

# Journal of Strategic Management



**ISSN Online: 2616-8472**



**Stratford**  
Peer Reviewed Journals & books

## **Technology: Examining Educational Strategies in the Wake of Covid-19 Pandemic in Kenya**

**Dr. Charles Momanyi, PhD**

**ISSN: 2616-8472**

# Technology: Examining Educational Strategies in the Wake of Covid-19 Pandemic in Kenya

Dr. Charles Momanyi, PhD

Kisii University

Email of the corresponding author: [charlesmomanyi@kisiiversity.ac.ke](mailto:charlesmomanyi@kisiiversity.ac.ke)

*How to cite this article:* Momanyi, C. (2022). Technology: Examining Educational Strategies in the Wake of Covid-19 Pandemic in Kenya. *Journal of Strategic Management* 6 (1), 59-70. <https://doi.org/10.53819/81018102t5043>

## Abstract

The World Health Organization recognized COVID-19 as a pandemic. In Kenya, the government announced the first case of COVID-19 on 13 March 2020. Spontaneously, the government established a mitigation committee at the national level to give daily briefs on the state of the COVID-19 crisis in the country. Thus, the study sought to examine the online platforms used amid the Covid 19 pandemic in tertiary institutions in Kenya and the influence of these platforms on online learning. The study was a literature-based review. The study findings indicated that most online platforms used for online learning by the tertiary institutions include zoom, video conferencing, email, WhatsApp, telegram, video streaming, skype and google classroom. The online platforms have reduced face-to-face interactions and thus minimized the spread of the Covid 19 virus. The online platforms determined the extent of online learning among the tertiary institutions in Kenya. Online learning has been considered to be vital in ensuring the success of teaching despite the pandemic. The study concluded that online platforms promoted online learning among the tertiary institutions in Kenya. The online learning offers enormous opportunities for learning and access to a vast amount of knowledge and information. Online learning during the COVID-19 pandemic has been enhanced by the effectiveness of the online platforms being used. The study recommended that online platforms such as zoom, video conferencing, email, WhatsApp, telegram, video streaming, skype and google classroom should be promoted within the tertiary institutions in Kenya since they promote online learning. The tertiary institutions to maximize the use of technology (online platforms) to teach and enhance online learning since the majority of the learners possess smartphones and laptop devices. Moreover, the tertiary institutions should lobby for subsidized internet bundles from internet providers and policymakers should reduce tax levies for internet service providers to offer affordable and reliable internet connections to learners and instructors off-campus. The university management and government should prioritize capacity building for lecturers and other users to enhance online education skills and knowledge.

**Keywords:** *Online platforms, online learning, tertiary institutions, COVID-19 pandemic, Kenya*

<https://doi.org/10.53819/81018102t5043>

## **1.0 Introduction**

The World Health Organization (WHO) declared coronavirus disease 2019 (COVID-19) a public health emergency of international concern on 30 January 2020 and on 11 March 2020; it recognized COVID-19 as a pandemic (Alvi & Gupta, 2020). The Covid 19 pandemic has drastically changed the way of life. In Kenya, the government announced the first case of COVID-19 on 13 March 2020 (Ngwacho, 2020). The Kenyan government established a mitigation committee at the national level, coordinated by the Cabinet Secretary of the Ministry of Health, which gave daily briefs on the state of the COVID-19 crisis in the country. Consequently, some of the measures implemented to curb the spread of the virus included social distancing, a dusk-to-dawn curfew and a ban on public gatherings. Moreover, through an executive order, the President closed all learning institutions on 16 March 2020 (Mbogo, 2020). The prohibition of face-to-face learning prompted a shift to online learning and particularly among higher learning institutions (Ngwacho, 2020). Online learning can be considered to be vital in ensuring the success of the learning despite the pandemic. The nature of online information allows for broad access, sharing, and disseminating of the information (Auma & Achieng, 2020).

