



ORIGINAL RESEARCH ARTICLE

Academic Staff Opinions on Issues Related to Investment in E-learning: A Qualitative Multi-Method Approach

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ABSTRACT

Purpose: This study aimed to explore the opinion of academic staff about the necessity of investment in E-learning development and the issues that are encountered with the investment of E-learning.

Method: This research is a qualitative multi-method and has been done using two meta-synthesis qualitative and phenomenological designs. The meta-synthesis design was based on the six-step method of Sandlowski and Barroso (2007). Accordingly, the meta-synthesis team was formed with the presence of three curriculum planning experts and two meta-synthesis research experts. In the phenomenological method, the participants were 12 academic staff selected from Shiraz University in Iran and Sheffield Hallam University in the UK through purposive samples. A qualitative design was adopted using semi-structured interviews.

Findings: In general, the analysis showed academic staff's positive opinion about the necessity of E-learning development. Three main themes emerged after thematic analysis which showed that to develop E-learning three issues must be addressed: Technological-infrastructure issues, pedagogical issues, and cultural issues.

Conclusion: The result has brought some different experiences and cultural issues. Both universities claimed that investment is worthwhile. But cultural issues are a subject that needs to be considered while investing in E-learning. It brings a good research area to explore cultural diversity and different attitudes in various cultures towards the development of E-learning. ©authors

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1. Introduction

E-learning has become an increasingly important aspect of higher education because it provides students with potentially greater accessibility to courses and also greater flexibility in tailoring the E-learning process to their individual needs. E-learning is the use of internet-based courses or programs to deliver instructions using pedagogical tools as part of a formal education programme (Al-Fraihat, Joy & Sinclair, 2020). The development of E-learning is a result of the growth of information and communication technology (ICT) in the educational setting because of the need to provide education for larger numbers of students as well as training students in technologies they will need in the workplace (Waluyo, 2020). As a result of this growth, Information Communication Technology (ICT) and E-learning provide benefits for all stakeholders such as administrators, teachers and students in higher education (Portuguez Castro & Gomez Zermeno, 2020). It was revealed that more than 80 different types of programs ranging from Social Science to Engineering and Technology are offered through online media, although mostly in a mixed E-Learning mode (Al-Jedaiah, 2020; Hussain, 2023).

Even though the potential benefits of E-learning may be significant, there are a number of issues, limitations, and challenges to E-learning practices. E-learning generally requires a high upfront cost, new pedagogical skills, and learners' self-discipline and motivation (Irfan, Kusumaningrum, Yulia & Widodo, 2020). Studies showed that factors such as technology, interaction, instructor, the student qualities and skills, and using technology are the key factors to successful E-learning (Irfan et al., 2020). According to Apriani, Inderawati, Arianti, Wati & Hakim (2021), implementing a comprehensive E-learning program would require changes to the infrastructure, curriculum, specialized teacher development, textbooks, and exams. As to the research conducted in Iran, Malekolkalami's study (2020) on effective factors in the success of E-learning showed that suitable contents, availability of information technology infrastructures, using suitable software, and choosing suitable media for education were the most effective factors regarding the success of E-learning systems from the online education point of view. Rahim & Chandran (2021) suggested that the integration of instructional technology in education may face numerous barriers, such as technological infrastructure, students' competence, technology satisfaction and instructors' motivation. No matter how effective the technology is, it has little use without proper implementation. Many higher education institutions have failed because of poor strategies, the high cost of technology, resistance to change, competition and poor course delivery (Rahayu, 2019; Regmi & Jones, 2020). Also Recent studies emphasized that E-learning systems face challenges in terms of upgrading and promoting the educational process. The efficiency of the E-learning system depends mainly on the quality of software applications while the success of any software relies much on the usage by different stakeholders (Elneel, Kahtan et al, 2023). These issues are more pronounced for developing countries, like Iran, which have limited resources and technical expertise in comparison with developed countries. Still, the experience produced by E-learning in higher education goes way beyond entertainment (Giannakos, Mikalef & Pappas, 2021).

