Improving higher education system in Saudi Arabia: ethnographic methods in contemporary perspective for women education

Nadia Yusuf
King Abdulaziz University, Economics Department, P.O. Box 42759, Jeddah, Saudi Arabia,
nyusuf@kau.edu.sa

Dareen Abdulmohsen
Director, Diplomacy & International Relations Program, Dar Al-Hekma University, Jeddah, Saudi Arabia,
dabdulmohsen@dah.edu.sa

Abstract

In this study the impact of an online education system and women empowerment across the Kingdom regarding reduction of disparity and enhancing the position of women has been discussed. A suitable systematic review has been conducted by the researcher based on secondary sources collected from the online platform. It has been found that a technology driven approach has been adopted by the Saudi government to deliver a high quality and standard education to students across the Kingdom amid the pandemic situation. The influence of COVID-19 over the education system has also been discussed in this study to identify the reality. Several effective strategies were established to further lead the study to understand women empowerment. In addition, the role of online education in the pandemic situation of COVID-19 and how effectively it works on improving education system is also elaborately described. This study will also clarify the changes in education system amid the pandemic situation. A comprehensive knowledge regarding the evolution of online learning techniques in the Saudi society can also be gained by the interested students.

Introduction

Background of the study

The Government of Saudi Arabia provides several kinds of student loans and offers bachelor's degree education for free of cost towards the Saudi students. The government of Saudi Arabia also offers a monthly payment for each individual students during the period of their study. According to (Alsanoosy, Spichkova, & Harland, 2018; Alshehri, Mordhah, Alsibiani, Alsobhi, & Alnazzawi, 2020; Alsubaie & Jones, 2017), in the year of 2015, the percentage of total number of students that graduated from different universities of Saudi Arabia, 52% of them were female candidates. The overall percentage of female candidates is 51.8% among the Saudi Arabia University students. As compared to the male students or candidates, there are 551,000 female candidates studying (Al-Qahtani et al., 2021; Al-Rabiaah et al., 2020; Alsubhi, Hoque, & Razak, 2018; Alswat et al., 2017). In this report, the issues faced about getting higher education for Saudi Arabian women will be discussed in an explanatory way. After the COVID-19 pandemic, the educational system transferred towards online platforms with an effective nature. This offers more opportunities and benefits for the Saudi Arabian women for getting professional and higher education through online platforms. In the past, Muslim Arabic women has taken participations among the different aspects of educational system, employment and life spanning along with tolerance of negative impacts such as gender based financial capability (Aldiab, Chowdhury, Kootsookos, & Alam, 2017; Alghofaily, 2019). In this report, the issues about the woman's employment and the error factors that they are experiencing in various job sectors and educational segments will be discussed with efficiency and elaborated way.

Rationale

In this research, the higher education system of Saudi Arabia and the reasons for women education restrictions in the Saudi Arabia is analysed. The main issue is that the Saudi women must face so many restrictions to continue their education as well as in the case of women employment. The reason for these restrictions is the cultural barriers, illness, and responsibilities towards their family. In pandemic situation the private education tax and vat rate have been raised 5% .Therefore, the women also face several challenges due to a lack of proper financial stability. Though, women of Saudi Arabia have faced so many challenges in the cultural values, social network, workplace, higher education, several training, gender diversity and regulation (Alaraifi, 2020; Alhabeeb & Rowley, 2018; Alharthi, Alassafi, Walters, & Wills, 2017). Thus, the percentage of the women population is smaller than the percentage of men population in the Saudi Arabia. There are nearly **42.27%** of women from the whole population of the Saudi Arabia (Pilotti, Abdulhadi, Algouhi, & Salameh, 2021; Rajab, 2018; Ryan, 2018). Therefore, from 2008 to 2020, the graph of the women population in the Saudi Arabia is decreasing gradually.
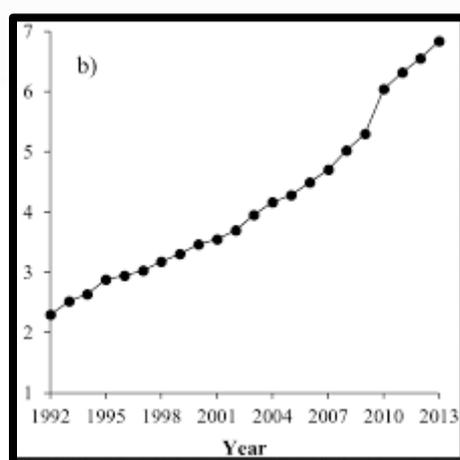

Figure 1: Female population in Saudi Arabia
(Source: Trading economics, 2021)

Depending on the above figure 1, it can be stated that from the year 1993 the education ratio of women has increased a lot in the year 2013. Thus, the percentage of women's education and employment in the Saudi Arabia is increasing day by day. Therefore, based on the record of the year 2017, the percentage of the women that have basic education is nearly **52.4%** and in the case of higher education the percentage of Saudi women is about **54%** (Fadlillah, 2019).Due to

lack of proper approach for providing education for women, women employment is low in Saudi Arabia. Female candidates need to seek permission for withdrawing their promotion to higher academic positions. Along with the increasing percentage of women in higher education, the number of female lecturers in the Saudi Arabia is also increasing. The total 42.27% have the female population in Saudi Arabia and 18,221 females can get higher studies (arabnews.com, 2021). Another reason of why women is not well educated in Saudi Arabia is because women do not have such a high place in society. Thereafter, in the year 2017 the percentage of female lecturers in the Saudi Arabia is nearly **45.4%** .Hence, there are so many challenges also for higher studies in Saudi Arabia such as **the presence of a few women** for higher education as there are so many restrictions for women education. Therefore, **the gender pay gap** is another big challenge for the women of the Saudi Arabia.