Online learning refers to learning facilitated and supported through the use of information and communications technology. Online learning can be considered a natural evolution of distance learning, which has always taken advantage of the latest tools to emerge in the context of technologies for structuring education (Maqableh & Alia, 2021). The digital content platforms facilitate the academic staff in universities to disseminate information in a broad context. It was indicated by Chung, Subramaniam and Dass (2020) that online learning is crucial and can be fundamental to reducing the spread of the Covid 19 virus. The utilization of digital resource platforms by academic staff and students is essential for accessing quality and adequate learning resources (Omah, & Urhiewhu, 2019).

Online learning enables the training of the learners to be more interactive. One of the enormous advantages of training through digital resources is that trainers and lecturers can engage more effectively (Chatterjee & Chakraborty, 2021). Another key feature of the online platforms is that learners can access information during their free time, which can facilitate higher understanding. The online resource platforms allow multiple access to an information source, making it easier to search for information by keywords (Kibuku, Ochieng & Wausi, 2020). In the wake of the Covid 19 virus, online platforms have become central in teaching, learning, and research activities (Aduba & Mayowa-Adebara, 2020).

However, online learning has not been effective in most developing countries. It was reported by Zalat, Hamed and Bolbol (2021) that online learning has not been much effective among the university medical staff in Zagazig University, Egypt, due to inadequate computer labs, lack of computers/ laptops and technical problems. The university and college leaders in most SSA countries, one of the main challenges of the swift from face-to-face delivery to remote teaching and learning is the weakness of quality assurance of such educational delivery (Agyapong, Asare, Essah, Heady & Munday, 2020). The online learning amongst tertiary institutions in Kenya amid the COVID-19 pandemic has not been adequate. Among the specific challenges experienced by Kenyan tertiary institutions universities in transitioning from a traditional face-to-face classroom teaching and learning to online classes include inadequate information technology (ICT) facilities and inadequate preparedness on the part of academic staff to carry out effective teaching and learning using online platforms (Ngwacho, 2020). Moreover, additional costs related to data

<https://doi.org/10.53819/81018102t5043>

bundles needed by both students and lecturers to access online materials, the inability of a majority of students to access learning materials online due to lack of the necessary technical skill sets, unavailability of internet access to rural-based students due to distance from towns has been hindering the online learning in some of the tertiary institutions (Auma & Achieng, 2020).

The students without reliable internet access and technology struggle to participate in digital learning and this gap is seen across countries and between income brackets within countries. Despite the challenges, online learning is factored to be the future of learning due to technological changes. Technology is changing daily and the adoption of online learning can be a long-term solution to enhance the quality of education and continuation even when a pandemic strikes as it is happening in the World. The concept of technological advancement cannot be ignored and higher learning institutions can use it to advance the quality of education. The importance of online learning is its flexibility and comprehensive coverage. There is no need for physical interaction during online learning. Thus, the study sought to examine the influence of online platforms on online learning in tertiary institutions in Kenya amid the COVID-19 pandemic. The findings could be compelling for policy formulation in the sector of education in the country.

### **1.1 Statement of the problem**

In the wake of the Covid 19 virus, online platforms have become central in teaching, learning, and research activities (Aduba & Mayowa-Adebara, 2020). However, the online learning amongst tertiary institutions in Kenya amid the COVID-19 pandemic has not been adequate. The inadequate information technology (ICT) facilities and inadequate preparedness for academic staff to carry out effective teaching and learning using online platforms have been challenging (Ngwacho, 2020). Moreover, additional costs related to data bundles needed by both students and lecturers to access online materials, the inability of a majority of students to access learning materials online due to lack of the necessary technical skill sets, unavailability of internet access to rural-based students due to distance from towns has been hindering the online learning in some of the tertiary institutions (Auma & Achieng, 2020). There have been cases of users' inability to effectively access information in digital resource platforms within the universities in institutions due to the intricate digital information platforms that host digital content.