Insufficient ICT infrastructure at the national level and the institutional level can discourage the adoption of E-learning as it can cause major problems such as inadequate internet connectivity or bandwidth to support the transition of large files (Waluyo, 2020). Tarus, et al. (2015) and Olaore (2013) indicated lack of satisfactory infrastructure is an obstacle to use E-learning in developing countries. Other researchers Almanthari, Maulina, & Bruce (2020), Rahim, et al. (2021), and Callinan (2020) also indicated that the quality of the internet and technical support as a barrier. Access to computers is also a factor influencing the adoption of E-learning. If the number of students accessing computers is insufficient, E-learning cannot be effectively implemented. The absence of technical support services from educational institutions also fosters a perception among educators and students that E-learning may not be a practical educational solution because of the difficulties of resolving technical problems in a timely manner (Romero-Hall, 2021).

Lack of personal knowledge and skills were also mentioned by other researchers (Maphalala & Adigun, 2021; Bano, Syed, Gul & Mansoor, 2021; Shersad & Salam, 2020; and Balida & Encarnacion, 2020) as another barrier and the issue that must be considered when implementing and developing E-learning. Bano et al., (2021) introduced lack of qualified personnel and lack of financial support as significant barriers to implementation of E-learning. Access to computers is a factor influencing the adoption of E-learning. If the number of computers are insufficient and students cannot access to them, E-learning cannot be effectively implemented. In addition, Giannakos et al., (2021) mentioned that poor administrative support directly and indirectly influences the effective implementation of ICT in education.

Studies showed that E-learning development are depends on user perception, intention, and motivation and engagement about E-learning, specifically usefulness and ease of use (Jung & Lee, 2018; Zhu, Sari, & Lee, 2018; Hasan & Bao, 2020). Hattinger (2020) indicated resistance can arise from staff with insufficient competences in ICT and a general perception that online degrees are less credible than traditional degrees. Failure to realize the importance of ICT and E-learning can also slow the rate of diffusion of E-learning in the organizations of an educational institution, which in turn discourages educators from adopting ICT mediated learning methods (Maryuningsih, Hidayat, Riandi & Rustaman, 2020; Oughebbi, 2023). In addition, the lack of a generally accepted pedagogical theory can also discourage administrators and university faculties from adapting an E- learning model for education delivery because of the difficulties in assessing the effectiveness of the approach when determining learning outcomes (Portuguez Castro, 2020). Ashraf, Jumani & Mehmood (2020) found the influence of organizational climate on employees' acceptance of E-learning. This view also supported by Malekolkalami (2020) in Iran. Many higher education institutions have failed because of the resistance to change (Romero-Hall, 2021). Alenezi (2020) also found out that if teachers want to successfully use technology in their classes, they need to possess a positive attitude to the use of technology. Students' maturity and self-discipline are vital conditions for the achievement of a successful E-learning process (Hilton, Moos & Barnes, 2020). Yang, Su & Bradley (2020) believed that individuals with maturity have been better able to leverage these new tools to self-manage their training and carry out their continuing education activities.

Although the universal trend is towards increasing the use of E-learning in higher education, the technology is not evenly spread throughout all groups and cultures (Mehta, Morris, Swinnerton & Homer, 2019; Chugh, Upadhyay et al., 2023). The disparity in the availability of E-learning at the university level is apparent in Middle Eastern nations. Some institutions of higher education in the Middle East are increasing their emphasis on ICT education and access because of the need for these institutions to compete with universities outside the region to retain students (Rahim, et al., 2021). E-learning is a vital part of the education system in developed countries. Developing countries such as Iran are not deprived from E-learning facilities. The introduction of IT to government institutions in developing countries bears a great risk of failure. The lack of qualified personnel, financial support, planning and proper justification are just a few of the causes of the projects failure (Callinan, 2020). Despite this, the higher education systems in all Middle Eastern nations including Iran are facing stakeholder pressure to adopt the Western educational practice.

While development of E- learning has been widely studied (Willems, 2023), more research is needed to better understand the factors related to its continued use and improvement of E-learning and find the obstacles present in E-learning environments which stakeholders must attempt to overcome. In recent years, there have been significant investments on E- learning. Despite such investments, still some issues might be considered in the context of E-learning adoption and development. The purpose of the current study was to examine academic staff's opinion across two contexts (Iran and the United Kingdom) about necessity of investment through qualitative approach. In order to provide a more accurate picture of the E-learning investment, their opinion about the basic issues surrounding the development and improvement of E- learning in the two countries was gathered through interview. For this study Shiraz

University was chosen, because it was the first university in Iran that used E-learning and also Hallam- Sheffield University because it was a good model for a developed countries' E-learning institution.