Aim and objective

The aim of this research article is to understand the higher education system of Saudi Arabia and the issues that are faced by the Saudi women for education.

The objectives are as followed:

- To identify the issues that is experienced by Saudi women for education.
- To analyse the importance of online platforms for improving the higher education system
- To recognize the percentage of Saudi women, who have developed their education through online platforms
- To analyse the ethnographic methods in contemporary perspective for women education in the significance of Covid-19
- To analyse the time required to develop women's education through online in Saudi Arabia

Research question

Research questions of this research article are,

- R1- How have both men and women students in Saudi Arabia been satisfied with different elements and aspects during COVID-19?
- R2- How important is an online education system to improve the education system of women in Saudi Arabia?
- R3- What is the main issue regarding the higher education of Saudi women?

Literature review

Conceptualizing digitalization of higher education

Saudi Arabia is one of the most considered countries with a massive rate of digitalization in the field of the education system. In terms of enhancing the overall efficiency in the learning and teaching process, the education institutions such as schools, colleges, universities, or other educational sectors are now adopting digital platforms as the stage of offering education towards the students. A massive number of educational sectors have emerged digitalization in terms of enhancing the infrastructure of higher education for Saudis (Abdulrahim & Mabrouk, 2020; Abou-Moghli & Al-Abdallah, 2019; Alswat et al., 2017; Aristovnik, Keržič, Ravšelj, Tomaževič, & Umek, 2020). New and upgraded gadgets such as VR or virtual reality, Smart Boards, and Artificial intelligence or AI devices are used within the online classrooms. Based on the report nearly 4.6 million residents among Saudi Arabia belong from foreign workers (Abad-Segura, González-Zamar, Infante-Moro, & Ruipérez García, 2020; Akram, Murugiah, & Arfan, 2017). After the lockdown worldwide due to the pandemic, the educational system is based towards online learning platforms in an effective way. As per the words of offers several beneficial factors towards the students and especially the women in terms of getting higher education with an efficient and objective way. In terms of higher education through the segment of online education platforms, VR plays a massive role in the area(Al-Qahtani et al., 2021; AlKlayb, Assery, AlQahtani, AlAnazi, & Pani, 2017; Alomair, 2015).This device creates an entire digital environment as it offers clear and detailed information about any place across the world without moving a single step. Through adoption of these devices, there are several benefits that can be extracted. Moreover, the other factors such less diverse community, discrimination and reduction of cultural differences that are faced by the Saudi Women in learning sessions, increase women participation in 'online' education system with an effective way. In the area of getting higher education, the student can gather accurate and appropriate knowledge about their stream and the information and comes

with more explanation and detailed way through the digital environment. The experience of emerging VR in Saudi Arabia's education system provides an effective learning process enhancement in terms of getting higher education.
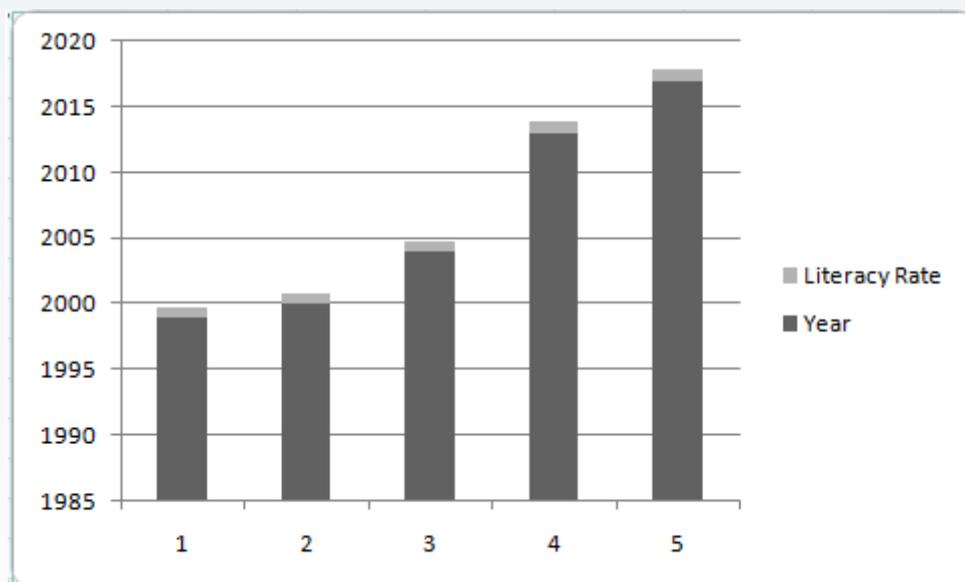

Figure 2: Saudi Arabia literacy rate between 1992 and 2017
(Source:(Mesfer Alqahtani, 2020; Moralista & Oducado, 2020)

In order to increase the teaching strategies and offer quality education towards the students, detailed and elaborated knowledge is required in every subject. From the figure 2, it can be stated that Saudi Arabia literacy rate in 1999 was 70% (Mesfer Alqahtani, 2020; Moralista & Oducado, 2020). From the above figure, it can be stated that in the year 2017 the literacy rate is as high as 92%. Through adopting the digital specs in the area of educational sectors of Saudi Arabia, this has offered more benefits and increment in the entire learning process of higher education. Using Smart Board instead of chalkboards has placed a massive area over Saudi Arabian's educational system nowadays. Implementing computers or laptops within the classroom has increased among several educational institutes of Saudi Arabia (Nikou & Aavakare, 2021; Pilotti et al., 2021). As a result of this, the students must no longer reach for the lab area in order to get access to computers and laptops, as it is critical to enhance the efficiency in higher education. In order to enhance the entire infrastructure of Saudi Arabia's higher educational system, implementation of upgraded technology and digitalization with a positive effect is critically important in this area.