Based on the literature reviewed, there was inadequate information concerning the influence of online platforms on online learning in tertiary institutions in Kenya amid the COVID-19 pandemic. The knowledge gap was presented in terms of the conceptual, contextual and methodological gap. The contextual gap from the reviewed literature results from studies not being conducted in Kenya. The conceptual gap discerned from the reviewed literature is that none of the reviewed studies used similar variables as the current study. Thus, this study identified a knowledge gap concerning issues spinning around the influence of online platforms on online learning and this was the motive behind conducting the review.

### **1.2 Research objectives**

- i. To examine the online platforms used amid Covid 19 pandemic in tertiary institutions in Kenya
- ii. To establish the influence of these platforms on online learning in tertiary institutions in Kenya amid COVID-19 pandemic

## **2.0 Literature review**

### **2.1 Theoretical review**

The study was based on the theory of diffusion of innovations. The proponent of the theory of diffusion of innovations was Everett Rogers in 1995. The theory describes innovations as to how new ideas have developed that introduce new goods or services or improve in offering goods or services. The theory illustrates that innovation creates and transforms new knowledge into new products, processes, or services that meet market needs (Wejnert, 2002). Innovation is mainly concerned with introducing new technologies or methods of production that do not exist within the organization. Innovation is indispensable for an organization and can be used to outsmart competitors and gain a competitive advantage.

The theory assumes that innovations include relative advantage, complexity, compatibility, observability and reliability (Rogers, 1995). The digital resource platforms encompass more of the innovation activities (Aizstrauta, Ginters & Eroles, 2015). Digital information services facilitate information services for library users, independent of time and place. The management of the digital resource platforms is critical in ensuring easy access to the information. Contents in a digital library are organized and managed to immediately access the target audience (Iroaganachi & Izuagbe, 2018). The innovation in the application of digital platforms can be an effective strategy to increase service delivery and ensure the content is accessible anytime.

The theory was relevant to the current study. The online resource platforms encompass more innovation within the higher learning institutions. The major benefits of digital information services include storing resources in digital forms, which allows online access to the information at numerous locations and anywhere, at home, in class, and in laboratories, among others. Online information services provide various search techniques to access digitized resources. Digital information services containing original works allow students and academic scholars to research their personal computers and workstations wherever users are. The digital information providers have to provide information to users' desktops instantly irrespective of place, time and format. Information communication technology has made it possible to provide and make information more accessible than it used to be. Digital resource platforms are available 24 hours, thus enabling wider access to the information. Thus, the theory was much relevant to the current to demonstrate more on the significance of the online content platforms.

### **2.2 Empirical review**

Online learning can be considered a natural evolution of distance learning, which has always taken advantage of the latest tools to emerge in the context of technologies for structuring education (Maqableh & Alia, 2021). Online learning refers to learning facilitated and supported through the use of information and communications technology. The digital content platforms facilitate the academic staff in universities to disseminate information in a broad context. It was indicated by Chung, Subramaniam and Dass (2020) that online learning is crucial and can be fundamental to reducing the spread of the Covid 19 virus. The utilization of digital resource platforms by academic staff and students is essential for accessing quality and adequate learning resources (Omah, & Urhiewhu, 2019).

A study was conducted by Coman, Țîru, Meseșan-Schmitz, Stanciu and Bularca (2020) to examine how online platforms influence online learning in higher education during the coronavirus pandemic. The study adopted a descriptive research design. The target population included <https://doi.org/10.53819/81018102t5043>

respondents from Romanian universities. The research instruments used to collect the data included questionnaires. The study findings indicated that online platforms such as zoom, DingTalk, Lark, Hangouts Meet, Skype, WeChat Work and WhatsApp are the leading platforms that have been used in higher education during the coronavirus pandemic. The study indicated that the use of online platforms has supported online learning and students have been able to continue with their studies. The study concluded that online platforms are significant in influencing online learning and ensuring the continuity of learning. The study recommended that online platforms can be used post covid 19 pandemics since they have been established to be flexible and effective in the learning process.