2. Method

This research is a qualitative multi-method and has been done using two meta-synthesis qualitative and phenomenological design. Based on this, the methodology section and findings are presented separately.

Meta-synthesis is a qualitative research method used to integrate and synthesize findings from multiple qualitative studies to create a broader understanding of a phenomenon. It involves systematically reviewing and synthesizing the findings from multiple qualitative studies to develop a new understanding of the phenomenon of interest. Meta-synthesis involves four main stages: problem formulation, data collection, data analysis, and interpretation. In the data analysis phase, researchers use a variety of qualitative methods, including thematic analysis, to identify common themes across the studies. The interpretation phase involves synthesizing the themes to create a new understanding of the phenomenon.

Phenomenological design method is a qualitative research method that focuses on exploring the essence of a lived experience from the perspective of the person experiencing it. The phenomenological design method involves in-depth interviews with participants to gain a detailed understanding of their experiences, feelings, and perceptions related to a particular phenomenon. The aim is to identify and describe the essence of the phenomenon, rather than just its surface-level characteristics. Data analysis in phenomenological research involves a process of reduction, where the researcher identifies key themes and patterns in the data and synthesizes them into a coherent description of the phenomenon. The goal of phenomenological research is to provide a detailed and comprehensive understanding of the subjective experience of the phenomenon being studied.

2-1. Meta-Synthesis Analysis

The meta-synthesis design was based on the six-step method of Sandlowski and Barroso (2007). Accordingly, the meta-synthesis team was formed with the presence of two curriculum planning experts and one meta-synthesis research expert, and the following steps were performed:

2-1-1. Step 1: Set up the research question

The main research question was, what are the Academic staff opinions about related issues for investment of E-learning?

2-1-2. Step 2: Systematic search of literature

In this study, five Latin databases including Scopus, Emerald, Science Direct, Springer and ProQuest were selected for the study. To search for articles in these databases, the keywords "E-learning", "E-learning as investment ", " opinions about E-learning " were used and related articles were collected for the period of 2019 to 2023.

2-1-3. Step 3: Quality assessment

After an initial search of the database, a total of 26 sources with the mentioned keywords were obtained. The review process included reviewing the titles of the sources, abstracts and their content, and at each stage in accordance with the acceptance criteria (English research language, research time from 2019 to 2023, combined or qualitative research). The following studies were excluded from the analysis process:

- Their subject or content was not relevant to the subject of the present study.
- were done by quantitative research method. Since qualitative research (including meta-synthesis) is done with the aim of discovery and quantitative research is done with the aim of

explanation, according to Sandlowski and Barroso (2007), the research reviewed in meta-combination should be done with the method of qualitative research (or a meta-synthesis to use the qualitative part).

- Articles that do not address related research in their findings or discussion and conclusions.
- Sources that were related to co-authors or had duplicate findings, one of which was removed, and the research remained more complete.

The purpose of this step was to remove sources that the researcher did not trust in their findings. For this purpose, a 10-item checklist was prepared to assess the accuracy, validity and importance of qualitative studies. Questions included review of research objectives, methodology, research design, sampling method, data collection method, relationship between researcher and participants, ethical considerations, validity of data analysis, clear expression of findings, and value of research. When using this tool, the sources were studied and a score between 1 and 5 was considered for each source due to its high characteristics. Based on the 50-point scale of this method, each resource is based on the degree of quality and according to the range: Very good "50-41", Good "40-31", Average "30-21", Poor "20-11" and Very poor "10-0" were categorized.

2-1-4. Step 4: Analyze qualitative data

At this stage, the researchers continuously reviewed 16 selected and finalized articles several times in order to obtain the findings within the separate content in which the main studies were conducted, and codes were extracted from selected texts. The main research question was used to extract the codes. The fifth (qualitative findings) and sixth (qualitative findings validation) steps are presented in the findings section.

