

# Impacts of E-Learning on Educational Policy: Policy of Sensitization and Training in E-Learning in Saudi Arabia

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**Abstract**—Saudi Arabia instituted the policy of sensitizing and training stakeholders for e-learning and witnessed wide adoption in many institutions. However, it is at the infancy stage and needs time to develop to mirror the US and UK. The majority of the higher education institutions in Saudi Arabia have adopted e-learning as an alternative to traditional methods to advance education. Conversely, effective implementation of the policy of sensitization and training of stakeholders for e-learning implementation has not been attained because of various challenges. The objectives included determining the challenges and opportunities of the e-learning policy of sensitization and training of stakeholders in Saudi Arabia's higher education and examining if sensitization and training of stakeholder's policy will help promote the implementation of e-learning in institutions. The study employed a descriptive research design based on qualitative analysis. The researcher recruited 295 students and 60 academic staff from four Saudi Arabian universities to participate in the study. An online questionnaire was used to collect the data. The data were then analyzed and reported both quantitatively and qualitatively. The analysis provided an in-depth understanding of the opportunities and challenges of e-learning policy in Saudi Arabian universities. The main challenges identified as internal challenges were the lack of educators' interest in adopting the policy, and external challenges entailed lack of ICT infrastructure and Internet connectivity. The study recommends encouraging, sensitizing, and training all stakeholders to address these challenges and adopt the policy.

**Keywords**—E-learning, educational policy, Saudi Arabian higher education, policy of sensitization and training

## I INTRODUCTION

TECHNOLOGICAL advancement has made the education sector adopt e-learning policy as an essential aspect of advancing education. The outbreak of the COVID-19 pandemic forced the closure of schools across the world to deploy virtual learning for continuous learning at all levels of education. Various steps have been undertaken to deal with the outbreak to protect the lives of many students globally. In some regions, the ministry of education has implemented necessary steps to deliver education via the Internet [1]. The demand for e-learning following the pandemic has forced educational institutions to revert to virtual classes instead of brick and motor classes in teaching their students. Virtually, the use of e-learning is the best immediate reaction to enhance learning. However, educators have faced the challenge of reformatting

educational materials to meet the immediate needs of students [2].

Although many researchers have addressed issues associated with e-learning policy extensively, only a few have discussed information technologies for e-learning among students in the Kingdom of Saudi Arabia (KSA) [2]-[4]. Increased technological advancements in the past decade have reshaped learning methods in Saudi schools. While technologies range from computers, broadcasting, telephony to the Internet, minuscule efforts are evident to determine the challenges of e-learning, particularly in KSA schools [5]. Learning Management Systems (LMSs) have attained significant attention in some learning institutions, including universities. Al Zahrani et al. [6] defined an e-learning management system “as the integration of software applications or using Internet-based technologies to implement, plan and access the learning process.” Teachers and learners can benefit from these technologies, particularly during the pandemic.

Teachers can develop learning materials, follow the learning activities, update students, and access knowledge [6]. On the other hand, learners can use web-based technologies to access learning materials, pose questions, share lessons with colleagues, and upload assignments for assessment. E-learning, as with other new terminology in technology, has several definitions. However, according to Hoq [7], the standard definition of e-learning is the “[Internet]-based system that makes learning materials accessible for learners without considering time restrictions and geographic proximity.” Thus, students can access learning materials or attend classes over the Internet. Another definition denotes the term as learning delivery through assistive technologies in offline and online variants. However, e-learning refers to the Internet as the sole medium of delivering education [8]. It implies that students attend classes through the Internet rather than traditional setups. Developed countries have made significant steps towards integrating e-learning in education – a stark contrast with developing nations.

Several studies suggest critical challenges hinder the effective incorporation of e-learning in all academic levels [9], [3], [5]. In particular, delays exist in many learning institutions in the Middle East towards adopting and integrating learning in education systems [3]. Therefore, while considering the opportunities of integrating e-learning as a medium of

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education delivery, Middle Eastern countries should address imminent problems. Saudi Arabia adopted e-learning rapidly in the early 1990s before computer technologies and the Internet reinforced the model [9]. Most learning institutions have adopted e-learning but face challenges and opportunities that the country should address before increasing implementation.