Factors that are enhancing women participation in online education system.

ICTs or information and communication technologies have a massive impact on enhancing the women participation towards online educational segments or e-learning platforms. According to (Abdulrahim & Mabrouk, 2020; Akram et al., 2017; Alaraifi, 2020), the ICTs promote the necessity and importance of women participation through online educational sessions. The e-learning platforms or online education system increase the efficiency in student's interconnection, communication, and interaction through online platforms in terms of enhancing the infrastructure of the learning process. After the breakthrough of the pandemic, the importance of online platforms for learning and teaching has increased with a massive amount. Women of the Saudi Arabia have offered more beneficial factors and opportunities through taking part in e-learning and online educational systems (Abad-Segura et al., 2020; Abdulrahim & Mabrouk, 2020; Abou-Moghli & Al-Abdallah, 2019). In case of online classes majority of women can attain the classes compared to educational sectors (Bago, Ouédraogo, Akakpo, Lompo, & Ouédraogo, 2020; Binsahl, Chang, & Bosua, 2020; Blankenberger & Williams, 2020; Bowden, 2019). Women empowerment laws and regulation on the other hand, placed a massive impact on mitigating the interruption for women in terms of getting higher education (Dahya & Dryden-Peterson, 2017; Darwish, Alzayed, & Ahmed, 2020; Fadlillah, 2019). Therefore, through online classes, e-learning enhances the interconnection among the female candidates via e-platforms for learning and teaching has increased the rate of women participation in Saudi Arabia.

Challenges experienced by the women in the segment of getting higher education.

Lack of quality and inclusive learning circumstances as well as unsafe and inadequate educational infrastructure for women is one of the most critical challenges that are faced by Saudi Arabian female candidates among the higher educational system(Alhabeeb & Rowley, 2018; Aljaber, 2018; Alomair, 2015), On the other hand, the Saudi women are facing cultural differentiations that create a massive percentage of difficulties for the female candidates in terms of getting higher education. Moreover, financially instability can also be considered as critical obstacle in terms of extracting higher education for Saudi Arabian female candidates. According to (Abou-Moghli & Al-Abdallah, 2019), approximate 20 percent of Saudi Arabian female has experienced financial incapability. On the other hand, before reaching the age limit of 20 years, more than 83 percent of women face issues related education in Saudi Arabia. Women also get an opportunity to pursue higher education through the process of distance learning along with managing a balance with their performances at domestic lives. This has a massive and negative impact in terms of getting higher education for the female candidates in Saudi Arabia.

The number of harassments that are reported against juveniles and women has reached up to 2,797 over one year in Saudi Arabia. This indicates that the circumstance and the environment among the educational infrastructure are not precisely safe for women in the Kingdom. The struggle of getting higher education for female candidates is ongoing in Saudi Arabia(A. K. Hamdan, 2014; Khalil, Alzahrani, & Siddiqui, 2018).There are no schools or other educational institutions that allow men and female students both in the same class. The inadequate educational infrastructure has a massive impact over higher education for women in a negative way. As per the word of(Alaraifi, 2020; Alghofaily, 2019; Alharthi et al., 2017; Aristovnik et al., 2020), the male literacy level at 72% and the female literacy at 50% indicate the women participation in the segment of extracting higher education through experiencing discrimination in the area.

Steps to mitigate challenges in higher education for women.

In order to allocate the difficulties and fatal errors that are experienced by the female candidates, there is a necessity to implement critical and major changes in the area of higher educational infrastructure. In terms of reducing the rate of interruption of getting higher education for women in Saudi Arabia, an implementation of major rules and regulations is required that offer support towards women empowerment and sustain the area of higher education for female candidates(Dahya & Dryden-Peterson, 2017).

Through ECD programmes or early childhood development, the girls can avoid such disadvantages and remedies that they had faced in the early childhood period. According to (Fadlillah, 2019; Faruk, 2014) by adopting effective ECD, this offers a sense towards the women in terms of increasing their cognitive thinking skills, behaviour improvement and technical boundaries expansion as it is supported to conduct high productivity and innovation later in their life. In terms of getting higher education in an effective and efficient way, there is a requirement to extract the basic education towards the female candidates(Blankenberger & Williams, 2020; Bowden, 2019). Through gaining different perspectives from their early childhood experiences and basic education during the juvenile period, the women can enhance their analytic thinking strategy and improve their behavioural segment in terms of overcoming the upcoming difficulties in further stages of getting higher education. There is an importance to implement gender equality laws, rules and regulation that are favourable for the women in terms of getting higher education with efficiency. On the other hand, the educational infrastructure needs to adopt suitable and compatible environments for the woman and needs to maintain authenticity and quality in terms of teaching(Bowden, 2019).

Impact of Covid-19 on education system

This pandemic situation, lead towards being nearly closed to almost every educational institution such as schools, colleges, universities, and other educational sectors. The environment of educational segments and other institutions respond towards the global lockdown as it has a massive and negative impact on the sector of teacher and student's interaction. The direction of interaction has mitigated in terms of reduced human contact to control the hectic situation due to Covid-19. As a result, to this the rate of communication gap has increased among the

educational infrastructure as it is decreasing the entire infrastructure efficiency. Moreover, it has a negative impact over the educational segment environment(Al-Qahtani et al., 2021; Al-Rabiaah et al., 2020). On the other hand, the educational systems transferred into several online platforms in terms of maintaining the quality of teaching and learning process within different streams. In an addition, the lack of quality in teaching and extracting the detailed knowledge and information from the online educational sessions affect the students with huge inefficiency.