2-2. phenomenological approach

The current qualitative study took a phenomenological approach, using data from semi-structured interviews which were adopted with academic staff in Computing Departments of Shiraz University in Iran and Sheffield Hallam University in UK in order to gain their opinion about the necessity of investment on E-learning development in their countries. The sampling method was purposive sampling and a total of 12 academic staff from Shiraz and Sheffield Hallam Universities participated in the study. The study aimed to recruit enough academic staff to achieve data saturation, in which any further participants will add nothing new to our collected information. Based on previous research, which suggests that between 4 and 14 participants with an average of nine are needed to reach saturation (Gehart, Ratliff, & Lyle, 2001) we concluded that we gathered enough information by 12 academic staff. Interview was done on the basis of who was readily available, in a comfortable place and at the academic staff's convenience. Each interview was last around 1 hour, in the event ranging from 45 minutes to 1 hour and 45 minutes. Each interview was tape-recorded and then transcribed. The data from the interviews was examined by thematic analysis.

The analysis was carried out in the following stages; transcribing and analyzing the contents of the interviews in both English and Farsi to explore academic staff opinion of E-learning investment, translating the Persian versions of interviews to English (the translated interviews were checked by an expert in both English and Farsi to establish the translation credibility), then, thematic analysis was used to analyze the data. After becoming familiar with the data, an initial list of codes was generated where free listing of responses and pile sorting was applied, and then the data was searched for themes. Identified themes were reviewed, named and defined by the authors. An external colleague re-analyzed the data to confirm the identified themes to ensure rigorous analysis. Thematic analysis generated the emergence of three broad themes; technological-infrastructure issues, pedagogical issues, and cultural issues.

3. Findings

3-1. Meta-Synthesis Finding

First, all factors extracted from the research were considered as code, and then the codes were summarized according to the reduction rules based on the concept of each code. These codes were then classified into 3 organizing themes and 30 sub-themes (as basic) based on the concepts related to the E-learning barriers research. The results are presented in Table 1:

Table 1. Basic and organizing themes of related issues for investment of E-learning

Organizing themes	Basic themes	Sources
Staff justification	Able to design and facilitate the learning process on the basis of the application of ICT	Aboagye, Yawson & Appiah(2021), Srivastava (2019)
	Personalized E-learning process access to resources	Huynh, Nguyen, Nguyen & Vu (2020), Srivastava (2019), Hussain (2023)
	Promote interactions and collaboration in E-learning	Huynh et al. (2020), Ayshwarya, Yansyah, Nguyen, Shankar, Hashim et al. (2019), Hussain (2023)
	Improvement of the teaching and learning process with increased E-learning courses	Huynh et al. (2020), Mehta, Morris, Swinnerton & Homer(2019), Al-Marroof(2021), Hussain (2023)
	Conducting long-term research To facilitate the E-learning process	Huynh et al. (2020), Ayshwarya et al. (2019), Hussain (2023)
	Capacity building by technical training and pedagogical training	Mayer(2020), Hilton, Moos & Barnes(2020), Chugh et al.(2023)
University internal infrastructure	Providing technology and network equipment	Srivastava (2019), Mehta et al. (2019)
	Adjust the speed of learning according to their needs	Srivastava (2019), Ayshwarya et al. (2019)
	Requires a theoretical and procedural background for teaching design	Huynh et al. (2020), Ayshwarya et al. (2019), Hussain (2023)
	Provide Learning Management Systems (LMS) and Learning Content Management Systems (LCMS)	Huynh et al. (2020), Ayshwarya et al. (2019), Hussain (2023)
	Provide virtual communities, and resource-sharing media (YouTube, educational games, development tools, and learner personalization)	Huynh et al. (2020), Ayshwarya et al. (2019), Tang, Chang & Hwang (2021), Hussain (2023)
	Understand the need of adaptive learning, whereby the contents, speed, and methods of learning	Huynh et al. (2020), Ayshwarya et al. (2019), Hussain (2023)
	Involved the use of supporting applications, teaching, and learning focused on software and using computers	Huynh et al. (2020), Mehta et al. (2019)
	Enterprise on a platform to provide free online courses conducted by universities	Huynh et al. (2020), Mehta et al. (2019), Hussain (2023)
	Have framework determines whether or not E-Learning initiatives will fail or succeed	Al-Fraihat, Joy & Sinclair (2020), Hilton et al. (2020), Chugh et al.(2023)
	Setting up the strategy plan for e-Learning modules	Alqahtani & Rajkhan (2020), Hilton et al. (2020), Prestiadi (2020)
University external infrastructure	Economic aspect or cost benefit analysis	Huynh et al. (2020), Ayshwarya et al. (2019), Chugh et al.(2023)
	Setting learning environment from future developments in big data and artificial intelligence	Huynh et al. (2020), Mehta et al. (2019), Chugh et al.(2023)
	Maximize the learner’s capacity acceptance by blended learning	Huynh et al. (2020), Mehta et al. (2019)
	Forming economic association models to maximize the economies scale in E-learning.	Huynh et al. (2020), Ayshwarya et al. (2019), Chugh et al.(2023)
	Reinforce supportive relations among technology, education, and economy by government	Huynh et al. (2020), Hilton et al. (2020)
	Planning for develop human resource capacity toward E-learning	Mayer(2020), Kibuku, Ochieng & Wausi(2020), Chugh et al.(2023)
	Drawing up an E-Learning policy framework to guide the practice in the country	Kibuku et al. (2020), Rajabalee & Santally (2020)
	Training on the part of E-tutors	Aziz, Haron & Harun (2020), Rajabalee & Santally (2020), Chugh et al.(2023)

