the numerous factors recognized as significant elements to the study problem. According to Ke and Hoadley (2009), when assessing the communities of the online learning method, one size cannot be appropriate for the entire used framework. Given the literature review and analysis related to e-learning, several examined factors could theoretically affect the participation of learners in an e-learning environment. As well, factors associated with the existing covid-19 situation can affect the participation of learners in an e-learning environment (Nikou & Maslov, 2021). The research model used in this study is shown in Figure 1. An all-encompassing literature review is used to develop the study's research model. This requires identifying the factors impacting the participation of the individuals in e-learning. Therefore, the paper's exploratory purpose is to pinpoint possible factors influencing the participation in e-learning amid the nationwide quarantine periods. With the use of these factors, a theoretical framework is properly constructed that needs to be empirically examined and evaluated. The participation intention in e-learning is the fundamental focus of the model. The Davis Technology Acceptance Model (TAM) is adapted to conceptualize the determinants of factors to e-learning system acceptance.

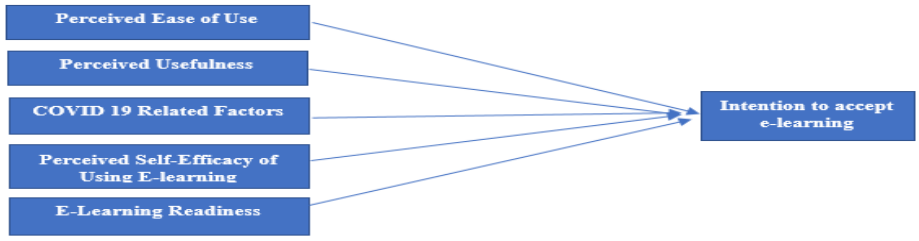

Figure 1
Research model

Perceived Ease of Use and Usefulness (PEU & PU) of E-Learning

As put by Davis (1993), the belief is divided into perceived ease of use (PEOU) and perceived usefulness (PU) by the technology acceptance model so that the researchers can formulate approaches ad methods to motivate users to accept information technology systems. The information technology system is constructed based on using controllable factors noticeably influencing either PEOU or PU or both. PU and PEOU can be seen in countless applications such as word processing, e-mail, microcomputer, e-banking, telemedicine technology, e-library, e-tax, smart card, and e-learning. Therefore, enhancing the system user interface and providing better training to end-users can help in increasing the ease of use of the system. As well, the system usefulness perception is bettered by enhancing the quantity and quality of accessed information

accessible via the applications of the information technology. The behavioral intention to use or not to use the system is based on the user's perception of the system's ease of use and usefulness (Fleming et al., 2017).

PU refers to the degree of the person's belief that improving job performance is based on the use of a specific information system (Idowu et al., 2021). In contrast, PEOU refers to the degree to the person's belief that using a specific system requires zero mental and physical efforts (N. Abdallah et al., 2021b). Concerning the e-learning environment, once lecturers perceive that using the e-learning system is an easy process, they will surely believe that using the e-learning system brings about several advantages. With that being said, once a student is aware of the fact that it is easy to deal with the e-learning system, the student will surely see the system as useful and thus intend to use it. As said by (Cheng, 2020), even though PEOU is characterized by a weaker effect on the intention to use e-learning than PU, the PEOU of e-learning still impacts the intention to use e-learning, (Haleman & Yamat, 2021). Once the positive use-performance relationship is completely trusted by the users, they can adopt the technology acceptance and as a result influence the behavioral intention to use the said technology (Khan et al., 2021). In another related study by (Mlekus et al., 2020), it is concluded that the likelihood of accepting and learning online increases when e-learning is perceived as useful by learners. By the same token, the instructors' perspective of the PU, namely: improving learning-based job performance, saving time, controlling overwork, achieving duties, and enhancing efficacy can affect their behavioral intention of accepting and using e-learning systems.

Oppositely, Imsa-ard (2020) assumes that problems related to difficult perception and risk of learning new things impede users to learn new subject matters or going through new experiences. Accordingly, the elements of the PEOU in e-learning such as the easiness of understanding, the help to guide in performing tasks, being more flexible, and requiring few mental efforts can impact the intention of the students to adopt the e-learning system. Within the e-learning systems framework, the model proposes that the acceptance and performance of the students are enhanced by higher degrees of PEOU of e-learning systems (Weerathunga et al., 2021). Accordingly, it is argued that the PEOU directly impacts e-learning participation among students. Also, the PEOU plays a key role in mediating the relationships between the covid-19 factors (covid-19 awareness, challenges imposed by covid-19 situation, perceived school's preparedness, and perceived teachers' preparedness) and e-learning participation. Therefore, it is postulated that:

H1: Perceived ease of use significantly affects the intention to accept e-learning.

H2: Perceived usefulness significantly affects the intention to accept e-learning.

Covid-19 Related Factors (CR)

Consistent with Nikou and Maslov (2021), the quarantine conditions of the COVID-19 are perceived as a factor and a variable at the same time. As a factor, the quarantine condition frames the person's context, obliging him or her to participate in distant e-learning only. As for the variable, it intervenes to show how the e-learning process is

properly processed. Because the covid-19 pandemic is expected to have prolonged effects until a precautionary vaccine is officially approved, it is necessary to be aware of the preparedness made by the instructors, the key learning facilitators, to handle this transition and the related challenges for the near future.