Moreover, another study was conducted by Aduba and Mayowa-Adebara (2020) to investigate the influence of online platforms used in the teaching/learning during the lockdown period caused by the COVID-19 pandemic. The study adopted a survey method and data were collected from students of the Department of Library and Information Science, Delta State University, Abraka. Second-year students in the second semester of 2019/2020 academic session were purposely selected for the study. The online questionnaire was designed on survey monkey and the link was forwarded to the students. In total, 187 students participated in the study. To supplement data collected from the students, 3 lectures were engaged in an open-ended interview using WhatsApp chat. The study found that WhatsApp and telegram are platforms used for delivering online lectures by the LIS educators during the period of general lockdown caused by the COVID-19 pandemic. The LIS lecturers interviewed mentioned the cost of paying for data, network failure, laxity of students, and unable to conduct exams, and nonchalant attitude of students toward lectures as some challenges associated with teaching using the online platform. Teacher/students relationship can be improved significantly with the use of social media platforms like WhatsApp in the academic environment. The study concluded that the adoption and use of social media platforms like WhatsApp would make the teaching/learning process an interactive, collaborative, and participatory activity for all students.

In addition, Maqableh and Alia (2021) conducted a study to examine the impact of shifting from traditional learning to online learning during the COVID-19 pandemic on undergraduate students. The study also analyzes the positive and negative aspects of online learning from students' perspectives. The study conducted two online surveys to evaluate online learning, students' satisfaction and identify the positive and negative aspects of online learning. Data was collected in the first survey from 483 participants directly after the emergency shifting to online learning. The second survey data was collected from 853 after students' experienced online learning for three academic semesters. Both surveys' analysis results showed that students had several problems with shifting to online learning during COVID-19 pandemic such as technological, mental health, time management and balance between life and education. The results also showed that more than a third of the surveyed students were dissatisfied with the online learning experience. The analysis results revealed that the most important factors behind the students' dissatisfaction during online learning are distraction and reduced focus, psychological issues, and management issues. The study further noted that online learning during the COVID-19 pandemic on undergraduate students has been enhanced by the effectiveness of the online platforms being used. Some of the platforms included zoom, WhatsUp and Skype.

Furthermore, Mabeya (2020) conducted a study to examine the influence of online platforms on online learning among students in Kenya. The study adopted the descriptive research design.

<https://doi.org/10.53819/81018102t5043>

Questionnaires were used to collect the data. The analysis of the study was done using both descriptive and inferential statistics. The study results indicated that web-based learning determined online learning. It was indicated that web-based learning is often called online learning or e-learning because it includes online course content. Discussion forums through email, videoconferencing and live lectures (video streaming) are all possible through the web. The study concluded that web-based learning offers huge opportunities for learning and access to a vast amount of knowledge and information. The role of teachers is to ensure that the learning environment provided takes account of learners' needs and ensures that they are effectively prepared and supported. Online learning has advantages, but web-based learning should not always be viewed as the method of choice because barriers (such as inadequate equipment) can easily detract from student learning. The technology must therefore be applied appropriately and not used simply because it is available and new or because students and teachers have particular expectations of this means of course delivery.

In addition, Chatterjee and Chakraborty (2021) conducted a study to examine the use of information communication technology by medical educators amid the covid-19 pandemic and beyond. The study used an explanatory research design to conduct the study. The collection of the data included the use of questionnaires and interview guides. The results of the study indicated the use of information communication technology has enhanced the continuation of the learning process of the students. The use of information communication technology such as zoom and video conferencing have enhanced the continuation of the learning process. The study concluded that information communication technology is key in determining the learning process of the students. The study by Abbas, Aman, Nurunnabi and Bano (2019) reported that results from Massive Open Online Courses (MOOCs) delivered through social media showed improved students' performance. Furthermore, it indicated that the involvement of social media and technology in learning programs did help in reducing the number of students who dropped out of the programs.