Theoretical underpinning

To mitigate the challenges that are experienced by the Saudi Arabian female candidates in terms of getting higher education, there is a necessity in terms of applying suitable and effective theories in the area. ECD or early childhood development is a collaboration of theories that contains the sense of teaching the juveniles from the time of their birth up to the age of eight. Moreover, this theory can be applied till the third grade with effectiveness way. It useful to maintain the girls' analytic thinking skills from the earlier stages of childhood. This offers enhancement in cognitive thinking and improves behavior and prepares them for future scopes in employment segments and educational systems (Blankenberger & Williams, 2020). On the other hand, there is a necessity to implement laws and rights that ensure women empowerment and rights in terms of getting higher education with more efficiency and effective ways. Therefore, under human rights laws, the right to education is mainly based on the equality and non-discrimination as it is helpful in terms of increasing the woman participants towards getting education as equal as men.

Methodology

Research philosophy

For this research study, positivism research philosophy has been selected as it offers the sense in terms of reaching the conclusive state through analysing the entire research by observation. Positivism philosophy indicates that a social world can be understood and analysed in an objective way. The main motive for selecting this positivism research philosophy is to gain better understanding about the information and the data that are relevant to the research. Through analysing the entire research infrastructure, the deep insight about the information and the authenticity of the data can be evaluated with an effective and elaborated manner (Rajab, 2018; Ryan, 2018).

Research design

Exploratory research designs have been chosen for this research study in terms of gaining better understanding about the nature of the entire research infrastructure with more efficiency and effectiveness. Through emerging exploratory research design, this offers a clarification of the accurate and precise complexion of the error factors or problems in term to implement changes to resolve the problems or fatal issues (Moralista & Oducado, 2020; Munawar, Toor, Aslam, & Hamid, 2018). By adopting the exploratory research design, the error factors or the issues can be allocated in a more significant way and there is a necessity to enhance the infrastructure according to the error factors.

Research approach

For this research, a deductive research approach has been selected, which is mainly focused towards analysing the earlier information or hypothesis and other theories that are relevant to the research study. Moreover, this approach analyses and compares the earlier relevant theories in terms of reaching towards the conclusive stage(Sangodoyin, Akinsolu, & Awan, 2020; Stobaugh et al., 2019; Yamin, 2015).Mainly this research approach is a critical term of scientific investigation about the research topic and offers an explained and detailed hypothesis that was extracted by the earlier resources.

Data collection method

Secondary and qualitative data collection methods have been chosen. Due to Covid-19 pandemic it was very difficult to conduct primary methods of data collection. Instead of face-to-face information extraction, the secondary data collection has offered a variety of perspectives that are relevant to the research (Stobaugh et al., 2019; Zakİ, 2021). This data collection method is mainly to extract critical information and data from different resources from the similar field.

Through analysing the different hypotheses, the final and suitable conclusion can be explored with more efficiency and innovation.

Result and discussion

Data findings and analysis

This section of the study is associated with conducting a systematic review of relevant articles available. A set of scholarly articles and peer reviewed journals are adopted in this segment for collecting secondary sources of data. Based on the key findings related to women empowerment by facilitating online education in Saudi Arabia is evaluated critically. All these findings meet the research objectives in a significant manner along with assessing key issues related to the topic. It also can be found that only 5% women participation is found in the labour market whereas 84% jobs are associated with women in government sector and educational institutions (Goller, Harrer, Lechner, & Wolff, 2021). Ethnographic methods also have been adapted to lead the study process to the finish point. Accompanied with these ethnographic methods a particular research approach can be developed by adapting cultural settings. It is an interchangeable term that has been used within participant observation. Depending on several researchers, point of views the research has been established with the help of ethnographic methods. In the below table 1, the different findings and implications by the various researchers are mentioned properly to analyse the impact of education among women in Saudi Arabia.

Secondary data

Sources	Key findings	Implications
(Akram et al., 2017; Alaraifi, 2020)	● Since 1960 secondary education was provided to girls and 70.8% of women joined. ● Policies to support 80 **primary teacher's college for women.** ● Education offices were established.	The ethnographic study highlights that a separate ministry was established along with the development of **Saudi Ministry of Higher education** facilitated higher education for both Saudi and Non-Saudi students in the Kingdom.
(Alghofaily, 2019)	● Women participation was increasing in distance learning programmes to acquire knowledge and conduct adequate certificate courses.	Suitable tools of e-learning are utilised by several universities such as development of **web pages, participation in Blackboard Exemplary Courses** and **utilisation of Web CT learning management system.**
(Al-Qahtani et al., 2021)	● E-learning system was introduced facilitating a suitable education for women. ● Restriction regarding communication with male teachers affected learning for women students	Highlights benefits of e-learning system across the Saudi Arabia that facilitated women to pursue higher education. Social barriers and **financial problem** affected women involvement with online platforms.
(A. Hamdan, 2005; A. K. Hamdan, 2014)	● An innovative learning culture through a rapid rate of transition communication exchange. ● A reciprocal and mutual correlation between the traditional culture and online education platform changing the students' perspectives.	The adoption **of ethnographic methods** supports in understanding mutual interrelationship between the country's culture and online education and its effects on facilitating potential online learning systems among the Saudi students.
(Yamin, 2015)	● Education system in a uniquely designed women's campus under the supervision of a female instructor. ● Cloud technology-based distance learning is implemented by the	Education institutions associate with the Kingdom have high quality-based distance learning platform. Traditional techniques of learning and teachings are replaced by e-learning.