In another by (Adnan and Anwar, 2020), covid-19 awareness and the perceived challenges which are the covid-19 related factors mainly affect the intention of the students. In consort with impact, these effects are mediated by perceived ease of use of e-learning systems and the perceived usefulness. Related previous studies assert that the key idea why the learners and faculty members negatively perceive the efficacy of e-learning lies in little awareness of e-learning platforms (Abdelmola et al., 2021; Alea et al., 2020). Another study conducted by (O'Doherty et al., 2018) evaluates challenges and solutions faced by lecturers when designing and applying for online learning programs among medical students and trainees. Among the examples of these critical challenges are poor technical skills with time limitations, lack of proper infrastructure, organizational plans, and support, and few positive attitudes. In the same vein, related literature indicates that covid-19 infection creates numerous challenges in touch with e-learning. Of these instances, Almaiah et al. (2020) state that amid the COVID-19 pandemic, serious challenges and e-learning system usage factors are recognized.

The said research paper has dealt with the research areas related to e-learning systems such as trust, quality, culture, financial support, self-efficacy, management of change, and continual technical maintenance, bearing in mind that these areas are stated as possibly influential factors to adopt e-learning. Additionally, it is contended that the covid-19 pandemic is a serious health problem affecting the e-learning approach, thus necessitating adaptation, reworking, and innovation by higher education institutions to handle the emergent challenge. As stated by (Soro et al., 2020), as eighty-five percent of Italian people stay at home amid the countrywide quarantine, online cooperation and remote working have exploded in an Italian academy. Consequently, on the subject of covid-19, shreds of research on e-learning participation are very pertinent and well-timed. Contrariwise, as put by Butnaru et al., (2021), various problems and variations in perception are created thanks to the challenge to change the content from a traditional teaching layout to an online layout. Hence, the impact created by distance learning makes students view online courses as unsuccessful experiences. The challenges perceived from the covid-19 condition are found a very significant factor in identifying the perceived value of the e-learning systems and intention to use the said systems. Yet, it is well-known that the impact is negative (Almaiah et al., 2020). Therefore, it is postulated that:

H3: Covid-19 awareness significantly and positively affects the intention to accept e-learning.

Perceived Self-Efficacy (PSE) of Using E-Learning

Self-efficacy refers to a belief that the learner has various capabilities to complete a set of behaviors or it refers to the case when a person believes that he or she can positively and properly use the products of the information technology such as the internet,

computer, and other related systems (Thongsri et al., 2020). Computer self-efficacy is attained by computer knowledge and experience based on the mixture of computer experience and the internet with computer efficacy and anxiety factors. Bandura's social cognitive theory's self-efficacy construct has a key role in constructing the perceived self-efficacy to use e-learning (Schunk & DiBenedetto, 2020). Bubou and Job (2020) state that computer self-efficacy refers to a person's judgment related to the competence in using a computer. Likewise, computer anxiety refers to the person's level of fear or even apprehension when dealing with or using computers. As concluded by (Venkatesh et al., 2012), computer anxiety stands behind having negative attitudes among users on the intention of adopting the new technology. In the environment of the e-learning process along with the IT systems, students are required to communicate and interact with their lecturers. What makes learners unwilling to accept e-learning systems is the feelings of being uncomfortable and anxious with using computers (Arunachalam, 2019). Siron et al. (2020) reveal that computer anxiety is considered a key factor in hindering the adoption of the e-learning system among students.

The results of the past papers show that perceived self-efficacy to use e-learning has a key role in identifying the responses of the learners to information technology. Learners with a low level of computer self-efficacy are frustrated by difficulties faced during the performance stage. The studies also show that the learners respond by reducing their capability-based perceptions in using information technology and computer. On the contrary, learners with a high level of computer self-efficacy are undeterred easily by difficulties. In other words, they can persevere with their efforts and overcome the entire problems and obstacles confronted during the performance (Khan et al., 2021). Amir et al., (2020) indicate that the web-based learning systems acceptance is positively and strongly affected by computer self-efficacy, as self-efficacy refers to an important element of IT-related ability and IT use. Consequently, learners with a high level of computer self-efficacy agree to use IT systems in their learning process. Noticeably, with using e-learning, perceived self-efficacy directly affects e-learning acceptance. And so, this hypothesis is postulated:

H4: PSE of using e-learning significantly affects the intention to accept e-learning.

Teachers and Institutional Readiness (TIR)

Prior to the covid-19 pandemic, several programs and courses are offered in blended learning or fully online environments by numerous universities and colleges. As shown by (Brooks et al., 2020), there is uneven implementation of the knowledge, practices, technologies, and support required for online learning, and as a result, institutions are left at variant reediness levels for contemporary circumstances. The lack of one-to-one interaction and traditional teaching has helped in developing computer-based learning as the applicable way out for offline teaching. Against such a background, the readiness of the institutions and students about the online-learning system applied at the university level amid the current covid-19 pandemic needs to be examined. Readiness refers to the e-learning users' capability in using a novel learning context, alongside the substitute technology (Nikou & Maslov, 2021). As stated by (Alsoud and Harasis 2021), the information technologies shall be strongly used by the universities, alongside

modernizing their learning process by improving the readiness of their learning and teaching techniques.