Sharma, Deo, Timalisina, Joshi, Shrestha and Neupane (2020) conducted a study to examine the influence of online learning in the face of the COVID-19 pandemic. A web-based cross-sectional survey was undertaken among 434 undergraduate and postgraduate students from various academic programs who had participated in the online classes started during this COVID-19 pandemic. A structured questionnaire consisting of 31 items (5-point Likert scale) covering four major student satisfaction domains (learners' dimensions, technological characteristics, instructors' characteristics and course management and coordination) was distributed to the students using Google Form. The study findings indicated that online learning has been stimulated by online platforms such as Zoom, skype, whatup and google classroom. The effectiveness of online platforms stimulates the e-learning. The study concluded the satisfaction of the students towards online classes appears good and prioritizing on improving the online platforms and working on the weak links could assist in enhancing students' satisfaction and better outcomes.

In addition, Migosi (2021) aimed at seeking students' views on perceptions on the utilization of online learning as a mode of study. The study adopted a cross-sectional survey research design and used questionnaires in the Google Forms format to reach out to students in the ODeL (Open Distance and Electronic Learning) campus of the University of Nairobi. A cross-sectional survey research design was instrumental in this study to collect data from students at different levels of learning. The design employed use of questionnaires in data collection which was converted to Google Forms and sent to students through emails and WhatsApp groups. The total number of

<https://doi.org/10.53819/81018102t5043>

students who responded to this study were 244 drawn from all four-level of study at the University of Nairobi, ODeL campus. This study showed that the online learners in ODeL had a moderate acceptance level of online learning and that learners are yet to fully own and accept the e-learning mode of study. The study indicated that open distance and electronic learning is determined the efficiency of the online platforms. The study concluded that COVID-19 pandemic in 2020 has aroused interest in the education sector to explore full potential of online learning mode of study. In line with this, the University of Nairobi has encouraged all colleges to adopt the online mode of study.

Henaku (2020) focused on conducting a study on online learning experiences of college students and their perception of online learning in Ghana. The descriptive phenomenological research design was employed. Ten college students were selected from four colleges of education using the snowball sampling procedure. Participants were interviewed through phone. Colaizzi's phenomenological data analysis process was adopted for this study. Findings were presented in themes and supported by quotes from research participants. The findings revealed that both social media and online learning platforms were used for teaching and learning by the Colleges of Education in Ghana. The use of social media platforms such as WhatsApp and telegram could be attributed to it being mobile friendly and easy to use. It was also found that students experience internet connectivity problems, financial difficulty due to the high cost of internet bundle, challenges with devices and disruption as a result of the need to assist in household production. College students suggest that online learning should be suspended due to the number of challenges associated.

Likewise, Pete and Soko (2020) conducted a study to look at the influence of online platforms on online learning in Sub-Saharan Africa. Specifically, the study explored the online platforms lecturers and learners use for teaching and learning, their level of digital proficiency, access to internet connection and finally, their level of satisfaction of connectivity cost, speed and stability. The study utilized a quantitative design and used structured questionnaires which were distinct for lecturers and students but with similar variables. The study targeted three Sub-Saharan countries: Kenya, Ghana and Sought Africa. A total of 2,341 respondents participated in the research comprising of 855 lecturers and learners from Ghana, 842 from Kenya and 644 from South Africa. The study found that online platforms used in the universities include zoom, Hangouts Meet, Skype, and WhatsApp. Lecturers and learners in these universities possessed intermediate digital proficiency, which meant respondents were able to use a range of applications effectively. The study established that there was an extremely low level of satisfaction with the internet connection, cost and reliability. The study recommended that institutions should maximize the use of technology (online platforms) to teach and enhance online learning since the majority of the learners possess smartphones and laptop devices. Universities should lobby for subsidized internet bundles from internet providers and policymakers should reduce tax levies for internet service providers to offer affordable and reliable internet connections to learners and instructors off-campus. In collaboration with universities, United Nations Educational, Scientific and Cultural Organization should prioritize capacity building for lecturers and other users to enhance skills and knowledge of online education.