	government. ● ***Cloud computing platform as a service (PaaS)*** and ***Infrastructure as a Service (IaaS)*** are utilised by education authorities	
(Alsubhi et al., 2018)	● Women have a significant role in education sectors across the Kingdom. ● External socio-religious developing difficulties for women to take adequate amount of education at several universities. ● Favouritism for male facilities is prevalent in the male dominated society.	Highlights several negative aspects associated with the education system that less percentage of female participation in Saudi education system in respect of high rank leaders.
(Al-Hazmi, Hammad, & Al-Shahrani, 2017; Al-Rabiaah et al., 2020)	● Only 5% women participation is found in the labour market whereas 84% jobs are associated with women in government sector and educational institutions. ● Only 50% of the position in the society in respect of systematic human activities. ● Women face difficulties regarding promotion at workplace, increment of salaries and domination by male superiors.	Highlights Occupational discrimination results in psychological degradation of the women candidate and affects performance level. Cultural environment is also responsible for dominating women.
(Rajab, 2018)	● Education system depends on traditional Islamic customs. ● E-learning techniques facilitate online education system results in better learning performance ● Digital platforms provide a high level of accessibility to learning.	Highlights the efficacy of a well-designed online education framework that ensures delivery of high quality and adequate level of education to the students residing in several inaccessible places across the Kingdom.
(Aristovnik et al., 2020)	● Students' psychological health affected both mentally and physically in degrading their educational performances severely.	Amid the pandemic saturation online education platform is the only model of education among the global students.
(Zaki, 2021)	● Around 6.1 billion students and youth communities across the globe are affected by the Covid-19 pandemic. ● Participation increasing rate of 80% in the online education platform globally. ● An innovative device of ***state-of-the-art*** is utilised by the education department of Saudi Arabia.	Highlight's improvement occurred in the online education system of the Kingdom. Major areas need potential concern is also highlighted in this study. Online platform delivers potential resources.
(Akram et al., 2017; Alharthi et al., 2017)	● Leadership has the power of investing in new approaches to education online. ● Gender Egalitarianism is another major issue in the education of women in Saudi Arabia.	Highlights the effectiveness impact of online education especially for women in Saudi Arabia.
(Alghofaily, 2019; Aljaber, 2018)	● Based on the culture of Saudi Arabia women do not have any social respect compared to male. ● Society thinks only men can lead any progress procedure to bring development. ● Both external socio-religious factors and	Highlights the negative approach of the Saudi Arabia society about women education. The thinking process is centred on male education.

	internal challenges result in developing difficulties for women.	
(Al-Qahtani et al., 2021; Alshehri et al., 2020)	● Several effective policies were taken to support higher education for girls. ● The facility of job regarding teaching or other works is exceptionally low compared to other countries.	Highlights the positive facility of online education for the women of Saudi Arabia to get higher education.
(Alswat et al., 2017; Aristovnik et al., 2020)	● In the year 1979, first Riyadh's King Saud University was established for women. ● Nearly 66% and this will save about 189000 lives in one year with higher secondary education. ● Adult literacy rate and youth literacy rate in the Saudi Arabia has increased in the year 2015.	Highlights the positive sides of the women education system of the Saudi Arabia.
(A. K. Hamdan, 2014)	● Many religious scholars protested the amalgamation of the Girls' Presidency with the Ministry of Education in the year 2002.	Highlights the achievements of the women of the Saudi Arabia after so much struggle.
(Rajab, 2018)	● There were a lot of limitations and restrictions for the women of the society. The usage of technology can easily spread thoughts.	Highlights the limitations and restrictions for the women in Saudi Arabia.
	●	

Table 1: Systematic review

Thematic analysis
Challenges within Saudi Arabia to avail higher education

In previous times women in Saudi Arabia faced several difficulties to participate in education programs due to several barriers of socio-cultural factors. As mentioned by Alqahtani (2020), implementation of digital education programs has resulted in changing the environment in a suitable manner. By means of online education systems Saudi women can participate in higher education programmes. In earlier days women faced challenges to interact with male faculties directly in a face-to-face communication. Such kinds of problems are also mitigated through the medium of online education. Moreover, in the patriarchal environment women also faced several challenges to attain a desired level of position at workplaces due to stereotyped lookout for them. Higher education in Saudi Arabia due to lack of proper National Centre of E-learning cannot be possible accurately. Along with this several technical obstacles as well as financial obstacle is found against the higher education process. Due to COVID-19 the GDP of this country has decreased at -6.8% in 2020 and -3.1% in 2021 (Ryan, 2018). Both genders are suffering due to these financial obstacles. Women are also found to be deprived in organisations regarding promotional benefits due to male dominance at several organisations.

It can be found that in Saudi Arabia 89% of the population are using internet and 96% are using smart phones. So, the women enrolment has been increased 51.8 percent due to this pandemic effect (Nikou & Aavakare, 2021). Along with this, it is also found 551,000 women are currently studying through online for bachelor's degrees compared with the number of 513,000 men. At present the online education system allows women to get access for high quality and standard education contents. As a result of high-quality learning women can ensure high rank jobs across

several organisation. Hence, it can be stated that **women empowerment** is practiced in the Saudi society by providing adequate facilities of learning to them. Consequently, it results in reducing the gender-based disparity from the education framework that develops a potential opportunity for women to get employment in different sectors effectively.