Irrespective of the presence of a learning system and required structure, the educational experience is strongly affected by this entirely unintended and unexpected shift. The previous studies show that the significance of appropriate and cutting-edge planning can furnish appropriately structured and beneficial e-learning, accomplishing its aspired outcomes (Alqabbani et al., 2020). Furthermore, the readiness of the institution, staff, learners, and weak faculty members are regarded by various empirical studies as difficulties to a prosperous e-learning experience (Al-Samarraie et al., 2018; Alsoud & Harasis, 2021; Nikou & Maslov, 2021; Paliwal & Singh, 2021).

As proposed by Warner et al., (1998), the training and vocational education sector in Australia adopts the readiness concept for online learning. The online learning readiness is mainly termed in three aspects as follows: The student's preference for the teaching method contrasted with face-to-face teaching method, the confidence of the student in using e-communication for learning consisting of trust and competence in using computer-based communication and the Internet, and the capability of the student to participate in autonomous learning. Aboagye et al., (2021) further develop the concept by conducting an investigative study so that the online readiness questionnaire is properly validated. With that being said, the concept is developed based on a 2-factor structure, i.e. "Self-management of learning and Comfort with e-learning". In line with (Scherer et al., 2021, p.118), "Teachers' perceptions of the degree to which pedagogical support, leadership, and vision building about online learning and the technical and pedagogical support specific to the transition to e-learning during the pandemic are both important components of contextual readiness".

Given a wide collection of factors, the higher education teachers' heterogeneous experiences can be better understood, and therefore additional personalized support can be properly designed. Academic programs, gender, perceived institutional support, and earlier teaching experiences are identified as potential variation sources by the previous pieces of research in the area of online learning and teaching. By the same token, Alea et al. (2020) assert that distance learning's readiness is affected by the teaching experience's length, as lecturers teaching for numerous years are experienced and can handle hard times like the pandemics. Also, the majors held by lecturers can impact the readiness of the lecturers to distance learning education.

Besides, the desire of a person to complete the task can be influenced by other factors in this environment. In detail, extra obstacles stopping students from approving and using online systems in their teaching methods are concluded by academics. Of these obstacles are the unavailability of the appropriate infrastructure and support and the absence of personal technical proficiency. Importantly, learners and teachers rate countless types of support such as administrative support, the availability of the materials and information, and teaching skills as very significant factors impacting their IT use in teaching. A mother research work by Huang et al., (2020) corroborates that having essential support is very vital to accept ICT in training. The aforesaid studies furnish shreds of evidence that assisting conditions are significant to technology users.

The support of the institution and self-directed learning are thoroughly studied to appropriately classify e-Learning readiness for the ongoing in-service learning process. What features e-learning is that it supports the methods of teaching which are unattainable through textbooks. E-learning can be available for more and more students, putting an end to the limitation of time and space without the addition of extra resources. To ensure productive learning and teaching pedagogies, the teaching content shall be prioritized more than the technology used to gain the distance learning benefits. As signposted by (Paliwal and Singh, 2021), the resources for providing knowledge and textbook content consist of mediums such as text, video, audio, and related simulations to improve the learning ability of the students to achieve the outcomes required by the courses educated.

An organized and well-structured course shall be created by the faculty members, considering the explicitness of the course's interaction components, contents, activities, structures, purposes, tools, and assessments (Huang et al., 2020). In the course of emergency cases such as the covid-19 situation, the lecturers shall be fully prepared and equipped for the online learning stage (Martin et al., 2019). On online learning platforms, teachers shall use writing and audio skills to communicate with the learners within the specified learning modality at one go (Redmond et al., 2018). The said communication shall also lead to appropriate, suitable, and quick feedback. As suggested by (N. Abdallah, 2021b), securing a simplified discussion amongst learners using chat, emails, and discussion forums is the key proficiency of online teaching. Similarly, instructors are required to own essential talents to incorporate information technology into learning and teaching, as school principals need to support the instructors to use this beneficial power of talents. The previous research papers and studies demonstrate that technical capabilities and skills are key requirements empowering lecturers to effectively manage online teaching. In the current study, readiness, measured based on an appropriate e-learning infrastructure in time and place with organized training on using learning management systems, increases the opportunity to have a productive e-learning experience among learners. And so, based on the literature review argued above, this hypothesis is postulated:

H5: E-Learning readiness significantly affects the intention of accepting e-learning.

METHOD

To achieve the aims of the study, the descriptive survey design was constructed on the quantitative research approach. An-Najah National University is selected to conduct this study as a case study. Thanks to the pandemic conditions, online surveys on students enrolling at the Faculty of Islamic Law at An-Najah National University are used by the current study. Notably, using this form of survey in research is more prevalent. This form of survey is preferred by the surveyors as they allow rapid survey administration and development, quick and smooth process of data collection and analysis, low cost, as well as fewer errors than mailed or telephone questionnaires because of the manual data entry (Alsoud & Harasis, 2021).

The two-section survey is structured as follows: The first section collates the learners' personal information. However, the second section measures the learners' attitude and perception regarding the e-learning effectiveness amid covid-19. Having made certain minor changes based on the pilot survey for the survey's feasibility assessment, the final form of the questionnaire is articulated. To investigate and identify the factors impacting the adoption of web-based learning management systems among learners, the data analysis goes through two stages. In the first stage, SPSS V. 23 is used to perform initial data analysis. The general image of respondents' demographic statistics and their response to the survey instrument are provided based on the results attained from the analysis. In the second stage, the structural equation modeling (SEM) technique and the AMOS V. 23.0 are used to employ the structured model's evolution. At this stage, to test the proposed hypothetical framework, it is required to examine the interrelationships between multiple independent variables and dependent variables. Additionally, structural model analysis and the measurement model techniques are equally used to recognize the significance level of numerous factors impacting e-learning acceptance.