	Planning for develop ICT infrastructure and accessibility	Maryuningsih, Hidayat, Riandi & Rustaman(2020), Rajabalee & Santally (2020)
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3-1-1. Step 6: Validation of meta-synthesis findings

The validity of synthesized data was determined using validation and transferability techniques through researchers' self-review and data alignment as well as reliability with precise guidance of researchers' data collection and alignment (Lincoln & Goba, 1985). Also, for more certainty, the agreement method between the two coders and the Kappa Coefficient has been used. In this way, a researcher in the field of education, without knowing how to integrate the codes and concepts created by the present researchers, has categorized the codes and concepts and then compared them with the concepts presented by the researchers. Finally, according to the number of similar and different concepts created, the Kappa Coefficient is calculated to be 0.87, which shows that the research results are very reliable. Also, during the research process, the resources used by two researchers were independently searched and evaluated.

3-2. Phenomenological Findings

Despite all the negatives, some criticism and shortcomings, and several barriers in different literatures, E-learning is still an appropriate mode of offering instruction and learning and best replace for traditional education. As one academic staff claimed:

I₂ "First days, it was in my mind that this system does not reflect a good outcome, but today I can say one day comes when E-learning becomes a best replace of traditional system. Even with improving the drawbacks it can be an alteration of face to face education".

A majority of academic staff believe that investment is reasonable. Here are some quotes:

I₅ "It is a good investment, reasonable even we do like it or not we go through this way spontaneously. It has to go through this way anyway".

I₃ "To date this kind of system is a good investment for university. A substantial part of costs is being paid by E-learning system in university".

U₂ "It is wise investment".

I₆ "I am 100% sure that investing on this system is reasonable and essential".

In line with the above mentioned comments, the academic staff also stressed the importance of E-learning programs for students who work and cannot attend the classes.

I₈ "Investment is reasonable. Because we have a group of people that they are keen to study but they cannot attend the classes, although they are worth for our country. We should provide the condition for them using E-learning. Most of the students are working somewhere, we cannot ask them to attend the classes

s because of their position, although they have a good mental ability to learn which best option for them is to attend E-learning courses. Therefore, it is not wasting the resources. Now these people have a different technical insight and knowledge for their organization."

An academic staff also considered that E-learning system can bring financial profits to the university.

I₁ "In terms of investment this system will be very good. It may bring good profit to the university financially. In Iran, investing on this educational system is reasonable. It may have a good benefit, because LMS is based on the outcomes from student tuition fees".

In addition, one also noted that improving E-learning needs marketing.

I₇ "There should be an investment. We should do marketing. Target market should be defined very well. In the general it has been a good system for all levels, however in a certain sense it is going to be better system for higher levels."

Thus, improving quality of E-learning is a critical issue in the success of E-learning environments in educational setting. In view of the growing trend towards introducing E-learning in universities, academic staff were asked their suggestions for improvement of E-learning in the universities. The thematic analysis of the semi-interview transcripts generated three main themes which reflected academic staff opinion about investment on E-learning

development. The analysis showed that to develop E-learning three issues must be addressed: Technological-infrastructure issues, Pedagogical issues, and Cultural issues.