A few studies exist regarding e-learning policy (sensitization and training stakeholders' policy) in Saudi Arabia. For instance, Alharbi & Alotebi [10] noted that opportunities and challenges of e-learning faced by educators and students in educational institutions are rare. Thus, the main aim of this research was to investigate the opportunities and the challenges of e-learning policy in Saudi Arabia from the perspective of students and educators and is guided by two major questions.

#### A. Research Questions

RQ<sub>1</sub>: What are the specific opportunities for adopting the policy of sensitization and training of stakeholders for effective implementation of e-learning?

RQ<sub>2</sub>: What are the challenges of adopting an e-learning policy in educational institutions in Saudi Arabia?

#### B. Research Objectives

The paper has the following objectives:

- To determine the challenges and opportunities of e-learning policy of sensitization and training of stakeholders in Saudi Arabia's learning institutions.
- To examine if sensitization and training of stakeholder's policy will help promote the implementation of e-learning in institutions of learning.

Thus, the study will enable policymakers, educators, students, and researchers to understand the opportunities and issues of virtual learning in the context of Saudi Arabia, particularly during this time of the COVID-19 pandemic.

## II LITERATURE REVIEW

### A. E-Learning Policy History

The rise in the student population in the Saudi Arabian universities prompted the Ministry of Education to integrate Information Communication Technologies (ICT) within higher education institutions to enhance learning. The move later led to adopting an e-learning policy to ensure the effective implementation of e-learning as an alternative to learning in traditional classrooms. The policy involved sensitizing and training stakeholders in the education system to ensure the effective adoption and success of e-learning. In 2007, the Saudi Gazette reported that the value of e-learning reached \$125 million [11]. The gazette also projected that by 2017, the growth rate would reach 33% [10]. The e-learning policy adoption in Saudi Arabia can be traced back to the 1990s and was further supported by the proliferation of computer technology and the Internet after a few decades. Interestingly, the evolution of e-learning correlates with the use of closed-circuit televisions as a medium of learning within higher education institutions [10]. The government of Saudi Arabia set the national ICT plan in 2007, enhancing the integration of ICTs at all levels of learning. The move required adopting a policy

that would provide a systematic guideline on integrating all stakeholders in the education system in an e-learning platform to enhance total usage. In the same year, to promote the realization of the dream of incorporating e-learning in education, the Open University of Malaysia established the National Centre for E-Learning and Distance Learning [6].

In the early 21<sup>st</sup> century, most Saudi Arabian universities started to create centers for distance learning to promote e-learning. However, the majority lacked a policy or had a draft policy. The first university to implement e-learning was the King Fahd University for Petroleum and Minerals in 2003. Many others followed, such as King Khalid University in 2006 (e-learning), King Saud University in 2007 (e-learning), and King Faisal University in 2008 (e-learning and distance learning). The Saudi Arabian government has implemented projects through the education policy to sensitize and train stakeholders to support e-learning, such as the Saudi Digital Library project. Although there is a growing availability of e-learning and awareness of its opportunities in promoting learning, the e-learning policy of sensitization and training has been ineffective because many teachers face challenges using e-learning materials. Besides, the implementation of successful online instruction and e-learning in Saudi Arabia is at the infant stage. Al-Azawei, Parslow, & Lundqvist [12] argued that e-learning policy and its adoption in Saudi Arabian learning institutions are in their infancy. Even in institutions that have adopted e-learning, empirical evidence of its effectiveness towards student learning outcomes is lacking. Moreover, there are no clear frameworks for implementing e-learning policy in Saudi schools due to insufficient ICT adoption among schools. As such, Saudi Arabia's education system needs to develop a clear plan for implementing the new e-learning policy to promote education during the pandemic.

Alharbi and Lally's [5] research emphasizes that the efforts to implement e-learning policy successfully correlate with poor implementation plans rather than government support. Effective implementation of e-learning policy (sensitization and training of stakeholders) in the education system is vital to realize government policy in the ICT era. A study conducted in Saudi Arabia from 2007-2009 regarding ICTs in learning found that e-learning depended on ease of use of these technologies [5]. Thus, projections in the adoption and implementation of e-learning policy have suggested that hindrance results from a lack of technology awareness concerning opportunities among teachers and students. Despite this challenge, several universities in Saudi Arabia have an Internet connection.