Unit of Analysis and Sample Size

Conducting a quantitative research method constructed on survey design necessities setting the study sample as collating data from the whole population is a difficult process. Sampling is a must-do step as it saves several elements such as money, effort, and time. To allocate the study sample, the current study uses simple random sampling.

With the lack of one agreed-on method to define the optimal sample size, several strategies and recommendations are proposed about the suitable sample sizes to perform a factor analysis (Butnaru et al., 2021). As put by (Kline, 2015), N:p = 5:1 is regarded as the most accepted ratio of a sample size to estimated parameters. Ensuring a reliable estimation requires getting a ratio of five responses per parameter. As the total is 30 elements, 160 are the most effective sample size necessary to test the model's trustworthiness. Yet, as stated by (J. F. Hair et al., 2012, p. 22), "A sample size exceeding 400 to 500 is too sensitive as almost any difference is detected, making all goodness-of-fit measures show a poor fit". The sample size totaling 172 students is suitable for making a statistical analysis and affirming that simple random sampling assists academics to ensure that all students are equal in being selected for the study (Almuraqab, 2020).

The analysis's sample unit refers to the sample elements or the study subjects on which measurement is carried out. In keeping with Zikmund et al., (2013), a sample unit refers to the objects, organization, individuals, and department contacted for the process of the data collection. Since the study's primary purpose focuses on the students' perception of e-learning acceptance, higher education students are regarded by this study as the unit of analysis. To attain the university students' perceptions of engaging e-learning systems as part of their learning, a self-administered survey questionnaire is created. Concerning Croasmun and Ostrom (2011), the purpose of the survey instrument is to translate the researcher's information needs into a form extracting data from the related respondents. Questionnaires are regarded as more cost-efficient with the increase in the number of research questions.

In the current work, most questions use the 5-point Likert scale to represent the subject's responses. As recommended by (Joshi et al., 2015), it is desired to use a 5-point Likert scale so that the respondents can answer the questions to apprehend better what option can be selected for their answer, thus refining the quality of the answers. It is asserted that for a larger study (N>100), a 5-point Likert scale is an applicable choice for better data distribution (Muries and Masele, 2017).

To make sure that the instrument is understood by the respondents, it is required to conduct a pre-testing of the questionnaire so that the construct and content validity of the instrument is verified by the expert judgment's moderation. To ensure the consistency and accuracy of the responses, pre-testing is ranked first as an important measure (Hair et al., 2010). As proposed by (Zikmund et al., 2013), questionnaires shall be created, checked, developed, and tried out again. Failing to ensure a suitable pre-testing may lead to a meaningless study.

As pre-testing is regarded as a significant element to ensure the questionnaire's quality, a pilot study is regarded as a central process. Inj (2017) emphasizes that before adopting a questionnaire for substantive research, it is necessary to attain information by pilot-testing the questionnaire on participants close to those who are asked to complete it as part of the substantive research. As advised by (Whitley and Ball, 2002), achieving the pilot study's objectives requires distributing a total of 25 questionnaires equally among respondents. With a response rate of 88%, 22 questionnaires are properly returned. However, being two incomplete questionnaires, they are regarded unusable. Established on the pilot study's usable questionnaires, SPSS-based analysis is done to test the instrument's reliability. Reliability analysis focuses on the measurement instrument's internal consistency. As defined by (Alreck and Settle, 2007), reliability refers to the degree of the survey results as they are free from random errors as in opposition to systematic bias. With eyes wide open, the value of Cronbach's alpha is adopted.

Cronbach's alpha is used to estimates the research instrument's reliability. In keeping with (Connelly, 2011), Cronbach's alpha is regarded as a measure offering a reliability coefficient to show the instrument's internal consistency. In detail, Cronbach's alpha ranges from 0 (completely unreliable) to 1 (perfectly reliable). Table (1) shows Cronbach's alpha for measures adopted and covered in the instrument. The whole measures record that the value of Cronbach's alpha value greater is than 0.7, proposing that the measures are highly reliable. So, needless to refine and change the questionnaire to increase the alpha coefficients.

Table 1
Reliability of instrument measures based on the pilot study

Measures	No. of items	Cronbach's Alpha
Perceived Ease of Use	4	0.817
Perceived Usefulness	5	0.776
COVID-19 Related Factors	9	0.813
Perceived Self-Efficacy of Using E Learning	5	0.911
E-Learning Readiness	7	0.802

Analysis and Findings

This study has proposed hypothetical to achieve the objectives of the research and answer the questions. SEM, 2-generation multivariate statistical method, is used to examine the structural model and measurement with the AMOS V. 23.0 software packages. In the SEM analysis, assessing the model fit requires performing the first CFA, and then calculating the path coefficient requires assessing the hypothesized relationships among latent constructs. As a final point, achieving a parsimonious model that fits the data necessitates revising the proposed model.

Respondent Demographics Profile

Achieving statistically significant results recognized through the sampling procedure requires using 160 samples. In light of the 200 questionnaires distributed to students at An-Najah National University, 180 responses are received, creating a 90% response rate. In comparison to other IS studies concerning students in a higher education setting, this response rate is regarded as high. This is because of the duration period given to fulfill the questionnaire and the internal motivations of students. A data review indicates that eight questionnaires are invalid responses thanks to missing responses and data entry errors to some questions, and thus removed from the current study. 172 valid questionnaires are attained after excluding the invalid responses.