3-2-1. Technological-infrastructure issues

Based on the interview, the existing telecommunications systems are inefficient. In other words, accessibility in terms of fast, cheap and good access to the internet is not feasible due to the problems related to poor infrastructure. Therefore, one issue to empower E-learning is to resolve infrastructure problems. Some academic staff stated that:

I₃ “Basically our basic requirement is that hardware and software facilities become available. Tablets and other components should be available either. We should be able to write on the whiteboard as easier as on the black board in real class. Of course it helps us and students”.

I₅ “During our courses connection should be stable and servers should work continuously properly. When there are these kind of issues then the main aims get lost and these all neglect the content of the course”.

Usability for teachers and students is an integral part of any successful E-learning program.

I₈ “The main issue is technical aspects. For example, how user friendly designed this system which can be used easily for everyone. A human science’s teacher who has not had a course in computer systems or is not familiar with program, then how using this system could be easy for them. Using E-learning system should be quite straight forward in such a way that everyone can use. Usability is quite vital. “

I₇ “We need to have necessary equipment. If E-learning wants to be successful, then it should not cause any limitation. If these will be used in a suitable and proper way and in a right place, then they would have effective role.”

Appropriate levels of technical support or specific training to aid students and teachers should be available throughout the duration of the course/program.

U₁ “Availability of technical helps is very important”.

U₂ “More training to teaching staffs”.

3-2-2. Pedagogical issues

An important point related to pedagogical issue is focusing on virtual environment to improve interaction in E-learning environment.

I₁ “This limitation might be resolved in the future by creating a virtual environment which student and teacher feel they are staying at the same place in a real place”.

I₆ “If we could have video chat this is a very positive way”.

I₇ “There should be a visual system like video conference that teacher and student can see each other. And in the next part visual reality should be added which allows the people in the class to see each other. Thirdly, we oblige student to hand the course works directly in the teacher’s office”.

I₃ “If issues get resolved, 80% this system plays positive roles and 20% the communication of students is important in learning, if a good communication happens. Nowadays, communication is being revolutionized and via chat rooms, Facebook etc., direct communication is more effective”.

U₁ “I hope the system have much more interactive”.

U₂ “To build Skype to the system is very excellent”.

Along the same lines, another academic staff places great emphasis on lack of feedback and involvement from students in E-learning system that must be solved, when he asserts:

I₂ “Education is transferring message from teacher towards student and receive feedbacks from student. There is not enough feedback from student in E-learning system. It means there is lack of involvement from student. This is a big problem and should be solved”.

Also, focusing on teaching procedures, quality control of subjects and evaluation are counted as influential factors in the success of E-learning.

I₄ “Teaching procedures, quality control subjects and evaluation, these all require more research and development in terms of scientific, psychology and culture”.

U₃ “Structural, aim and objective should be clear”.

3-2-3. Cultural issues

In addition to pedagogical aspect of E-learning, cultural issues are required to be addressed to insure the success of E-learning. Academic staff noted that E-learning success is dependent on culture, namely attitudes towards students attending E-learning program:

I₄ “I think this is a wise investment. Just we should try in culture. We should take good student. We should research to how change the insight of people and students”.

I₃ “The main issue is the differences with culture that is mostly from teachers. We know those students will be chosen to E-learning system which they have not been selected in governmental universities, it means they are weaker. So they will be weak when they graduated. Admittedly, if a person was not able to be a student in governmental universities then will go to E-learning system and start a course. It needs to be a culture. With this regard, even if you improve the technical issues of the system, it is hard to work when cultural approaches exist. Although this insight is not wrong in total, if cultural issue gets resolved beside the technical issues then this system will be fine”.

To better understanding of expectation and investment of E-learning in Iran & UK and comparison between the two universities, the Table 6 was designed:

Table 2. Opinions about investment of E- learning

<i>Organizing theme</i>	<i>Basic themes of Shiraz University</i>	<i>Basic themes of Sheffield Hallam University</i>
<i>Technological Infrastructure Issues</i>	-availability of hardware and software facilities, tablets and other components and necessary equipment. -stabilizing of servers to work continuously and properly. -can be used easily for everyone and should be quite straight forward.	-availability of technical helps -more training to teach staffs
<i>Pedagogical Issues</i>	-trying to use most of the multimedia features. -having visual system like video conference. -having visual reality which allows the people in the class to see each other. -obliging student to hand out the course works. directly in the teacher’s office. -more research and development about teaching procedures, quality control of subjects and evaluation.	-trying the system have much more interactive -build Skype to the system -clarity of structural, aim and objective
<i>Cultural Issues</i>	-we should take good student -we should do research about how to change the insight of people and students	

3-3. The final findings

By summarizing the themes extracted from the meta-synthesis analysis and interviewing lecturers and eliminating commonalities, finally, the final model was developed as table 3.