Propensity of online teaching in Saudi Arabia during the pandemic

Present pandemic situation has resulted in an increasing rate of enrolment for online education across the Kingdom. In accordance with(Alsubhi et al., 2018),the government authority of Saudi Arabia decided to close all the schools, colleges, and educational institutions across the Kingdom for preventing further spread of coronavirus. Hence, online platforms have been utilised in a significant manner to facilitate students in getting access to their respective courses. Nearly 2.6 % of students are attaining the online classes due to COVID-19 effect (acm.org). Teachers associated with this program are found to utilise several platforms such as **Blackboard, Google classrooms, zoom applications** and others to conduct an effective online education system. Apart from that it also helps women in their distance learning activities effectively(Binsahl et al., 2020). Therefore, the online education system is considered to open adequate opportunities for all the student communities to continue their learning in a significant way.

Challenges faced by the women for education of Saudi Arabia.

The education system for women in Saudi Arabia did not change and the women are dominated by the men in every field in the Saudi Arabia society. There are a lot of restrictions and challenges for the women of the Saudi Arabia society such as gender pay gaps(Alsubhi et al., 2018).Thus, in Saudi Arabia, there are not the same opportunities for women and men as they believe in differences, inequality between women and men. Therefore, restrictions are another challenge for the women in the Saudi Arabia. Thus, these are the challenges that the women of the Saudi Arabia must face for their higher education and similar opportunities in workplaces.

Achievement of the women and social progress in Saudi Arabia

On the other hand, after an era and a lot of hard work, the progress of the society of the Saudi Arabia can be noticed. There were a lot of changes in the society of the Saudi Arabia, and this was an achievement for the women of those societies (A. Hamdan, 2005). Thereafter, there were a lot of people in Saudi Arabia who supported women rights and the progress of the society. Furthermore, in the year 2009 the first Vice Minister of education formed an effective initiative step in Saudi Arabia, and this was a big achievement for the Saudi women in this type of society.

Discussion

Based on the above systematic review there are several issues faced by the women regarding higher education in Saudi Arabia. Despite having different socio-religious barriers, online education platforms have opened a new horizon for the women to perform their higher education in an effective manner. As stated by(Alharthi et al., 2017), digital education platforms play a significant role in enhancing both the learning capabilities of students and mothers. Moreover, online mode of education also facilitates students to avail distance education in a suitable manner. Moreover, it also enhances the skills of associated students that improves their employability and performance in different sectors (Aldiab et al., 2017).Hence, an overall improvement of the education system along with job opportunities is resulting by means of implementing digital education systems across the Kingdom.

In the table of secondary data, it can be noticed that there were a lot of restrictions, limitations and challenges that the women of the Saudi Arabia had to face for their education. The Women of the society of Saudi Arabia had to do lots of struggle to complete their higher education (Al-Hazmi et al., 2017; Aljaber, 2018). Apart from that, the society of the Saudi Arabia did not give the same opportunities to a woman as a man because they believe in gender inequality. Thus, this was a big problem for the women of those societies to establish themselves (Rajab, 2018). Therefore, it is considered that, for good health and progress of the society a good education system for the women is particularly important. Hence, with so much hard work the development of the society of Saudi Arabia can also be noticed. There are so many aspects that were helpful for the progress of the society of Saudi Arabia and among them technology was an important

one (Al-Hazmi et al., 2017). Therefore, the achievements of the women are also described in this research study as all the systems and thoughts were changed after a certain time.

Conclusion and recommendation

Conclusion

There is a necessity to implement major and effective changes in the educational system and learning infrastructure in terms of enhancing women participation towards getting higher education with more efficiency. Establishing better network system and engaged students in several interesting assignments the education rate can be increased through online. Online education is flexible and is readily accessible, as it will support both Saudi men and women to gain good access of content as it supports in enhancing education and employment. Along with this, individual touch points will be the game changer in the online education system. In requirement of mitigating the challenges that are experienced by the women and female candidates in Saudi Arabia, there is a necessity to act against the inequality through implementing laws and regulation. The financial support towards the women can have a massive and positive impact during the period of their study. Through online educational platforms, the female candidates of Saudi Arabia have extracted several benefits due to the mitigation of gender or cultural discrimination. Through emerging suitable rules and regulations, enhancing the educational infrastructure according to women equality and mitigating the problems through increasing the participation ratio of women towards the online educational platforms, the women can get higher education with efficiency.

Recommendations

It is found that an inadequacy in monitoring of the digital education system is associated with Saudi education system. As a result, appropriate implementations of digital education strategies are needed by educational institutions across the Kingdom (Aljaber, 2018). Therefore, it is recommended to utilise a suitable technology driven system such as IoT and other blockchain technologies to detect inadequacies in the digital platform of education. Moreover, implementation of appropriate strategies is also recommended to identify challenges faced by women candidates to avail appropriate levels of education through the digital framework. Faculty members associated with the online platform are also required to have adequate knowledge regarding the digital tools (Moralista & Oducado, 2020; Munawar et al., 2018)(Moralista and Oducado, 2020). Therefore, it is also suggested to provide suitable training to the involved faculty members to utilise the technologically advanced tool in an appropriate way to ensure delivery of high-quality education to students.

Limitation

The entire study has been conducted based on secondary analysis due to inadequacies in performing the primary data collection amid the present pandemic situation. Moreover, time constraint is also considered as another major issue that results in selection of secondary data collection to conduct the research in a timely effective manner.

Future Scope

A significant scope of conducting further research regarding the improvement in the online education system in Saudi Arabia is facilitated in this study. Moreover, a comprehensive knowledge regarding the evolution of online learning techniques in the Saudi society can also be gained by the interested researchers. Impact of digital learning platforms on the Saudi women to conduct their study by overcoming several socio-religious barriers have also been discussed in this paper. Hence, further research can also be conducted to gather further information related to the consequences of online education on Saudi students during the Covid-19 pandemic.