Alenezi [1] noted that Internet use among university students in Saudi Arabia started to grow in earlier 2000, with about 74% of students spending at least four hours on the Internet daily. Nevertheless, unlike other universities in the UK and the US, where e-learning began, there are persistent challenges and limitations concerning e-learning in Saudi Arabia. The chief limitation is computer literacy. Alenezi's [1] research found that 30-40% of students and faculty members often feel dissatisfied with e-learning policy regarding the content of the methods used in teaching. If stakeholders resolve these problems, Saudi schools will depict wide adoption of e-learning

and benefit from the provision during and after the COVID-19 pandemic.

#### B. *Advantages of Effective E-Learning Policy*

The integration of e-learning policy in learning institutions has several benefits for students and teachers. Notably, learners can choose the best mode of learning, mirroring their preferences and commitments. Yamani [4] states that effective implementation of e-learning policy solves challenges of learning achievement. E-learning promotes information accessibility and serves every student's unique needs [3]. E-learning promotes adaptability since its policies allow teachers to accommodate the teaching approach of individual learners, which is a challenge in traditional learning platforms. Furthermore, e-learning promotes additional and alternative, and efficient interaction opportunities out of school and working hours. The Learning Management System (LMS) offers collaboration and cooperation. E-learning can reduce costs because the learners can save tuition fees, travel, time, and effort by enrolling in Internet courses. The study of [3] argued that e-learning promotes teaching quality because the system's functionalities can include pedagogical theories for interactive teaching. Finally, e-learning enables ease of management and tracking of learners and learning activities. An LMS can offer broad log files that track the progress of all learning activities. The advantages of e-learning can be realized if the institutions tailor their e-learning policies to stakeholders' needs, such as sensitizing and training them to understand its benefits.

#### C. *E-Learning Adoption Challenges in Developing Nations*

Developed countries, particularly of western origin, have implemented e-learning successfully and effectively instead of the challenges developing nations have faced [9]. Muhammad et al. [9] reviewed the incorporation of e-learning technologies in different developing nations. The study revealed that developing nations have the potential for e-learning to develop learning, but poverty and a lack of ICT infrastructure hinder this process. Similarly, Naveed et al. [11] classified obstacles they face, including personal challenges, behavioral traits, and internal characteristics. These issues can be mitigated by sensitizing and training stakeholders. Attitudes regarding e-learning features include personal perspectives on ICT usage, which also hinder successful deployment. It implies that the e-learning policy in Saudi Arabia has been ineffective. Further, contextual barriers, including insufficient ICT skills and institutional support, curtail deployment.

Sife et al.'s [13] study in Tanzania revealed that the challenges of adopting e-learning entailed insufficient funds and ownership alongside indeterminate technical and administrative support, awareness, and a systematic approach. Anderson [14] conducted a study in Sri Lanka to identify e-learning adoption challenges. They included a lack of student support, learning and teaching activities, students' academic confidence, and the transformation of content to fit the culture and attitudes towards learning. Tarus et al. [15] conducted a study in Kenya and determined the main obstacles of

integrating e-learning as a lack of sufficient ICT and e-learning infrastructure, the government's financial support, technical skills, Internet bandwidth, and teacher attitude. Finally, Ssekakubo et al. [16] investigated the challenges of integrating e-learning in learning institutions in Africa, and they included Internet accessibility, flexibility, and knowledge gap of stakeholders, ICT literacy, user support, and approach regarding LMSs.

The studies mentioned above note that the challenges of integrating e-learning in these countries are related. A study conducted in Saudi Arabia by Mirza and Al-Abdulkareem [17] revealed that the main challenges of effectively integrating e-learning included the rate of Internet penetration, public perception of Internet usage, and Internet bandwidth and cost. However, the challenges of e-learning integration have improved information accessibility, adaptability and adaptively, teaching quality, managing and tracking learners, interaction, cost-benefit ratio, and collaboration and corporation among students and teachers. Addressing these challenges can offer a ground for effective integration of e-learning in enhancing education delivery in learning institutions.