The questionnaire's first part is related to the respondents' following background and demographic information (gender, age, and education level). Based on the data in Table (2), the gender distribution is skewed in favor of males with 66.5%, while females with 35.4%. At the universities level, the male population always outnumbers the female population. Concerning the Palestinian universities, this can be because of religious, political and cultural, and socio-economic factors. It is also shown that the respondents' age distribution has ranged between less than 20 and above 26, as age is divided into three intervals. Further, the table demonstrates that most respondents are classified among the high intervals. Though nearly 41% of students' ages are more than 26 years old, 40% are aged between 20 to 26 years old, and this result is nearly close to Abdallah et al., (2019). The respondents' least number comes from the age group of fewer than 20 years old. At the level of education, the education of the respondents is classified into two levels. Besides, the table indicates that respondents with master's degrees are more than half (54.1%), while students studying for a bachelor's degree are 45.9%.

Table 2
Students' demographic data

Measure	Item	Frequency	Percentage
Gender	Male	111	64.5%
	Female	61	35.4%
Age	<20	31	18%
	20-26	70	40.6%
	>26	71	41.2%
Education Level	Bachelor's Degree	79	45.9%
	Master's Degree	93	54.1%

Exploratory Factor Analysis (EFA)

Investigating the measurement items' structure parallel to the proposed research model's constructs necessitates performing EFA using principal component analysis (PCA) as an extraction method in tandem with orthogonal Varimax as a rotational method. The SPSS V. 23 software package is used to perform the EFA. First, to measure the sampling adequacy for appropriate factor analysis results, the Kaiser-Meyer-Olkin (KMO) and Bartlett's of Sphericity tests have been properly calculated. On the word of Tabachnick and Fidell (2007), the relationship among items is statistically significant, is suitable for conducting EFA, and provides a parsimonious set of factors if the value of KMO is greater than 0.6. Likewise, Hair et al., (2012) contend that the correlation among the measurement items is suitable for EFA if Bartlett's test of sphericity is significant. As shown in Table (3), the value of Kaiser-Meyer-Olkin (KMO) is 0.824 and is greater than 0.6, while Bartlett's Sphericity tests are found significant ($p<0.005$) as well (Sousa et al., 2007). Therefore, both prerequisites to conduct EFA are achieved.

Table 3
Initial EFA assumptions (KMO and Bartless's test of Sphericity)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.824
Bartlett's Test of Sphericity	Approx. Chi-Square	18241.312
	Df	2534
	Sig.	0.000

Additionally, the commonalities' values explained by each item to show the total variance of an original variable shared with other variables is checked as well. Consistent with Hair et al., (2012), the commonalities' values for each item must lie between 0 and 1. However, items with a lower than 0.5 (50%), commonality value are treated as weak items. Table (4) shows the commonality values for each measured item. Results indicate that commonalities have varied between 0.615 for the PSE5 item and 0.856 for CR5. No commonalities having less than 0.5 are found and no value is dropped from further analyses.

Table 4
Communalities explained by each item

Item	Initial	Extraction	Item	Initial	Extraction
PEU 1	1.000	0.723	CR 8	1.000	0.853
PEU 2	1.000	0.743	CR 9	1.000	0.792
PEU 3	1.000	0.784	PSE 1	1.000	0.674
PEU 4	1.000	0.792	PSE 2	1.000	0.735
PU 1	1.000	0.675	PSE 3	1.000	0.712
PU 2	1.000	0.687	PSE 4	1.000	0.678
PU 3	1.000	0.693	PSE 5	1.000	0.615
PU 4	1.000	0.712	TIR 1	1.000	0.843
CR 1	1.000	0.812	TIR 2	1.000	0.823
CR 2	1.000	0.822	TIR 3	1.000	0.857
CR 3	1.000	0.734	TIR 4	1.000	0.758
CR 4	1.000	0.748	TIR 5	1.000	0.845
CR 5	1.000	0.856	TIR 6	1.000	0.725
CR 6	1.000	0.764	TIR 7	1.000	0.746
CR 7	1.000	0.745			

Loadings of Measured Items on Latent Variables

The correlation between measured items and their hypothesized constructs is checked to confirm their convergent and divergent reliabilities. Table (5) presents the rotated component matrix (factor loadings) between the items and their latent constructs. As put by (J. F. Hair et al., 2012), the loading matrix indicates high loading of measured items on their constructs, ranging from 0.519 to 0.883, and all loadings are found above the recommended limit of 0.50. Furthermore, it is evident from the results that items are highly loaded on their constructs, therefore satisfying the discriminant validity analysis.