Table 3. The final table of global, organizing, and basic themes

<i>Global themes</i>	<i>Organizing themes</i>	<i>Basic themes</i>
<i>Related issues for investment of E-learning</i>	<i>Staff justification</i>	able to design and facilitate the learning process on the basis of the application of ICT
		personalized E-learning process access to resources
		improvement of the teaching and learning process with increased E-learning courses
		Conducting long-term research To facilitate the E-learning process
		capacity building by technical training and pedagogical training
		trying to use most of the multimedia features

		more research and development about teaching procedures, quality control of subjects and evaluation.
		clarity of structural, aim and objective
	<i>University internal infrastructure</i>	Providing technology and network equipment
		Adjust the speed of learning according to their needs
		requires a theoretical and procedural background for teaching design
		Provide Learning Management Systems (LMS) and Learning Content Management Systems (LCMS)
		Provide virtual communities, and resource-sharing media (YouTube, educational games, development tools, and learner personalization)
		Understand the need of adaptive learning, whereby the contents, speed, and methods of learning
		involved the use of supporting applications, teaching, and learning focused on software and using computers
		Enterprise on a platform to provide free online courses conducted by universities
		Have framework determines whether or not E-Learning initiatives will fail or succeed
		Setting up the strategy plan for E-Learning modules
		availability of hardware and software facilities, tablets and other components and necessary equipment
		Can be used easily for everyone and should be quite straight forward
		should do research about how to change the insight of people and students
		Availability of technical helps
		more training to teach staffs
	Having visual reality which allows the people in the class to see each other	
	<i>University external infrastructure</i>	Economic aspect or cost benefit analysis
		Setting learning environment from future developments in big data and artificial intelligence
		Maximize the learner's capacity acceptance by blended learning
		Forming economic association models to maximize the economies scale in E-learning.
		Reinforce supportive relations among technology, education, and economy by government
		Planning for develop human resource capacity toward E-learning
		Drawing up an E-Learning policy framework to guide the practice in the country
		Training on the part of E-tutors
		Planning for develop ICT infrastructure and accessibility
		Stabilizing of servers to work continuously and properly
	Trying the system have much more interactive	

4. Discussion

Academic staff's opinions on the investment of E-learning was addressed in the present study.

Three subtotals were derived after analysing interviews: Technological infrastructure issues, Pedagogical issues, and Cultural issues. The academic staff from the two universities almost have common perspectives in technological infrastructure issues and pedagogical issues. The differences were in regard to cultural issues that was proposed by academic staff from Shiraz.

As stated, the first issue addressed technical infrastructures and assets that act as the backbone of an E-learning entity. The technological infrastructure is viewed as the ensemble or 'web' of equipment, techniques, applications whose efficiency can be characterized in terms of availability and reliability, the adequate functionalities, usability and integration into the existing infrastructure. This technological infrastructure is critical for attaining and success of E-learning environments. It is crucial for virtual institutions to decide on which infrastructures, systems, and resources can support this type of education in a proper way

(adequate and accessible). Accordingly, it was emphasized in the literature that careful attention should be paid to choosing and establishing appropriate technologies that are readily available, reliable, and sustainable (Brockbank, 2003; Khan, 2005; Hussain, 2023; Marshall, 2006; Chugh et al., 2023; Zhao, 2003). Yaghoobi's study (2009) on effective factors in the success of E-learning shows that availability of information technology infrastructures, using suitable software, and choosing suitable media for education were the most effective factors regarding the success of E-learning systems.

In addition, technical support is required to bring the students and teachers into the E-learning environment, especially by eliminating assumptions that learners will know what and how to do. A large number of studies have indicated the importance of student and teacher support for successful E-learning implementation. Correspondingly, the effectiveness of the support can determine the perceived quality from the learners' perspective (Fresen, 2005; Institution for Higher Education Policy, 2000; Hussain, 2023; Marshall, 2006). Also, a lack of insufficient technical support of teachers is one of the main obstacles to developing and running successful E-learning courses or programs. Teachers are often thrown into E-learning settings with little or no technical and professional development to assist them (particularly in developing countries such as Iran). Therefore, appropriate professional development opportunities for teachers should be provided on a regular basis in terms of updating of teachers' technical knowledge.