#### D. *Theoretical Framework*

Developing a policy of sensitizing and training stakeholders in the education system is the best way of ensuring the effective implementation of e-learning. According to Aljaber [2], e-learning is an alternative method of instruction to the traditional model. The policy is based on the idea that students learn online for protection from the COVID-19 pandemic. The theoretical framework is based on three main aspects, including people, technologies, and services. Besides, e-learning facilitates intended or unintended interaction among varied groups of individuals. Technologies give support to the interpretation of the information to enable communication. E-learning facilitates interpretation of the activities conforming to educational models. Fig. 1 below shows the conceptual framework that is used to guide this research study. It contains the three elements (people, technologies, and services) that concern e-learning educational policy.

#### E. *Theoretical Framework*

The theoretical framework focuses on the opportunities and challenges of the e-learning policy of sensitizing and training stakeholders in the Kingdom of Saudi Arabia. The KSA has not been left behind in the global adoption of information communication technologies as a method of promoting education [2]. The Saudi government implemented the e-learning policy plan in the early 1990s, and the development towards achieving this goal has been significant [2]. In 1996, the Ministry of Higher Education developed a computer and information technology center to champion the e-learning initiative. Afterward, many campaigns and programs have been initiated to attain the same objectives [2].

In Saudi Arabia, the most common partners of e-learning with UK and US international universities include KSU, Taibah University, King Khalid University, and KAU [2]. They have

adopted e-learning, but the program is yet to provide positive outcomes because of the slow adoption. In addition, private and public institutions have integrated e-learning as an alternative method of supporting education delivery and encouraging the participation of all stakeholders. The major challenge in Saudi Arabia is the inability of the government to match quality education with the needs of a growing population. Education

stakeholders also lack ICT skills because of a lack of training and sensitization based on the policy. Thus, the government is seeking alternatives to promoting education through partnerships with other learning institutions outside the KSA, fueling the growth of e-learning to accommodate international students.