Moreover, a study was conducted by Mutinda (2021) to look at the influence of online platforms on online learning among universities in Kenya amid Covid 19 pandemic. The study adopted the descriptive research design. The target population included public universities based in Nairobi

<https://doi.org/10.53819/81018102t5043>



City County. The data was collected using google forms. The analysis of the data was done using descriptive and inferential statistics. The results of the study indicated that online learning has been supported by online platforms such as skype, zoom, video conferencing and emails. It was indicated that efficiency on the online platforms fosters online learning. The study concluded that online platforms is positively and significantly related to online learning. It was recommended that universities management and government develop strategies that will enhance online learning within the universities. The universities can invest in an infrastructure that supports online learning.

Further, another study was conducted by Kibuku, Ochieng and Wausi (2020) to examine e-Learning Challenges Faced by Universities in Kenya. The study was a literature based review. It was indicated that the online resource platforms allow multiple access to an information source, making it easier to search for information by keywords. Some institutions of higher education in Kenya have adopted e-Learning with the aim of coping with the increased demand for university education and to widen access to university training and education. Though there are advantages that accrue from adopting e-Learning; its implementation and provision has not been smooth sailing. It has had to contend with certain national, organizational, technical and social challenges that undermine its successful implementation. This paper therefore aims to present a literature review of the challenges faced in the implementation and provision of e-Learning in universities in Kenya. The study concluded that some of the challenges that hinder e-learning include lack of adequate e-Learning policies, inadequate Information and Communication Technology (ICT) infrastructure, the ever-evolving technologies, lack of technical and pedagogical competencies. The study recommended that these challenges be addressed to minimize their impact on the implementation and delivery of e-Learning initiatives in institutions of higher education in Kenya.

Similarly, a study was conducted by Odoyo and Olala (2020) that sought to look at how Covid-19 Pandemic as acted as a Catalyst to E-Learning Acceptance in 2020 among the public universities in Kenya. The study adopted the descriptive research design. The target population included lecturers and students in Kenyan public universities. The data was collected by the use of google forms. The study results showed that Covid-19 Pandemic had increased the acceptance of the universities to adopt online learning. It was established that online learning had been animated by online platforms such as skype and zoom. The study further showed that implementation of online learning had been affected by lack of infrastructure within the universities, lack of technical expertise and low internet coverage. Moreover, the challenge of supervision of examinations and some students missing examinations due to low internet coverage has been a challenge. As a result, the universities have resorted to using e-learning in a blended mode approach to ensure that the universities' calendar dates are not significantly interfered with by the Covid-19 pandemic. The study recommended that strategies be developed to strengthen online learning, given that technology is taking the stage and the uncertainty on when the Covid 19 virus will be over.

### **3.0 Research Methodology**

The study was a literature-based review. The conclusion and recommendations of the study were based on the deductions from the preceding studies. The study reviewed studies from various perspectives to ensure comprehensive information is obtained to make in-depth inferences.

#### **4.0 Research findings**

The study indicated that most of the online platforms used for online learning by the tertiary institutions include zoom, video conferencing, email, WhatsApp, telegram, video streaming, skype and google classroom. The online platforms are vital in determining online learning. The online platforms have reduced face-to-face interactions and thus minimized the spread of the Covid 19 virus. The digital content platforms facilitate the academic staff in universities to disseminate information in a broad context without being face-to-face, which has reduced the interactions. The online resource platforms are indispensable for education because they offer up-to-date material and immediate access to a wide range of sources that do not exist physically. The benefits of online resource platforms are to provide resources through an internet connection each moment from each place and therefore, learning becomes independent. The online resource platforms facilitate the building of heritage for the next generation. Online resources help the scientific society since they act as reservoirs to store essential research data, information and findings.

The study indicated that online learning enables the training of the learners to be more interactive. One of the enormous advantages of training through digital resources is that students and lecturers can engage more effectively. The online learning allows multiple access to an information source, making it easier to search for information by keywords. In the wake of the Covid 19 virus, online platforms have become central in teaching, learning, and research activities. Online learning has been considered to be vital in ensuring the success of the learning despite the pandemic. The nature of online information allows for broad access, sharing, and disseminating of the information fast. The increase of computer networks and networked information among universities has made access to information easy, less expensive, widespread and democratic. The benefits of online learning are enormous in that users can access the information at all times and there is no limit to the number of users.

