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Assessing the Readiness of Kenyan Universities for Online Education During COVID-19 Pandemic

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Abstract

This study was based on online university education during the COVID-19 period in Kenya. The purpose of the study was to establish the readiness of Kenyan universities for online education during COVID-19 period. Online survey method generated data from 11 universities through content analysis. The data were analyzed qualitatively and interpreted. The major findings showed that majority of the universities under study adjusted in different ways during the COVID-19 period by hiring more teaching staff to teach online, however, the capacity of these job applicants to competently teach online courses was not clearly verified before they were hired to teach at the university. The study also found that even though majority of the universities had a functional Learning Management System (LMS), its utilization was below par. The study concluded that many universities did not offer quality online education as required by the Commission of University Education (CUE) in Kenya but were using online education language for marketing and sustainability purposes. To reduce the digital gap in institutions of higher learning, the study recommended that all teaching staff at the university level must be computer literate.

Keywords: *COVID-19, universities, Learning Management System (LMS), computer literacy, online education*

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Introductıon

The students' population in most universities and colleges all over the world was on the rise against the declining economies of the world. This means that the world had to adjust to accommodate the high numbers of students against several measures that were put in place by different governments of the world to curb the rising cost of living and inflation. In Kenya for example, the Salaries and Remuneration Commission (SRC) froze employment and salary rise in the year 2021 for entire public sector apart from the entities that provided key services such as the military, education and medical staff. The reasoning behind the freezing of employment was that Kenya was still healing from the impact of Covid-19 impact after an impromptu shutdown of all learning institutions in the country (Biscaye, Egger&Pape, 2022). Of course, it was true that many countries of the world had to adjust in different ways to cushion their citizens against the pandemic. Several health protocols were put in place among them such as social distancing in public places including learning institutions.

Ng'ang'a (2021) noted that the measures to combat COVID-19 were unexpected and sudden. Lockdowns, travel bans and closer of learning institutions among others were witnessed (Coleman, 2021). Different governments in the whole world either lowered or waivered taxes for their employees at this point in time to cushion them from hard economic times. Developed countries provided social protection fund. This in turn reduced government earnings inform of taxes that would otherwise been used to fund several sectors of the economy including education. It was noted that even though a number of gaps still existed in the field of education before the pandemic (USA. Department of Education [DOE], 2021), the sector was hardly hit:

- Universities and other learning institutions were directed to teach online and in situations where students were on-campus, they were required to observe health protocols.
- New students who were joining universities and colleges were required by their respective colleges to register and start learning online.
- Colleges and universities that lacked online platforms or those that had no capacity to teach online or had not trained their staff and students on how to go online had no option but to invite their students in phases for face-to-face learning.

- Covid-19 pandemic did not give learning institutions any notice of closure, many institutions abruptly closed without sitting for the end semester exams.

As result of all these, covid-19 was a paradigm shift in many learning institutions. It was referred to as the 'new normal'(Culala,2022) because learning institutions had no option but to adjust in their old ways of operations. Disruptions were evident even among the members of the academic staff who could not cope with the 'new normal' in terms of teaching methodologies and delivery ways(Biscaye, Egger&Pape, 2022). Universities and constituent colleges on the other hand had no solution well documented on how to fight mass exodus of students and at least on how to conduct online examinations to bring the semester to an end. It was all trial-and-error experience for most of the learning institutions. Universities needed to build a resilient 'new normal' (United Nations, 2020).

It was evident that a number of universities adjusted and abruptly started offering online classes (DOE, 2021). This move did not go well with many students in these institutions. A number of students resisted online education which led to the high cost of running universities and other learning institutions because of the economies of scale. Students' complaints for the online education ranged from high cost of bundles for learning, inability to learn online, poor network coverage, unclear instructions from the tutor, no fee reduction, uncomfortable places of study, timing of lessons, less prepared tutors among others. Low students' enrolment coupled with low quality education especially from the low-income families was eminent in most parts of the world (Culala, 2022). All these raised serious doubts on the commitment of the universities and constituent colleges on what constituted quality education. Education for an individual should be considered as a process and not a onetime event. Sofradzija et al. (2021) reiterated that educationists and learning institutions had reached a point where they had to question the kind of education that was most responsive during that season of Covid-19 pandemic and who exactly qualified to teach learners.