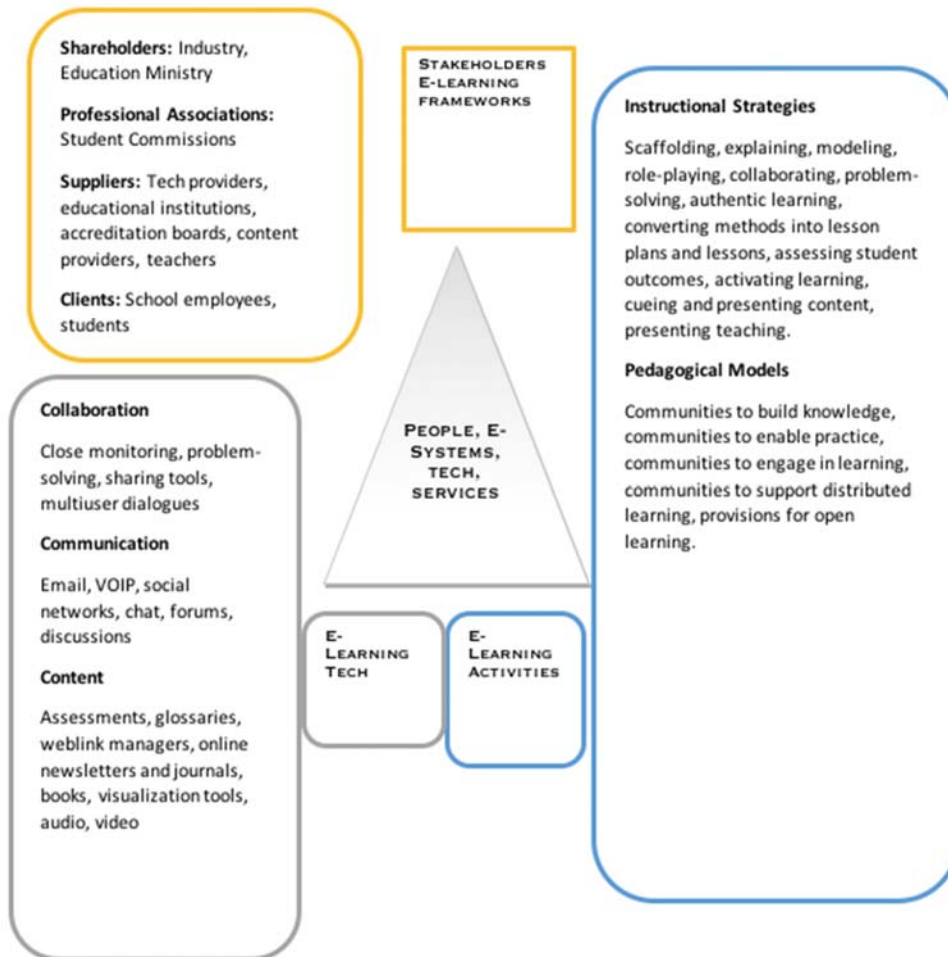


Fig. 1 E-Learning policy conceptual framework

From the theoretical framework above, e-learning systems entail three significant aspects: technologies, people, and services. The educational policy can become effective if it involves these aspects. The technologies involved develop educational content, communication and support, and collaboration between students and educational leaders. On the other hand, services include instructional and pedagogical variants, and the educational policy should support them through intensive educator training. Lastly, the e-learning policy should involve customers like educators and students to institute widespread adoption. The policy is typically developed because students are the primary stakeholders and central to its design.

### III RESEARCH METHODOLOGY

#### A. Design

The study employed a descriptive research design based on qualitative analysis to communicate the results via numbers and figures. The goal was to gain a deeper understanding of the research phenomenon with high consistency. It meant that the method allowed for a structured technique to collect data for analysis. The researcher sought to correlate the findings with existing studies to improve reliability. It also allowed the control of data collection to attain an outsider's perspective of the research phenomenon. The descriptive approach describes a phenomenon without analyzing the link between variables. Braun and Clarke [18] posit that descriptive research draws from the general concepts of naturalistic investigation. Thus, the study's findings can be generalized to the entire population

when the study sample is representative. In addition, the study is conducted in a natural environment without influencing the participants' behaviors. However, the results cannot be analyzed statistically because of the lack of variables to manipulate.

In descriptive research design, the researcher often uses the purposive sampling technique to select the research participants. Thus, in this research, the researcher targeted lecturers and university students from four leading universities in e-learning in Saudi Arabia. The gathered data were divided into themes using a thematic analysis approach. The thematic approach helps classify data into themes for easy understanding of the inner meaning for interpretation and general conclusions. According to Braun and Clarke [18], the researcher's main phases in categorizing the data collected included reading and familiarizing, generating the initial codes, identifying major themes, reviewing them, defining and naming them, and writing the report.

#### B. Sample

The study focused on collecting data from students and lecturers from four leading universities in Saudi Arabia. An online survey was prepared and distributed through social media to different universities. The researcher distributed 400 surveys, with university students and lecturers completing 355 surveys. The number of lectures was 60, and the rest were students who decided to participate voluntarily. Nobody was coerced to take part and participants could withdraw from the study at any time. The sample of professors who participated in the study was (N= 8), academic staff (N=52), and students (N=295).

#### C. Data Analysis

Due to the effect of the COVID-19 pandemic, the researcher prepared a three-part survey questionnaire and distributed it online via social media. Sections included demographics, the effectiveness of the e-learning policy of sensitization and training of stakeholders, and challenges of adopting an e-learning educational policy.

The second part contained four guiding ideas that included the following:

1. E-learning policy of sensitization and training of educators is effective in promoting e-learning implementation.
2. Virtual classrooms are more effective than traditional classrooms in awareness creation and training of stakeholders about e-learning policy.
3. The study material is easily understood by e-learning due to the adoption of e-learning policy.
4. In e-learning, the assignments are easy because stakeholders are aware of the policy and how it can help promote e-learning implementation.

The third section focused on educators' and other professionals' challenges while adopting the Saudi e-learning policy. It had two parts: internal and external challenges. Each domain had five items based on a Likert scale (Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree).

TABLE I  
CHALLENGES FACED EDUCATORS AND OTHER PROFESSIONALS WHILE ATTEMPTING TO ADOPT E-LEARNING POLICY

External challenges/ Obstacles	Internal obstacles/ Challenges
Frequent electricity shortage	Lack of awareness, motivation, and interest
Insufficient financial support	ICTs and E-learning illiteracy
Lack of technical support	
Lack of ICT infrastructure	
In the adequate training program	
Low internet bandwidth	
Poor planning and policies	

A note was written on the first page of the instrument where respondents were required to fill, indicating that the information would be kept confidential.