Acknowledgments

Disclosure Statement

No potential conflict of interest was reported by the authors.

Funding

Data Availability

There is no data set associated with this submission

Reference List

Abad-Segura, E., González-Zamar, M.-D., Infante-Moro, J. C., & Ruipérez García, G. (2020). Sustainable management of digital transformation in higher education: Global research trends. *Sustainability, 12*(5), 2107. doi:https://doi.org/10.3390/su12052107

Abdulrahim, H., & Mabrouk, F. (2020). COVID-19 and the Digital Transformation of Saudi Higher Education. *Asian Journal of Distance Education, 15*(1), 291-306.

Abou-Moghli, A. A., & Al-Abdallah, G. M. (2019). A systematic review of women entrepreneurs opportunities and challenges in Saudi Arabia. *Journal of Entrepreneurship Education, 22*(6), 1-14.

Akram, F., Murugiah, L., & Arfan, A. (2017). Cultural Aspects and Leadership Effectiveness of Women Leaders: A Theoretical Prospective of Saudi Arabia. *Pakistan Journal of Humanities and Social Sciences, 5*(1). doi:https://doi.org/10.52131/pjhss.2017.0501.0021

Al-Hazmi, M. A., Hammad, M. A., & Al-Shahrani, H. F. (2017). Obstacles of Saudi Woman Work in the Mixed Environment: A Field Study. *International Education Studies, 10*(8), 128-144.

Al-Qahtani, A. M., Ibrahim, H. A., Elgzar, W. T., El Sayed, H. A. E., Abdelghaffar, T., Moussa, R. I., & Alenzy, A. R. (2021). Perceived and real barriers to workplace empowerment among women at Saudi universities: A cross-sectional study. *African Journal of Reproductive Health, 25*(1), 26-35. doi:https://doi.org/10.5430/ijhe.v4n4p81

Al-Rabiaah, A., Temsah, M.-H., Al-Eyadhy, A. A., Hasan, G. M., Al-Zamil, F., Al-Subaie, S., . . . Al-Saadi, B. (2020). Middle East Respiratory Syndrome-Corona Virus (MERS-CoV) associated stress among medical students at a university teaching hospital in Saudi Arabia. *Journal of infection and public health, 13*(5), 687-691. doi:https://doi.org/10.1016/j.jiph.2020.01.005

Alaraifi, A. (2020). Conceptualizing the Assimilation and Risk of Online Social Media in Saudi Arabia: An Empirical Study. In *Eurasian Business Perspectives* (pp. 201-218): Springer.

Aldiab, A., Chowdhury, H., Kootsookos, A., & Alam, F. (2017). Prospect of eLearning in higher education sectors of Saudi Arabia: A review. *Energy Procedia, 110*, 574-580.

Alghofaily, L. (2019). Women leadership in higher education in Saudi Arabia. *International Journal of Social Sciences, 8*(2), 14-32.

Alhabeeb, A., & Rowley, J. (2018). E-learning critical success factors: Comparing perspectives from academic staff and students. *Computers & Education, 127*, 1-12. doi:https://doi.org/10.5539/ies.v10n8p128

Alharthi, A., Alassafi, M. O., Walters, R. J., & Wills, G. B. (2017). An exploratory study for investigating the critical success factors for cloud migration in the Saudi Arabian higher education context. *Telematics and Informatics, 34*(2), 664-678.

Aljaber, A. (2018). E-learning policy in Saudi Arabia: Challenges and successes. *Research in Comparative and International Education, 13*(1), 176-194. doi:https://doi.org/10.1177/1745499918764147

AlKlayb, S. A., Assery, M. K., AlQahtani, A., AlAnazi, M., & Pani, S. C. (2017). Comparison of the effectiveness of a mobile phone-based education program in educating mothers as oral health providers in two regions of Saudi Arabia. *Journal of International Society of Preventive & Community Dentistry, 7*(3), 110.

Alomair, M. O. (2015). Female Leadership Capacity and Effectiveness: A Critical Analysis of the Literature on Higher Education in Saudi Arabia. *International Journal of Higher Education, 4*(4), 81-93.

Alsanoosy, T., Spichkova, M., & Harland, J. (2018). Cultural influences on requirements engineering process in the context of Saudi Arabia. *arXiv preprint arXiv:1807.01930*.

Alshehri, Y. A., Mordhah, N., Alsibiani, S., Alsobhi, S., & Alnazzawi, N. (2020). How the regular teaching converted to fully online teaching in saudi arabia during the coronavirus covid-19. *Creative Education, 11*(7), 985-996. doi:https://doi.org/10.5220/0006770701590168

Alsubaie, A., & Jones, K. (2017). An overview of the current state of women's leadership in higher education in Saudi Arabia and a proposal for future research directions. *Administrative Sciences, 7*(4), 36.