Coleman (2021) partially if not wholly suggested some possible answers by citing remote schooling. However, he added that remote schooling could not successfully work even in developed economies such as the United Kingdom where digital inequality was noted. He cited a case where 32% of the teachers in the United Kingdom could not broadcast a video lesson. Indeed it was remarkable that the so called the 'new normal' resulted in abrupt paradigm shift in the education sector without giving the learning institutions enough time to adjust (United Nations, 2020). A

number of learning institutions especially in Africa started fumbling on the right path to take in order to remain relevant in the society. For the first time, many learners, lecturers and institutions heard of the terminologies such as open learning, distance education, Google Meet, Microsoft Teems, Learning Management Systems, virtual learning among others. The social media as well was full of unverified information on online education and management (Culala, 2022). Notably, a number of universities in Kenya had their learning platforms active but were only serving a very small percentage of their students.

According to (Commission of University Education of Kenya [CUE],2014), employment criteria for teaching staff in all public universities in Kenya was based on: Academic qualification, work experience, registration with other professional bodies, participation in community service, consultancy services, publications and previous administrative role. The study noted that none of the listed selection criteria by CUE mentioned 'computer literacy or computer literacy as an added advantage' for the applicants. Therefore, the set standards by CUE had no provisions for possible interruptions such as COVID-19 in the learning process including the hiring of staff.

The ideal learning teaching and learning environment in a blended mode of learning or a pure online learning in most institutions of higher learning is that students are provided with the opportunity for either blended learning or pure online education. In both cases, the course lecturer remained the facilitator of learning. For effective online education, both the facilitator and students must be ICT literate.

It was a fact that COVID-19 disrupted the calendar of learning and left a number of universities nursing casualties. Universities had to think outside the box to neutralize the strong wave of COVID-19 and indeed there were several attempts fronted by many universities to bring back learning to normal. Tutors from unknown ICT backgrounds were directed to teach and mentor students online in several universities. In many instances, some universities got approval from their respective senates and CUE to learn online and sit for online examinations. The students on the other hand were compelled to register for courses, study and sit for exams on various university online platforms under the lecturers' guidance.

Literature Review

The world had the most difficult time responding to the impact of COVID-19 (Culala, 2022). Different countries adopted different approaches but in all, these countries were in a trial-and-error mission with the ultimate aim of safeguarding their citizens from the severe impact of

COVID-19. The mighty of the mightiest were not equally spared. On January 21, 2021, President Joseph R. Biden, Jr. issued Executive Order 14000 paving way for the reopening of learning institutions with the main message of high-quality education (DOE, 2021). It was common knowledge that COVID-19 created panic in the United States of America to a greater extent that strategizing in terms of delivery and funding of education was a top priority in the government of President Biden. The reason could have been that the country heavily relied on quality education for its citizen for accelerating economic growth because COVID-19 had shown no signal of ending but life had to continue in the United States of America.

In Afghanistan, the response was not so different from the rest of the world. Afghanistan reported its first positive case on the 24th of February in the year 2020. The Afghanistan government responded by first observing the containment measures such as screening people at the ports of entry, quarantine for the infected people and closure of public places. However, this did not help much. In March 2020, the government imposed total lockdown (IMF, 2022). This meant that all learning institutions were closed indefinitely. Learning institutions were only allowed to reopen in March 2021. The situation called for the readjustment in the learning programmes to catch up with the lost time.

According to a study carried out by UNESCO, 66% of students registered declined academic performance in Africa. Many institutions were also reported to have adopted online measures as a way of coping with challenges of COVID-19, however, the study showed that 76% of the students who enrolled for such courses never benefitted from such classes citing students' inability to access the curriculum and at the same time overwhelming majority of teacher (62%) lacked sufficient knowledge to teach online (UNESCO, 2021).The study was conducted in 54 African countries with a total of 520 respondents from public institutions. The study was categorical that success in any online education needed infrastructural capacity not only limited to ICT facilities but also robust training of personnel involved in the online education programmes. In addition, 77% of higher institutions of learning in Africa were said to be closed during COVID-19 pandemic. This was the highest percentage realized in the whole world (Osubwa, 2022).

Coleman (2021) added the digital divide was not only restricted to access and knowledge of teaching time. Digital divide extended to the percentage by which learners are digitally excluded. Omito et al. (2019) suggested that technology education should be taken in phases for it to be meaningful and effective to the users. This category of students are

severely hit by the digital divide areeither learners whose parents do not have sufficient digital skills to support them learn or have no conducive learning environment at home. On the other hand many institutions have also been found to be supportive to students on grounds that they have limited facilities (Ghavifekr et al.,2016). Colman (2022) added that even the students' home environment cannot be trusted with online education because it is equally overpopulated with different kind of noises that do n0t support learning.