## IV RESULTS

### A. Opportunities for Sensitization and Training Stakeholders

The use of electronic devices in learning is termed e-learning. In order to facilitate the e-learning process, there is a need to establish Internet connections. Due to the dynamics in the education sector, Saudi Arabia is making strides in e-learning. In recent years, Saudi Arabia has gained momentum after most countries devise modern learning methods through the Internet. Globally, awarding of the scholarship is done through the use of the Internet. Saudi Arabia has established more learning centers based on electronic media.

The results from the online questionnaire were analyzed in two ways. Students' data were analyzed using descriptive analysis and presented in tables and charts using MS Excel. The data from the academic staff were analyzed using thematic analysis. The number of male students was 180, while female participants numbered one. The sample was an ideal representation of the population because, in Saudi Arabia, most university students are male. Although male students dominated the student category, the female academic staff dominated the non-student category. According to the World Bank, there are more female than male lecturers in most Saudi universities. The number of female students attending university in Saudi Arabia started to increase in the last decade. Due to reforms, higher education was adopted and promoted female education, unlike previous cases of gender discrimination.

E-learning in Saudi Arabia is conducted on mobile devices, with significant potential. Smartphones and tablets can be used outside classrooms and for self-education. They have become popular among other devices used in learning, like personal digital assistants. Learners deploy them to receive, share, and engage in online group discussions. Therefore, it can be predicted that e-learning in Saudi Arabia will improve in the future because most students prefer mobile technology to other e-learning approaches [7].

### B. E-Learning Policy

The majority of the respondents indicated their satisfaction with web-based learning provided by teachers. Besides, they

indicated that the materials provided by LMSs appropriately addressed their learning needs. However, one of the issues that hindered e-learning was Internet interruptions because of poor connections. Sixty-five percent of the respondents were dissatisfied with the e-learning policy. Nine percent of the respondents remained neutral to the tool.

### C. Virtual Classroom Effectiveness

Most respondents agreed that virtual classrooms were more effective than traditional classes because of quick responses. The primary issue was Internet interruptions that made them repeatedly sigh into the online in until the class ends. The least number of students strongly disagreed with the domain, meaning they were happy with e-learning environments. Despite the majority of the respondents stating that the e-learning policy has enabled the implementation of virtual learning, no significant outcomes have been noted.

### D. Study Material

Most of the students understood the study material by e-learning of some courses, implying that the policy has been ineffective when correlated with all the course materials. However, some subjects, particularly mathematics and practical sciences, are challenging to understand online. Thus, e-learning provides students with an opportunity of understanding the study materials easily and quickly. Nevertheless, the policy of sensitization and training needs to be modified to produce the intended outcomes. Forty-four percent of students were satisfied that the study is easier to understand by e-learning, while only 2% were dissatisfied with e-learning material. The main reason for dissatisfaction could be a lack of ICT skills to use e-learning effectively.

### E. E-Learning Assignments

During the COVID-19 pandemic, schools were shut, and students were given assignments through virtual classes. Many students felt that the online assignments were easy to understand compared to a traditional setting. It implies that e-learning provides the student with the opportunity of understanding assignments easily. Forty percent of the respondents indicated that they were satisfied that the e-learning assignments are easy, and 2% were dissatisfied. From the results above, it is evident that most students confirmed that e-learning has many benefits compared to traditional learning techniques.

### F. Sensitization and Training Challenges in E-Learning Policy

Table II shows the external and internal challenges as identified by the study participants.

TABLE II  
 EXTERNAL AND INTERNAL CHALLENGES

Item	Frequency	%
<b>External challenges</b>		
Low internet bandwidth	20	33.3
Lack of ICT infrastructure	7	11
Ambiguous Plan and policies	32	53.33
Insufficient financial support	42	70
Frequent shortage of electricity	39	65
Inadequate training program	20	33.33
<b>Internal challenges</b>		
Lack of awareness, motivation, and interest	30	50
ICT and E-learning illiteracy	21	35

## V DISCUSSION

The question probing the challenges of implementing the policy of sensitization and training of stakeholders for effective e-learning implementation in schools was divided into two categories. External challenges for implementing the policy entail technical issues that hinder the adoption and integration of e-learning in schools. From the study, 33.3% of the respondents agreed that low Internet bandwidth is a critical issue. Internet users often spend a long time uploading or downloading educational materials because of low Internet speeds. The most affected individuals interact with videos, animations, and graphics. The study has revealed that low Internet connectivity hinders e-learning adoption and implementation and correlates with a previous study by Mirza & Al-Abdulkareem [17].