The online learning has not been much effective. The inadequate computers/laptops and technical problems have hindered online learning. Among the specific challenges experienced by Kenyan tertiary institutions universities in transitioning from a traditional face-to-face classroom teaching and learning to online classes include inadequate information technology facilities and inadequate preparedness on the part of academic staff to carry out effective teaching and learning using online platforms. Moreover, additional costs related to data bundles needed by both students and lecturers to access online materials, the inability of most students to access learning materials online due to lack of the necessary technical skill sets. Moreover, the challenge of supervision of examinations and some students missing examinations due to low internet coverage has been a challenge. As a result, the universities have resorted to using e-learning in a blended mode approach to ensure that the universities' calendar dates are not significantly interfered with by the Covid-19 pandemic.

#### **5.0 Conclusion**

The study concluded that online platforms promoted online learning among the tertiary institutions in Kenya. The online learning offers enormous opportunities for learning and access to a vast amount of knowledge and information. Online learning during the COVID-19 pandemic has been enhanced by the effectiveness of the online platforms being used. It is concluded that some of the online platforms used for online learning by the tertiary institutions include zoom, video conferencing, email, WhatsApp, telegram, video streaming, skype and google classroom. The students' content towards online classes appears good and prioritizing improving the online platforms and working on the weak links could enhance online learning. The COVID-19 pandemic

<https://doi.org/10.53819/81018102t5043>

has aroused interest in the education sector to explore the full potential of the online learning mode of study. The challenges of inadequate computers/laptops and technical problems have hindered online learning. Further, costs related to data bundles needed by both students and lecturers to access online materials have been a challenge that has affected online learning. Moreover, another challenge found is the inability of most students to access learning materials online due to a lack of the necessary technical skill sets. The challenge of supervision of examinations and some students missing examinations due to low internet coverage has been challenging. The universities have resorted to using e-learning in a blended mode approach to ensure that the universities' calendar dates are not significantly interfered with by the Covid-19 pandemic.

## 6.0 Recommendations

The study recommended that online platforms such as zoom, video conferencing, email, WhatsApp, telegram, video streaming, skype and google classroom should be promoted within the tertiary institutions in Kenya since it promotes online learning. The tertiary institutions to maximize the use of technology (online platforms) to teach and enhance online learning since the majority of the learners possess smartphones and laptop devices. Moreover, the tertiary institutions should lobby for subsidized internet bundles from internet providers and policymakers should reduce tax levies for internet service providers to offer affordable and reliable internet connections to learners and instructors off-campus. The university management and government should prioritize capacity building for lecturers and other users to enhance online education skills and knowledge. The concept of technological advancement should not be ignored and higher learning institutions in Kenya should be encouraged to use online learning in their teaching. The importance of online learning is its flexibility and extensive coverage.

## REFERENCES

- Abbas, J., Aman, J., Nurunnabi, M., & Bano, S. (2019). The impact of social media on learning behavior for sustainable education: Evidence of students from selected universities in Pakistan. *Sustainability*, 11(6), 161-183. <https://doi.org/10.3390/su11061683>
- Aduba, D. E., & Mayowa-Adebara, O. (2020). Online platforms used for teaching and learning during the COVID-19 era: The case of LIS students in Delta State University, Abraka. *International Information & Library Review*, 2(1), 1-36. <https://doi.org/10.1080/10572317.2020.1869903>
- Agyapong S, Asare S, Essah P, Heady L, Munday G. (2020). Learning in Crisis: COVID-19 pandemic response and lessons for students, faculty, and Vice Chancellors in sub-Saharan Africa. *Education sub-Saharan Africa (ESSA)*
- Alvi, M., & Gupta, M. (2020). Learning in times of lockdown: how Covid-19 is affecting education and food security in India. *Food security*, 12(4), 793-796. <https://doi.org/10.1007/s12571-020-01065-4>
- Auma, O. M., & Achieng, O. J. (2020). Perception of teachers on effectiveness of online learning in the wake of COVID-19 Pandemic. *IOSR Journal of Humanities and Social Science* 25(6), 19-28.