Osubwa (2022) in his PhD project noted that Kenya lacked a robust online education. The study noted that higher institutions of learning, lecturers and students were not fully ready for online education. Many universities in Kenya lacked online learning platforms and instead relied on available and uncontrolled means of teaching and learning such as emails, Zoom, Google Classroom, and Microsoft Teams video conferencing facilities and the rest. The study emphasized that both students and faculty were found insufficiently ready for online education. As a result of this,Pomerantz and Brooks (2017) noted that there was both love and hate among the faculty members. Some showed difficulties in promoting technology usage in learning among the students during the COVID-19 period. Students from poor backgrounds could not afford data bundles and good digital equipment for learning (Barasa, 2021). On the other hand, some faculty based on their background had no capacity to teach online and this raised eyebrows on the university community to offer quality education.

In a sharp contrast to what was going on during COVID-19 period, CUE (2020) outlined quality parameters for all distance learning programs which many higher institutions did not meet (Barasa, 2021):

- Adequate access to the internet
- Enhanced faculty to learner interaction
- Enhanced learner to learner interaction
- Unlimited access to learning/information materials
- Quick processing, storage and access to student information
- Adequate student and faculty support
- Proper security of all online education information/transactions, including security of system for hosting, archiving, saving and exporting data.

Employment criteria of academic staff members at the university level across the world were almost same. At the University of Essex in the United Kingdom, for example, the employment of an academic staff was centered on the candidate's research writing and publications, education level and citizenship (University of Essex, 2021). The Kenyan scenario

under the Commission of University Education was the same. Commission of University Education in Kenya outlined research, quality of teaching, experience in position of responsibility and community service as mandatory requirements (CUE,2014). No emphasis on computer literacy as a mandatory requirement for employment formed part of employment criteria for the two institutions of higher learning despite the fact that online education was viewed as a solution to uninterrupted learning during COVID-19 period (Alsayed & Althaqafi, 2022).

In conclusion, the reviewed literature has indicated that COVID-19 did not give higher institutions notice for adjustment (Culala, 2022). Even though all higher institutions struggled to go online, they did not have same facilities and staff for online education. Such disparities raised serious quality issues in higher education.

Purpose of the Study

The purpose of this study was to asses the readiness of sampled universities in terms of compliance recruitment of teaching staff during COVID-19 period, the availability of a viable Learning Management System (LMS) necessary for online education during the COVID-19 pandemic.

Methodology

The researcher used survey design where data was generated qualitatively by analysing the information captured by the websites of the sampled universities and constituent colleges in Kenya. Job advertisement documents for the positions of teaching staff at sampled universities and constituent colleges and official web pages of public and private universities were explored for purposes of generating data for the study. Existence of a functional LMSwas also captured in every sampled university and constituent college. Survey designs have been found necessary for examining variables that are similar (Tolmie, Muijs & Mcateer, 2011).

According to CUE (2022), Kenya has 77 institutions of higher learning which formed the population of this study. The said institutions are accredited to offer various courses that lead to the award of certificates, diplomas and degrees in Kenya.

Table 1
Population of the study

Institutions	Population
Chartered public universities	35
Chartered private universities	25
Public Universities Constituent Colleges	5
Private Universities Constituent Colleges	3
Institutions with Letters of Interim Authority	8
Specialized Degree awarding University	1
Total	77

Source: CUE, 2022

Sampling procedure. The researcher used simple random sampling method to come up with appropriate sample size for the study. Random sampling was done and a total 11 out of 77institutions of universities and constituent colleges. Of the 11 institutions picked, 8 were chartered public universities, 2 private universities and 1 constituent college of a public university in Kenya. The sample size was 14% of the population of the study which according to Singh (2010) was adequate for analyzing descriptive research.

Reliability and validity of research instruments. Reliability of the information sourced was ascertained by the fact that data was sourced from the official websites of all the sampled institutions. The study was convinced that universities could not provide false information on their official websites. Vedder and Wachbroit (2015) qualified reliability by pedigree criteria especially when data is generated from an authoritative source like the website of an institution. The study was valid because the data was generated from the credible source and captured the required content that was also open for consumption by both students and stakeholders with interest(s) for such information. In addition, the sampled institutions under study were all accredited to operate and highly regulated by the Government of Kenya (CUE, 2022).

Data collection procedures. At the time of the study, websites of universities were open to the general public for viewing and downloads of documents that they labelled as 'open access' to the general public. The sampled institutions directed the viewers to access and download such information when found necessary to them from their respective websites. Job adverts on the websites were also open for downloads without given conditions. The relevant data was generated and categorized under the following headings: institution, category of institution, position advertised

for academic staff, closing date for such employment advert, computer literacy as a mandatory requirement for applicants for teaching staff, computer literacy as an added advantage for applicants for teaching staff, job application mode, and availability of Learning Management System (LMS) on the website of each sampled university and constituent college. The response rate was 100% because all the websites of the institutions sampled were visited and necessary data generated.