The lack of funds was the second barrier to e-learning policy implementation. The budget for funding education, particularly higher education, is generally high, but additional funds are necessary to finance e-learning. From the study, 70% of the respondents agreed that insufficient funds are a significant obstacle. Most of the funding allocated to schools is meant to build classes and other learning facilities due to the annual increase in the student population across the country. The findings are consistent with the study by Alharbi & Alotebi [10], who stated that inadequate funds curtail the implementation of the sensitization policy and training of stakeholders in KSA universities.

Alharbi & Alotebi [10] also noted that lack of ICT training is an obstacle in adopting an e-learning policy. Results show that, 33.3% of the respondents reported that intensive training programs are needed to equip teachers with the necessary IT skills to implement e-learning effectively. Conversely, a lack of personal e-learning skills can prohibit e-learning tools and frameworks in education. Previous studies found that ease of use, perceived usefulness, and self-efficacy affect e-learning adoption. The current qualitative study supports these findings. Spreading the culture of e-learning through workshops and conferences is one of the best ways of promoting e-learning

adoption in Saudi Arabia, mandating professional technical training for all the staff. As the academic staff who participated in the study indicated that a lack of technical support hinders e-learning as a tool for delivering education. The finding correlates with the studies that found that a lack of, or inadequate, technical support curtails the implementation and adoption of the policy.

Participants depicted another factor which is inadequate ICT infrastructure. The academic staff reported that the lack of ICT infrastructure in the learning institution hinders them from using e-learning technologies to alternative traditional learning. The study confirms the investigation by Al Zahrani et al. [6] that revealed that the absence of a wireless network within an institution indicates a lack of ICT infrastructure, hindering e-learning. The participants insisted that poor infrastructure, including a lack of servers, computers, the Internet, and Internet networks within the school, hinders e-learning. It also means e-learning implementation will fail before it starts, indirectly or directly.

The final challenge that few lecturers and teachers indicated was electricity shortage. A few reported this challenge because there are alternative sources of electricity in an energy-rich country like Saudi Arabia. The internal challenges of adopting the policy of Sensitization and Training of stakeholders for e-learning adoption entailed user willingness to shift from traditional teaching and learning to more advanced teaching approaches. From the study, 50% of the respondents reported that interest and motivation hindered e-learning adoption. Besides, 35% of the academic staff said that ICT illiteracy was an obstacle to adopting e-learning. These findings were consistent with Naim et al. [19], who stated that traditional teaching methods are incompatible with instructional technologies. The respondents indicated some reasons for not adopting e-learning were unwillingness, demotivation, and disinterest. Alharbi & Lally [5] stated that lecturers and educators need to take a positive attitude towards ICT and e-learning to ensure the effective implementation of e-learning technologies.

The study delved into the challenges and opportunities of e-learning, focusing on the implementation and use of the policy of Sensitization and training stakeholders. E-learning is also an excellent opportunity for learning, policy development, and educational promotion in Saudi Arabia despite these challenges. Thus, there has been an inherent—albeit indirect—focus on how e-learning policy is relevant to creating educational policy today.

It was discussed in this study that in Saudi Arabia. However, there has been a focus on adopting and evolving educational policy for conventional education. There are many challenges that professors, lecturers, teachers, and students alike must overcome to succeed with e-learning. The study also identified many of the outright challenges that both instructors and students currently face in e-learning in Saudi Arabia. The challenges mentioned previously in this discussion, such as lack of ICT infrastructure, lack of financial support, lack of awareness, and e-learning illiteracy, are significant problems

that plague the Saudi Arabian learning system as it progresses towards more forward and technological learning processes.

That said, Saudi Arabia is among countries taking significant steps towards establishing e-learning policies and infrastructure. Despite shortcomings in promoting education and adopting forward-thinking educational policies, the nation has heavily promoted the adoption and understanding of e-learning. This study has found that many institutions and stakeholders are open to policy development to promote and grow e-learning.

This adoption and promotion of e-learning have resulted from Saudi Arabian education institutions and systems focusing on changing educational policies. The policy of sensitization and training for stakeholders is one of these critical policies been recently adopted in Saudi Arabia. Although it is still in its infancy stage, it has created a precedent in how e-learning in Saudi Arabia can impact and shape the future of educational policy.