Pedagogical issues are the most important factor in E-learning, not technology (Marshall and Mitchel 2006; Chugh et al., 2023). This factor, which addresses the process of learning and teaching in terms of how learning and teaching is carried out (communication, collaboration and interaction), is at the core of E-learning environments. In addition, the pedagogical factor is considered to be most critical when constructing a high quality E-learning (Willems, 2023; Marshall & Mitchel, 2006; Swedish National Agency of Higher Education, 2008). The teaching procedures and quality control, which can be considered to be as a pedagogical issue, can shape and influence every aspect of teaching and learning, both as a means of understanding how students learn and as tools for guiding the design and aligning of learning activities (Marshall, 2006).

The other pedagogical issue is that the universities should have a plan addressing the clarity of some aspects such as aim and objectives of the institution. It is generally accepted that successful implementation of E-learning depends on explicit institutional visions and goals (long-term aims that guide current practice), along with well established procedures and standards (Marshall, 2006). Correspondingly, learning scenarios and styles should be selected and employed purposefully and properly based on the objective of the course, type of content and type of audience (Willems, 2023; Huddleston & Pike, 2007).

Academic staff in Shiraz University claimed that the majority of students who enter virtual universities in Iran are students who are not able to enter governmental universities because of the lack of eligibility such low score or rank which categorized them as weak student. There is an extensive consensus that culture as explained previously could have very strong influence on the developing E-learning environments. For example, when academic staff believe students who come to this system are weak, this influence the way they apply this system in the all elements and components of curriculum such as objectives, content, equipment, method of teaching and learning, assessment, evaluation, etc. Appropriate attitudes toward the students attending E-learning courses can have positive affect on learning environment. In addition, it seems the most important shift from traditional education (face to face) to E-learning should involve the change of attitudes towards "change". Undesirable attitudes toward E-learning causes resistance to the implementation of E-learning which slows the pace of E-learning adoption. As we are living in information age, and modern society those culture which are dominant on developing countries cannot meet societies demand toward development.

5. Conclusion

Accordingly, the inclusion of cultural values and expectations, and trying to change negative attitudes when designing and developing of E-learning environments can be considered to be a move to insure the success of E-learning. These cultural values can have a strong influence on the design and use, as well as the behaviour of the participants involved.

In overall, we looked at the bigger picture that this study may facilitate decision making in the area of higher education in both universities, with regard to E-learning, by providing information to stakeholders who are involved in the implementation of E-learning especially in both universities. The finding showed that investment is logical and decision makers can address the mentioned issues to guarantee the empowerment of E-learning system in the universities. Thus, it can be said that E-learning implementation should be embraced as a strategy at the top level and decision makers should be visibly and explicitly committed to improvement of E-learning in their institution. Both universities claimed that investment is worthwhile. But cultural issues are a subject that needs to be considered while investing on E-learning. It brings a good research area to explore cultural diversity and different attitudes in various cultures towards development of E-learning.

So this research puts forward a few recommendations built on the findings of the study for higher education institutions. Following the findings, higher education institutions may enhance the quality of e-learning course delivery in post-COVID times or new stable environment by making new standards framework for designing, implementing, and assessing. Instructors can focus on the course content organization and the e-Learning pedagogy by taking into account the revealed academic staff's points of view to improve the learning process. Also, instructors may increase communication and feedback practices in e-Learning systems without any negative perception. The managers, organizers, and coordinators may devote effort and time to continuous evaluation of the content delivered on the e-learning platforms as well as the satisfaction of the learners by employing learning tools and learning management systems that are user-friendly, efficient, and effective. Therefore, some cultural issues may take into consideration the awareness that e-Learning success in post-pandemic times depends on adequate course design and resources, instructors' facilitation, and involvement in the e-learning systems. finally, by controlling the knowledge and opinions management process, the basic attitude changes in both kinds of countries may occur during the time.

Declaration of Competing Interest

The author declares that he has no competing financial interests or known personal relationships that would influence the report presented in this article.

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