Table 5
Rotated pattern matrix (Factor Loading)

	Components				
	PEU	PU	CR	PSE	TIR
PEU 1	0.745				
PEU 2	0.623				
PEU 3	0.657				
PEU 4	0.745				
PU 1		0.754			
PU 2		0.674			
PU 3		0.724			
PU 4		0.683			
CR 1			0.712		
CR 2			0.732		
CR 3			0.673		
CR 4			0.672		
CR 5			0.745		
CR 6			0.687		
CR 7			0.519		
CR 8			0.710		
CR 9			0.730		
PSE 1				0.634	
PSE 2				0.784	
PSE 3				0.840	
PSE 4				0.738	
PSE 5				0.742	
TIR 1					0.883
TIR 2					0.811
TIR 3					0.786
TIR 4					0.738
TIR 5					0.826
TIR 6					0.736
TIR 7					0.789

Rotation Method: Varimax with Kaiser Normalization
Extraction Method: Principal Component Analysis

Convergent Validity

Convergent validity refers to the indicator in measuring certain constructs if it shares variance with a high proportion in common. The Average Shared Variance (AVE) and composite reliability (CR) estimation are used to measure the convergent validity of each construct used in the newly suggested model (J. F. Hair et al., 2012). Table 6

shows the values of AVE for all constructs ranging from 0.545 to 0.693 and exceeding the minimum requirements of 0.50 is evidence of good convergent validity. Likewise, the CR values for all constructs are above the suggested level of 0.70, which also supports the convergent validity.

Table 6
Average shared variance and composite reliability

Constructs	AVE	CR
PEOU	0.626	0.865
PU	0.610	0.846
CR	0.545	0.895
PSE	0.693	0.901
TIR	0.612	0.833

Structural Equation Modeling (SEM)

The appropriate statistical tool selection is of high importance for evaluating the hypothesized causal links in the proposed research model. Testing theoretical or conceptual models requires designing the SEM which is a statistical modeling technique. In line with Hair et al., (2006), SEM simultaneously helps in investigating the interrelationships among multiple variables (independent and dependent). What is more, it is an influential tool offering rigorous statistical procedures used to handle complex models. Generally, SEM is performed in a two-step approach, i.e. the measurement model is known as CFA, while the structural model is known as path analysis. Consistent with Hair et al., (2006), the results of this study recommend testing the validity of the measurement model through two stages: (1) GOF indices and (2) composite reliability and validity. As gleaned from these recommendations, the suggested research model is evaluated with the CFA, while the GOF indices and assessment of reliability are evaluated by (Cronbach's α and composite reliability). These GOF indices' recommended thresholds limits are mentioned in table 7.

Table 7
Model fit indices for CFA

Measure indices	Fit indices	Results	Criteria
Absolute fit measure	X2		
	X2/Df	1.532	$1< \chi2/df<3$
	RMSEA	0.031	<0.05
Incremental fit measure	NFI	0.912	≥ 0.90
	TLI	0.942	≥ 0.90
	CFI	0.913	≥ 0.90
Parsimony fit measure	AGFI	0.772	≥ 0.80

Notes: $\chi2$ = chi-square; df= degree of freedom; RMSEA = root mean square error of approximation; NFI = normated fit index; CFI = comparative fit index; TLI = Tucker-Lewis index, AGFI = adjusted GOF index

Table 5 shows that GOF indices are classified into three categories, i.e. incremental fit, absolute fit, and parsimonious fit indices (Hair et al., 2012). Importantly, initial results of the CFA model lit indices (X2/df = 1.532, RMSEA = 0.031, NFI = 0.912, TLI = 0.942, CFI = 0.913, and AGFI = 0.772) are found within the acceptable limits. Along

with these GOF measures, the values of standard regression weights (factor loading) for the entire items are found >0.7, standard residual values are found in the acceptable limits (above 2.58 or below -2.58), and values of the critical ratio are found > 1.96. Accordingly, in light of all these satisfactory results, it was noteworthy that the model of the research effectively fits the data.

Structural Model and Hypotheses Testing

Having conducted the CFA, the analysis's next step is to test the causal hypotheses shown in the proposed model of the research and the relationships' strengths among the constructs using a structural model. Analyzing the path significance of each relationship helps to test the research hypotheses and using parameter estimates helps to produce the estimated population covariance matrix related to the structural model. The use of standardized estimates, critical ratios, and p-value assist to examine the study's hypotheses. It is supposed that there is a statistically significant relationship at the 0.05 levels when the critical ratio (CR or t-value) is found higher than ± 1.96 (J. F. Hair et al., 2012). The model's all casual paths are studied based on the CR (value) and path estimates. The findings show that t-values for all causal paths estimates are found above the 1.96 (critical value) and significant at $p \leq .05$. Table (8) shows the parameter estimates, while Figure (2) shows the overall structural model. An additional investigation of the results of the hypotheses testing presented in Table 7 reveals that the five hypotheses proposed are positively supported and significant. As well, the hypotheses' standardized estimates (β) show that these hypotheses strongly affect the criterion variable (i.e. the higher the β value, the greater the impact of the predictor variable on the criterion variable).

Table 8
Hypotheses test results

Relationships	Stand. Regression Weights (β)	C.R.	P	Supported
PEU→ Acceptance	0.134	1.977	0.012	Yes
PU→ Acceptance	0.432	2.358	0.005	Yes
CR→ Acceptance	0.244	5.070	0.05	Yes
PSE→ Acceptance	0.195	2.022	0.001	Yes
TIR→ Acceptance	0.241	2.831	0.019	Yes