The study investigated the challenges and opportunities of adopting the e-learning policy of sensitization and training in Saudi Arabian learning institutions. The study found that sensitization and training will help educators understand how to incorporate e-learning as an alternative learning method to brick and mortar classrooms. Adopting the policy of sensitizing and training educators will help them understand e-learning as a tool to help learners learn from the comfort of their homes during COVID-19. The study will help develop a strategic plan for implementing e-learning technology successfully as a positive step towards change. Sensitizing all stakeholders about e-learning will help accelerate the adoption of e-learning in universities. This study gives the challenges and opportunities of e-learning which is the best method of promoting education during the pandemic. Furthermore, the study helps stakeholders invest resources in creating ICT infrastructure in their schools to help implement e-learning. Highlighting the challenges of e-learning policy promotes the implementation of e-learning in schools now and the future. The study also contributes to academia as a source of information for academicians who want to investigate the e-learning educational policy in schools further. Without having a detailed policy, the adoption of e-learning will continue to trouble educational stakeholders in the implementation of e-learning. E-learning policy should be implemented at the institutional level rather than the individual courses. With the study, students will have an opportunity to achieve their learning goals to assist them in knowing precisely the rules that govern the pursuit of these goals. The policy of sensitization and training of the educational stakeholders is a repository of rules for the effective and safe conduct of e-learning courses in Saudi Arabian learning institutions. Therefore, it is vital to formulate the rules thoroughly to promote the use of technology in learning. Students and educators will use the policy to benefit everyone now and in the future.

## VI CONCLUSION AND RECOMMENDATIONS

### A. Conclusion

The study investigated the opportunities and challenges of effectively implementing the policy of sensitization and training for e-learning in Saudi Arabian higher education. The nation should understand that implementing the policy of sensitization and training stakeholders in higher education is still at the infancy stage. The findings exhibited that the policy of sensitization and training of stakeholders has several opportunities for students and educators. For instance, the country has already developed ICT infrastructure, and collaborations with corporations from school boards are insufficient. Sufficient support by providing training tools will enhance convenience learning and promote easier understanding of the assignments on the side of students. Besides, the findings indicated that effective implementation of e-learning enhances a faster understanding of learning materials than traditional learning. This research confirmed the findings existing in previous studies conducted in developing countries where e-learning and ICT infrastructure implementation is still underway. According to the investigation, several external and internal challenges that hinder e-learning policy implementation were demonstrated. The significant challenges that were exhibited included but were not limited to insufficient training programs, lack of funding, lack of technical support, repeated electricity shortages, ICT and e-learning illiteracy, lack of interest, awareness, and motivation, and low Internet bandwidth. These were some of the challenges identified by the majority of the individuals who participated in the research. Additionally, the findings and discussion of this study found that Saudi Arabia is putting its best foot forward to adopt and promote e-learning in its educational policies. With a focus on evolving and developing e-learning throughout the country, it is seen that e-learning has had a tremendous impact on educational policy throughout Saudi Arabia.

### B. Recommendations

Institutions of higher learning should acknowledge and implement e-learning policy because it helps ensure the effective adoption of e-learning in universities. The education policy of sensitizing and training the educators is essential in promoting the utilization of e-learning policy. Moreover, educators should take personal effort to take lessons about e-learning to gain adequate knowledge about its usage and adoption in educational institutions. Furthermore, the research recommended that by addressing the challenges, the adoption of the policy of sensitization and training for e-learning uptake in Saudi Arabian schools is bright. Although there are challenges, the benefits of adopting an e-learning policy are evident. In the COVID-19 pandemic, e-learning may become the most appropriate educational delivery given the quarantines and social isolation distance containment measures issued by governments and WHO globally. The study considered a small sample, and future research could be recommended to generate more generalizable results. In addition, the inclusion of more experienced individuals in the education sector like the

policymakers and other technocrats can help mitigate the challenges of e-learning adoption in institutions of learning.

Furthermore, schools should focus on training faculty and staff about the relevance of e-learning to promote its adoption. Schools and educators should also use cameras and record lectures to permit quality assurance in the delivery technique. Finally, learning institutions should focus on budgeting for the Internet as an essential aspect in adopting e-learning.

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