Data analysis. The data was analysed using mixed methods approach. The first analysis that was qualitative in nature used content analyses (concept analysis) placed the relevant qualitative information and statements provided and captured on the websites of the sampled universities and constituent colleges into the categories of institution, position advertised, closing date of the employment advert, computer literacy as a mandatory requirement for applicants for teaching staff, computer literacy as an added advantage for applicants for teaching staff, job application mode, and availability of Learning Management System (LMS) for each sampled university and constituent college. On the other hand, quantitative analyses provided number of occurrences of an event to answer questions such as, how many universities had a functional Learning Management System attached to their official websites? The fractions of the numbers obtained the raised question were qualified in statement form. In content analysis, researchers are free to quantify and analyze the presence, meanings and relationships of content such as words or concepts and make inferences (Busch, et al.,2005).

Findings

Table 2 shows the findings on the category of institution, positions that were advertised, closing date of applications, computer literacy of job applicants, mode of applications and availability of LMS. Data was analyzed by administering PLS-SEM according to the proposed hypotheses in this research study.

Table 01
Research Findings

Institution	Category of institution	Position advertised	Closing date of the employment advert	Computer literacy as a mandatory requirement for applicant	Computer literacy as an added advantage for applicant	Application mode	Availability of Learning Management System (LMS)
A	Public	Lecturer, School of Biological Sciences	9.2.2021	No	No	Email	Functional LMS -Exams done -No supervision of exams done -Learning notes on the portal
B	Public	Lecturer in all the faculties	14.10.2020	No	No	Hard copies	No functional LMS
C	Public (Constituent College)	Lecturer, senior, lecturer and professor in all faculties	30.11.2020	No	No	Hard copies	No functional LMS -Myloft available for students and lecturers -Has BUC e-portal with nothing
D	Public	All categories of the teaching staff and adjunct professors	11.8.2020	No	No	Email and hard copies	Functional LMS -Moodle and e-learning staff available -Orientation done online -Exams not mentioned

E	Public	Tutorial fellow	3.9.2020	Yes	Yes	Email and hard copies	LMS available but not opening -Has ICT support that uses ticket system that is sent using valid email
F	Public	All categories of the teaching staff	26.6.2020	No	No	Hard copies	LMS not located -Has media center -Kenet laptop purchase programs without a well elaborated e-learning programs
G	Public	Lecturer, Community Health & Epidemiology	31.12.2021	No	No	Hard copies	LMS available -Through KENET provided affordable bundles for students to study online -Online help desk - Over 7000 new students orientated face to face
H	Public	Lecturer, School of Architecture and Building Sciences	12.9.2022	No	No	Hard copies	Functional LMS -Had programs for international students -Had both notes and exams online

I	Private	Lecturer, School of Education	20.3.2020	No	No	Email	Functional LMS
J	Public	Professor, senior lecturer and lecturer	3.8.2022	No	No	Hard copies	Functional LMS -International students enrolled -Online orientation on the e-learning portal
K	Private	Part time lecturer	10.9.2022	Yes	Yes	Email	Functional LMS -online classes -Online exams -Has Laptop acquisition program

Source: Research data (2022)

The findings were based on the institution, category of the institution, positions of advertised, closing date of the employment advert, computer literacy as a mandatory requirement for applicants, computer literacy as an added advantage for applicants, mode of application and the availability of the Learning Management System.

The findings from the Table 2 showed that all the 11 institutions under study had advertised teaching positions ranging from tutorial fellows to professors in the period between March 2020 and September, 2022. It was established that only 2 institutions (E and K) out of the 11 institutions of higher learning had put emphasis on the need to have Information, Communication and Technology (ICT) literacy as a mandatory requirement as well as an added advantage for job applicants. On the job application mode, 3 out of 11 institutions allowed the applicants to use email only, 6 out of 11 institutions relied on hard copies applications and 2 out of 11 institutions provided the option of either mail or hard copy technology on various academic matters, 7 institutions out 11 had functional LMS. It was also noted that 4 out of 11 institutions of higher learning had no functional LMS.

Discussion

COVID-19 brought businesses to a standstill (Calala,2022). A number of institutions of higher learning closed but the need to keep them operational was higher because no one had the idea when COVID-19 would come to an end. Students equally were aging and had to progress to the next level of learning. The economy which heavily relied on educationhad also to be rescued from collapse (IMF,2022). Universities adjusted in a number of ways. One way of adjusting was to continue with their learning programs uninterrupted. Part of the university commitment in doing this was putting in place ICT systems that could handle online learning and possibly recruiting the teaching staff who were ICT literate. It was reported from the findings that recruitment of the teaching staff was done in these institutions of higher learning between March 2020 and September 2022 to aid in the teaching and learning process during the COVID-19 pandemic times.