Alsubhi, A. A., Hoque, K. E., & Razak, A. Z. (2018). Workplace barriers and leadership conflicts experienced by the women in higher education in Saudi Arabia. *International Journal of Learning and Development, 8*(2), 1-17. doi:https://doi.org/10.5296/ijld.v8i2.13007

Alswat, K., Abdalla, R. A. M., Titi, M. A., Bakash, M., Mehmood, F., Zubairi, B., . . . El-Jardali, F. (2017). Improving patient safety culture in Saudi Arabia (2012–2015): trending, improvement and benchmarking. *BMC Health Services Research, 17*(1), 1-14. doi:https://doi.org/10.1186/s12913-017-2461-3

Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability, 12*(20), 8438. doi:https://doi.org/10.3390/su12208438

Bago, J.-L., Ouédraogo, M., Akakpo, K., Lompo, M. L., & Ouédraogo, E. (2020). Early childhood education and child development: New evidence from Ghana. *Children and Youth Services Review, 108*, 104620. doi:https://doi.org/10.1016/j.childyouth.2019.104620

Binsahl, H., Chang, S., & Bosua, R. (2020). Cross-cultural digital information-seeking experiences: The case of Saudi Arabian female international students. *Journal of International Students, 10*(4), 872-891. doi:https://doi.org/10.32674/jis.v10i3.1573

Blankenberger, B., & Williams, A. M. (2020). COVID and the impact on higher education: The essential role of integrity and accountability. *Administrative Theory & Praxis, 42*(3), 404-423. doi:https://doi.org/10.1080/10841806.2020.1771907

Bowden, M. M. (2019). Law School News: RWU Law Will Dedicate Classroom to RI's First African-American Woman Lawyer 9-4-2019.

Dahya, N., & Dryden-Peterson, S. (2017). Tracing pathways to higher education for refugees: the role of virtual support networks and mobile phones for women in refugee camps. *Comparative Education, 53*(2), 284-301. doi:https://doi.org/10.1080/03050068.2016.1259877

Darwish, S., Alzayed, S., & Ahmed, U. (2020). How Women in Science can Boost Women's Entrepreneurship: Review and Highlights. *International Journal of Innovation Creativity and Change, 14*(1), 453-470.

Fadlillah, M. (2019). The Development of an Integrative Holistic Program in Early Childhood Care and Education: A Policy in the Indonesian Context. *Indian Journal of Public Health Reseach and Develompent, 10*(12), 1803-1806. doi:https://doi.org/10.37506/v10/i12/2019/ijphrd/192127

Faruk, S. M. G. (2014). Sciendo. *Romanian Journal of English Studies, 11*(1), 264-271. doi:https://doi.org/10.2478/rjes-2014-0030

Goller, D., Harrer, T., Lechner, M., & Wolff, J. (2021). Active labour market policies for the long-term unemployed: New evidence from causal machine learning. *arXiv preprint arXiv:2106.10141*.

Hamdan, A. (2005). Women and education in Saudi Arabia: Challenges and achievements. *International Education Journal, 6*(1), 42-64. doi:https://doi.org/10.19173/irrodl.v15i1.1408

Hamdan, A. K. (2014). The reciprocal and correlative relationship between learning culture and online education: A case from Saudi Arabia. *The International Review of Research in Open and Distributed Learning, 15*(1).

Khalil, S. N., Alzahrani, M. M., & Siddiqui, A. F. (2018). Unmet need and demand for family planning among married women of Abha, Aseer Region in Saudi Arabia. *Middle East Fertility Society Journal, 23*(1), 31-36. doi:https://doi.org/10.1016/j.mefs.2017.07.004

Mesfer Alqahtani, A. (2020). Barriers to Women's Education: Participation in Adult Education in Saudi Arabia in The Past and Present. 71-37), 4(36*), مجلة(العلوم التربوية والنفسية.

Moralista, R., & Oducado, R. M. (2020). Faculty perception toward online education in higher education during the coronavirus disease 19 (COVID-19) pandemic. *Available at SSRN 3636438*. doi:https://doi.org/10.31219/osf.io/nhr7b

Munawar, S., Toor, S. K., Aslam, M., & Hamid, M. (2018). Move to smart learning environment: exploratory research of challenges in computer laboratory and design intelligent virtual laboratory for eLearning Technology. *EURASIA Journal of Mathematics, Science and Technology Education, 14*(5), 1645-1662. doi:https://doi.org/10.29333/ejmste/85036

Nikou, S., & Aavakare, M. (2021). An assessment of the interplay between literacy and digital technology in higher education. *Education and Information Technologies*, 1-23. doi:https://doi.org/10.1007/s10639-021-10451-0

Pilotti, M. A. E., Abdulhadi, E. J. Y., Algouhi, T. A., & Salameh, M. H. (2021). The New and the Old: Responses to Change in the Kingdom of Saudi Arabia. *Journal of International Women's Studies, 22*(1), 341-358.

Rajab, K. D. (2018). The effectiveness and potential of E-learning in war zones: An empirical comparison of face-to-face and online education in Saudi Arabia. *IEEE Access, 6*, 6783-6794. doi:https://doi.org/10.1109/ACCESS.2018.2800164

Ryan, G. (2018). Introduction to positivism, interpretivism and critical theory. *Nurse researcher, 25*(4), 41-49. doi:https://doi.org/10.7748/nr.2018.e1466

Sangodoyin, A. O., Akinsolu, M. O., & Awan, I. (2020). A deductive approach for the sensitivity analysis of software defined network parameters. *Simulation Modelling Practice and Theory, 103*, 102099. doi:https://doi.org/10.1016/j.simpat.2020.102099

Stobaugh, H. C., Mayberry, A., McGrath, M., Bahwere, P., Zagre, N. M., Manary, M. J., . . . Lelijveld, N. (2019). Relapse after severe acute malnutrition: A systematic literature review and secondary data analysis. *Maternal & child nutrition, 15*(2), e12702. doi:https://doi.org/10.1111/mcn.12702

Yamin, M. (2015). A socio-cultural overview of e-learning in Saudi Arabia. *International Woman Online Journal of Distance Education, International Women Online Journal of Distance Education, 4*(3).

Zakİ, Y. A. (2021). Challenges to gifted education in the Covid-19 pandemic about online learning in Saudi Arabia from the perspective of gifted students and parents. *Journal of Gifted Education and Creativity, 8*(1), 11-21.