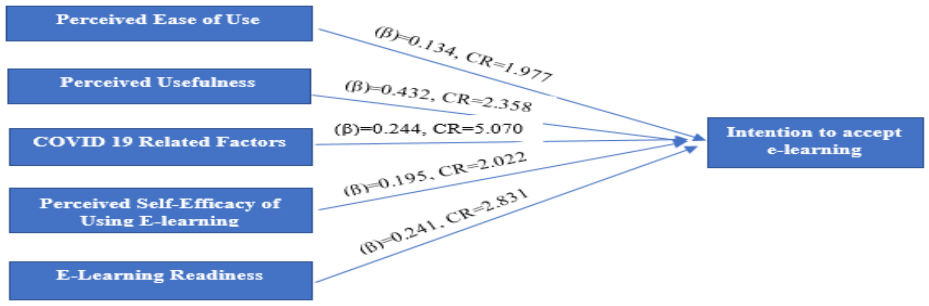

Figure 2
Structural model

DISCUSSION AND IMPLICATIONS

The efforts' expectation required for using IT innovations among users is captured by the PEOU. In the current work, PEOU is hypothesized to attain a direct positive effect on the e-learning systems' actual acceptance amid the covid-19 pandemic through hypothesis 1. The hypothesized relationship between PEOU and e-learning system acceptance tested through H1 (i.e. PEOU → AU) is found significant. Consequently, based on the results of the parameter estimate ($\beta = 0.134$, t-value = 1.977, $p = 0.012$), the proposed hypothesis is supported. This means that PEOU is a strong predictor of technology acceptance. Likewise, the findings of several empirical studies (N. Abdallah et al., 2021a; N. A. Abdallah, 2018; Khan et al., 2021; Maphosa, 2021; Nikou & Maslov, 2021) show PEOU has a strong impact on e-learning acceptance. Other studies such as archers like (Al-Okaily et al., 2020) also contend that the PEOU largely affects the usage intention of the student. In line with these earlier studies, this current research paper also shows a shred of empirical evidence that the easiness perception of e-learning strongly affects the e-learning's acceptance and adoption. The study's statistical analysis shows that as PEOU is a strong predictor of an increase in students' perception of the easiness of learning management system and their system use, this can enhance its competency toward the higher education enhancement.

Conversely, PU refers to the user's perception of a specific innovation such as technology, service, and system enhancing the performance of the students' work. In this paper, hypothesis 2 articulated as perceived usefulness significantly affecting the intention to accept e-learning is suggested. This hypothesis is found statistically significant and positive based on its parameter estimates (H2: PU → AU; $\beta = 0.432$, t-value = 2.358, $p = 0.005$). Thus, the results of the empirical studies support the argument that the behavioral intention to adopt and accept e-learning systems is positively affected by the usefulness beliefs of the potential users. These findings are in line with the results of the original TAM, demonstrating that PU directly and significantly affects system use (Davis, 1989). Various empirical studies and research papers in a parallel context of IS/IT acceptance and adoption (N. Abdallah et al., 2021a; N. A. Abdallah, 2018; Almaiah et al., 2020; Khan et al., 2021; Maphosa, 2021; Nikou & Maslov, 2021; Yu, 2020) also find that PU significantly impacts the system use. These results show that students are motivated to accept and adopt e-learning based on their beliefs attained by the perception of its relative benefit after thinking of its usefulness.

In comparison with PEOU ($\beta = 0.134$), however, the effect of PU ($\beta = 0.432$) is found stronger on e-learning acceptance. These results are expected and are concerning other previous empirical studies conducted in a similar context (Al-Okaily et al., 2020; Yu, 2020; Nikou & Maslov, 2021). Additionally, the results of SEM show that the path between covid-19 awareness to intention to take part in e-learning is significant ($\beta = 0.244$; $t = 5.070$; $p = 0.001$) and thus, the hypothesis is supported by the model. The structure results indicate that the preparedness of the perceived educational institution, i.e. teachers and schools) affects the intention to participate in e-learning. This suggests that students see the preparedness of the educational institutions as a motivating factor for using the e-learning system. Also, this suggests that educational institutions are

appropriately prepared to completely employ the e-learning systems' functionalities so that the student's learning process is facilitated. Remarkably and as predictable, the covid-19 situation's perceived challenges are a very influential factor determining the perceived value related to e-learning systems and the intention to use them. These results show that the hypothesis is accepted. What's more, these results are also compliant with the results of some previous research studies (Al-Okaily et al., 2020; Alea et al., 2020; Nikou & Maslov, 2021). Hypothesis 4 formulated as "Perceived self-efficacy of using e-learning significantly affects the intention to accept e-learning" is assumed to have a positive and direct effect on the acceptance and adoption of e-learning systems. Results of parameter estimates ($\beta = 0.241$, t-value = 2.831) related to this hypothesis tested through SEM are found statistically significant at $p = 0.001$ level. The results show that the hypothesis is accepted and implies that an increase in usefulness improves the self-efficacy of the students to accept and adopt e-learning. Additionally, these results are also in line with the results of some previous research studies (Arunachalam, 2019; Thongsri et al., 2020; Ye & Liu, 2017).

Hypothesis 5 expressed as "E-Learning readiness significantly affects the intention of accepting e-learning" is assumed to have a positive and direct effect on the acceptance and adoption of e-learning systems. Results of parameter estimates ($\beta = 0.241$, t-value = 2.831) related to this hypothesis tested through SEM are found statistically significant at $p = 0.001$ level. These results show that the hypothesis is accepted and implies that an increase in usefulness improves the self-efficacy of the students to accept and adopt e-learning. Besides, these findings are also in line with the results of some previous research studies (Arunachalam, 2019; Thongsri et al., 2020; Ye & Liu, 2017). The findings revealed that perceived usefulness ($\beta = 0.432$) has the strongest influence in shaping the intention to accept e learning followed by covid-19 related factors ($\beta = 0.244$) and e-learning readiness ($\beta = 0.241$). On the other hand, the statistics shows that perceived ease of use ($\beta = 0.134$) has the least affect in shaping the intention to accept e-learning followed by perceived self-efficacy of using e learning ($\beta = 0.195$).