<https://doi.org/10.53819/81018102t5043>

- Barasa, P. L. (2020). Digitalization in teaching and education in the context of COVID-19: Kenya. *Journal of Education* 3(1), 28-35
- Chatterjee, I., & Chakraborty, P. (2021). Use of information communication technology by medical educators amid covid-19 pandemic and beyond. *Journal of Educational Technology Systems*, 49(3), 310-324. <https://doi.org/10.1177/0047239520966996>
- Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online learning readiness among university students in Malaysia amidst COVID-19. *Asian Journal of University Education*, 16(2), 46-58. <https://doi.org/10.24191/ajue.v16i2.10294>
- Coman, C., Țiru, L. G., Meseșan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: students' perspective. *Sustainability*, 12(24), 103-117. <https://doi.org/10.3390/su122410367>
- Henaku, E. A. (2020). COVID-19 online learning experience of college students: The case of Ghana. *International Journal of Multidisciplinary Sciences and Advanced Technology*, 1(2), 54-62.
- Kibuku, R. N., Ochieng, D. O., & Wausi, A. N. (2020). e-Learning Challenges Faced by Universities in Kenya: A Literature Review. *Electronic Journal of e-Learning*, 18(2), 150-161. <https://doi.org/10.34190/EJEL.20.18.2.004>
- Mabeya, M. T. (2020). Distance learning during COVID-19 crisis: Primary and secondary school parents experiences in Kenya. *East African Journal of Education Studies*, 2(1), 173-186. <https://doi.org/10.37284/eajes.2.1.249>
- Maqableh, M., & Alia, M. (2021). Evaluation online learning of undergraduate students under lockdown amidst COVID-19 Pandemic: The online learning experience and students' satisfaction. *Children and Youth Services Review*, 12(8), 106-117. <https://doi.org/10.1016/j.chilyouth.2021.106160>
- Mbogo, R. W. (2020). Leadership Roles in Managing Education in Crises: The Case of Kenya during Covid-19 Pandemic. *European Journal of Education Studies*, 7(9), 273-289. <https://doi.org/10.46827/ejes.v7i9.3250>
- Migosi, J. (2021). Acceptance of E-learning as a Mode of Study among University of Nairobi Students Amidst COVID-19 Pandemic. *Journal of Education* 4(3), 18-27
- Mutinda, G., & Liu, Z. (2021). Perceptions on the implications of the COVID-19 pandemic on university students' wellbeing in Kenya—a thematic analysis approach. *Higher Education Research & Development*, 3(1), 1-15. <https://doi.org/10.1080/07294360.2021.1996337>
- Ngwacho, A. G. (2020). COVID-19 pandemic impact on Kenyan education sector: Learner challenges and mitigations. *Journal of Research Innovation and Implications in Education*, 4(2), 128-139.
- Odneyo, C. O., & Olala, S. O. (2020). Covid-19 Pandemic as a Catalyst to E-Learning Acceptance in 2020. <https://doi.org/10.20533/ijels.2046.4568.2020.0076>
- Pete, J., & Soko, J. (2020). Preparedness for online learning in the context of Covid-19 in selected Sub-Saharan African countries. *Asian Journal of Distance Education*, 15(2), 37-47.

<https://doi.org/10.53819/81018102t5043>

- Sharma, K., Deo, G., Timalsina, S., Joshi, A., Shrestha, N., & Neupane, H. C. (2020). Online learning in the face of COVID-19 pandemic: Assessment of students' satisfaction at Chitwan medical college of Nepal. *Kathmandu University Medical Journal*, 18(2), 40-47. <https://doi.org/10.3126/kumj.v18i2.32943>
- Zalat, M. M., Hamed, M. S., & Bolbol, S. A. (2021). The experiences, challenges, and acceptance of e-learning as a tool for teaching during the COVID-19 pandemic among university medical staff. *PloS one*, 16(3), e0248758. <https://doi.org/10.1371/journal.pone.0248758>