Of the 11 institutions of higher learning that were sampled, 6 institutions which were the majority still required the applicants to send hard copy applications which was a total noncompliance of the COVID-19 set protocols. This meant that universities were not properly set to put in place strategies that were aimed as neutralizing the impact of COVID-19 by not observing the need to employ computer literate lecturers. UNESCO (2021) supported the need for universities to be on the frontline on embracing online education for lecturers and students. This is because online education was considered safe and was in full compliancewith COVID-19 protocols which was tied together with the demandsof high-quality education in the world(DOE, 2021).

It was, however, noted that the sampled private universities were keener on this than public universities because none of the sampled private universities accepted hard copies for job applications for teaching staff. The study raised concerns over the faculty's commitment to raise awareness on technology usage among the students (Pomerantz& Brooks, 2017) because the level of technology training for the faculty members was not clear at the time of their recruitment.

On the availability and functionality of the Learning Management System (LMS) for teaching and learning, 7 out of the 11 sampled institutions of higher learning had a functional LMS. A number of universities showed evidence of administering online exams through their LMS using Safe Exams Browser (SEB), which actually was good, but never invigilated such exams remotely as required of any meaningful examinations. Notably, the quality parameters for conducting online were not well articulated by Commission of University Education in Kenya as

shown in the guidelines as articulated by Barasa (2021). SEB had the capacity to time and populate the exams at the right time for learners but never cared for the devices in use for the exams which could lead to serious examination irregularities. In support, Alsayed and Althaqafi(2022) noted that online platforms and web were necessary to bring education closer to both faculty and students.

Interestingly some sampled universities had functional LMS but did not fully support online education fully. Osubwa(2022) added his voice that the World Wide Web (WWW) is rich with a number of online platforms such as zoom, google, emails and the rest that could actively be utilized by under privileged institutions and students. The information provided on these websites showed that a number of the universities and constituent colleges were even reluctant to use their LMS to admit and orientate their undergraduate students who were their first year students during the pandemic period. The low activities witnessed in websites of the universities and constituent colleges showed that COVID-19 paralyzed learning in Kenya (Biscaye, Egger & Pape, 2022). In addition, the study noted that even though some universities had no functional LMS, a lot of online activities were taking place in their websites. Online information on the registration process for both old and new students was very active in some university websites. Some other universities provided information on their LMS of some strategies such as provision of low cost laptop computers for their students to cushion them from the high-cost of living during COVID-19. However, LMS did not explain number of students who acquired these devices and how they were utilizing them to promote university education during COVID-19 period and this confirmed the findings of Barasa (2021) that a number of students lacked the necessary devices for online education.

The study relied fully on the information available on the websites of different universities under the study that could be deceptive because many universities were fighting to remain relevant and were trying by all means possible to attract and retain students during the pandemic.

Conclusion

The study concluded that there was a tremendous effort by different institutions in Kenya to adjust during the COVID-19. Many institutions of higher learning activated their Learning Management System (LMS) to normalize learning to attract more admissions. More lecturers were recruited to support and teach students online even though computer literacy was not a mandatory requirement for such recruitments that raised many questions as to whether the recruited staff supported the universities

to neutralize the impact of COVID-19. It was concluded that even though several measures were evident, very little output for remote learning was realized in majority of the sampled universities and constituent colleges. The study suggested that universities should not relax but should prepare for emergencies education for the affected students during pandemics such as COVID-19, war, flooding and many others. All these may not be achieved by setting standards by digitalizing the university by ensuring that lecturers are adequately trained on computer applications in stages (Omito et al., 2019).

The study also concluded that even with existence of LMS in the majority of the universities and the threatening wave of COVID-19, many universities still went manual and called students for face to face sessions despite the overstretched facilities in these institutions that highly risked the lives of both staff and students. It was a suggestion of the study that a workable framework should be developed to guide on the development, awareness of different digital devices (Omito,2021) and usage for learning using a safe and reliable LMS. The study suggested that robust sensitization and training of all levels of staff at the institutions of higher learning. Information, Communication and Technology(ICT) should not only be used as a marketing tool by universities in Africa especially when they lack capacity but should be treated as an enabler tool for both teaching and learning in these institutions. Sponsors in the institutions of learning right from basic education should ensure that the rollout of ICT is sufficient and enough for the mastery and application of the required ICT competencies.

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