In addition, the study contains perspectives of the participants on their readiness to change into distance learning when the decision has been unexpectedly made due to the pandemic, along with their perspectives amid the academic year 2020–2021, or what is also spoken of as the blended learning period. The main topics of the domain are the abilities of the participants, the available learning systems' effectiveness, and the provided technical support. During the period of the study, participants express their optimism about the university's readiness for a swing to distance learning. Academic staff members are mainly interested in the achievement of several learning outcomes among students in a condition where some capabilities are still challenging to meet and evaluate. The issue of time management is cited by students as a concern. Distance education is still seen by some students as a timewasting procedure with numerous tasks to do. From an international perspective, this is labeled as the main issue. Along with perception and readiness, barriers to distance education are properly examined. Technical and personal hurdles are considered the two most significant aspects of this domain. Barriers mentioned comprise technological problems throughout the learning, teaching, and evaluation process, communication difficulties, and health worries related

to longstanding computer use. There are also certain obvious learning acquisitions expected to go together with distance learning. From the teaching staff's viewpoint, the triumphs in the current study lie in having better time management and utilization, being able to teach from anywhere, and improving teaching capabilities. Students with the same standpoints highlight the increased significance of improving independent learning skills.

Besides, the current study's results consist of contributions and implications beneficial to researchers, innovation literature, practitioners, and policymakers. Most importantly, this study has prolonged the body of knowledge to IS literature and innovation adoption relating to the e-learning systems' acceptance and adoption. Thus, it can enhance the understanding and extend the knowledge related to IS and e-learning in the age of quickly changing new technologies. Likewise, this work examines an integrated framework constructed by several constructs from some recognized and well-known theories and most commonly used to investigate IS acceptance and adoption. The results of the study have many implications for decision-makers and researchers in the area of IS quality and technology. These results can also help university administrators and decision-makers to decide the essential steps required to ease and increase the use of e-learning by students. This research recommends implementing an initiative across the university to teach the end-users, i.e., faculty members and students by the university administrators and decision-makers on the benefits of applying e-learning and its positive impact on teaching and learning at the level of higher education. Furthermore, the findings of the study reveal that self-efficacy is a significant and noticeable factor in identifying the acceptance of e-learning among users. Therefore, the adoption of the new e-learning system is significant to update the students and faculty members about the usefulness and technical issues of the system so that they can attain a detailed understanding of the e-learning features and feel confident in using it.

CONCLUSION

The education of university students has been interrupted due to covid-19 pandemic. The current situation has imposed unique challenges of smoothly maintaining the process of teaching and learning, as such e-learning has become an immediate solution to cope with the disruption in higher education. This study aims to examine the perspectives of students regarding classroom and distance learning amid the covid-19 pandemic at the Faculty of Islamic Law at An-Najah National University. Achieving research objectives is conducted by developing a hypothesized research model based on TAM. Also, developing a research model for this study is completed by performing an organized thorough literature review as previously argued. The related literature reviews previously done assist in developing an integrated multidimensional model to explain and predict the instructor's adoption of web-based learning systems related to higher education by incorporating the concepts of psychology and user intention/behavior IS success. In light of the results of a review of the current technology adoption-related education literature, the variables created in this study include five factors incorporated in the generic TAM model. Finally, a proposed hypothetical model including several factors is properly presented and justified. This study investigated the effects of

computer self-efficacy of using e learning, perceived usefulness, covid-19 related factors, e-learning readiness, and perceived ease of use as external factors in the TAM

Like other shreds of empirical research, this study has its limitations. First, the data collected is self-reported by students. Thus, the data survey's reliability depends on the students' completeness of their responses and honesty. Importantly, it is difficult to identify how accurately self-reports reflect their actual intention to use e-learning systems. Concerning the limitations, it is by some means decreased by using a Likert scale for the survey. Second, as the current work aims to examine the web-based learning systems' adoption among instructors of higher education in a specific university, the results attained may not be generalized to the web-based learning systems of instructors' adoption in other contexts, such as high schools and elementary schools. As well, this research paper's data is collected under voluntary settings that may not be the best condition for the respondents. Hence, the results may not be generalized to other mandatory settings.

Given the results of this study, several recommendations for future research are proposed on developing a better understanding of the adoption of e-learning systems in higher education. The proposed adoption model is not fixed, unchanged, and is open to continual development. By adding external variables or other dimensions valid for new educational level contexts such as elementary level education, this adoption model can be extended and modified in the future. With that being said, it is required to confirm and generalize the results of this research. Importantly, the current study recommends replicating the same theoretical model in future pieces of research. The findings suggest a need to prepare students intending to engage in online learning and offer ICT training to all potential e-learners for easy adoption. The role of management is essential in this case to facilitate the development of a positive attitude towards e-learning systems. Furthermore, the availability of technical assistance is also a very significant influence on students' adoption of the e-learning system. Since a technology can only be used if the technological infrastructure is available, it is essential to strengthen the IT infrastructure. Self-efficacy which is a personal factor is consistently identified as a very important factor for continuing in the e-learning environment. Therefore, it is recommended to promote self-efficacy within students. On the subject of future research, the demographic data's effect such as gender, internet experience, age, and other moderating factors on accepting the e-learning shall be investigated.

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