

Use of Electronic Resources by Postgraduate Students during Covid-19 Pandemic: Case of Masinde Muliro University of Science and Technology, In Kenya

Dr. Umulkher Ali Abdillahi

Abstract— The continuous evolution of telecommunications, electronics and computer sciences has culminated into the inception of virtual worlds. The purpose of this research paper is to determine the opportunities and challenges facing postgraduate students as they utilize e-resources during COVID-19 pandemic at Masinde Muliro University of Science and Technology. Desk top research through review of different studies was done and an online survey conducted using Google forms; this methodology was adopted to elicit the required information. A sample of 18 postgraduate students at Masinde Muliro University of Science and Technology were selected from sampled schools. The findings show that electronic resources provide benefits for learning that are impossible physically, virtual libraries are accessible at one's convenience and everywhere as long there is reliable network connectivity. A great deal of challenges is encountered in the successful execution of electronic resources by institutions of higher learning in strengthening postgraduate learning needs. Electronic resources are now at the heart of Universities especially during the COVID-19 pandemic and are therefore required to play a crucial role in the learning undertakings and most importantly in supporting e-learning. The practical indications of this research paper are to emphasize the adaptation of e-resources technologies and collaboration among different academic Faculties and Departments in providing instruction to the postgraduate students.

Index Terms— Electronic resources, Virtual libraries, E-learning, Covid-19 pandemic, post-graduate.

I. INTRODUCTION

The electronic world where information resources are converted to digital has led to new realities through advancement in ICT such as e-journals e-books, e-purchasing, development of websites, mobile devices and e-commerce. According to Etobu (2010) who conducted research at Niger Delta University, ICT is crucial to the entire functioning of institutions of higher learning, as teaching aids to the lecturers and learning resources to the students. Libraries are power houses of guidance and knowledge throughout history. Academic libraries have the ability and position to guide research and learning at the Universities (Bature, 2009).

The library has played a crucial role in the fundamental changes experienced by expanding the volumes of

information shared through the library (Okore, 2009). Over the years there has been economic, political, and educational, socio and cultural changes in the world brought about by exponential increase of electronic resources. Electronic resources are important and useful in all academic disciplines therefore the access and use of e-resources is essential for postgraduate students at Masinde Muliro University of Science and Technology. Most importantly internet as an innovation has seen many publications and journals now accessible online, thereby making it easy to access articles. Technology has helped to reduce the limitations faced by different users of e-resources. Most specifically; they are able to access library assistance outside the range of domestic locations to international platforms (Makori, 2015)

II. RESEARCH OBJECTIVES

This research paper sought to address the following three main research problems:

1. Which are the opportunities of e-resource use by postgraduate students during COVID-19 pandemic at Masinde Muliro University of Science and Technology?
2. What are the probable challenges faced in the use of e-resources by postgraduate students during COVID-19 pandemic at Masinde Muliro University of Science and Technology?
3. What needs to be done to improve the availability and use of e-resources by postgraduate students during COVID-19 pandemic at Masinde Muliro University of Science and Technology?

III. SIGNIFICANCE OF THE STUDY

The research will benefit the University Management and librarians to make better decision that will meet postgraduate student's needs on availability of electronic resources during the COVID-19 pandemic. The University Management will be informed on the need to increase their investment on e-resources through building modern and sufficient ICT infrastructure. Finally, the improvement made to enable availability and utilization of e-resources will assist academic staff and learners meet technical skills needs to cope in this new environment. The future of learning is becoming

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increasingly digital, regardless of the pandemic. Institutions should therefore invest in e-resources to facilitate e-learning going forward.

IV. LITERATURE REVIEW

Electronic resources are useful to postgraduate learners in achieving diverse purposes. Katabalwa (2016) reported that working on dissertation was one of the most preferred reasons by postgraduate students for using e-journal resources, as indicated by 59.3% of the respondents sampled. Similarly, Manda (2005) reported that postgraduate students are inclined to use e-resources to obtain essential knowledge for their coursework and research. In addition, Ahmed (2013) indicated that the learners utilize e-resources for research, learning and getting up-to-date information. Shelboure (2009) found that printed books are preferred to e-books by university patrons, but more than half of the respondents stated that they would use both types in future. The author therefore observed that e-books are today an essential e-resource that University libraries can and should provide.

Researchers have also established that there are various challenges in accessing electronic resources at the Universities. For Example Shija (2009) conducted a study where it is found that that inadequate bandwidth and unreliable power supply have led to poor internet connection that has been contributing to limited availability and use of e-journals. Manda (2005) mentioned that there were inadequate number computers for learners to use in majority of Universities in Tanzania. Harle (2009) also concluded that that ICT facilities are highly lagging in Universities in Africa. Similarly, Adeleke and Nwalo (2017) identified challenges in the utilization of e-resources by postgraduate learners. The researchers established that uninterrupted power supply, speed and capacity of computers, inadequate knowledge of search methods in retrieving information effectively, inadequate basic skills in information technology and challenges in internet accesses limited postgraduate access to e-resources. They recommended that the universities make utilization of electronic resources compulsory, increase awareness campaigns on e-resources availability, training and addressing power outages.

V. METHODOLOGY

A. Research Methodology

This research used survey methodology. Data was collected from postgraduate learners by administering a structured questionnaire. This was done while adhering to the objectives of the study. Given that COVID-19 pandemic spread globally and for the purpose of safety, the researcher conducted an online survey using the structured questionnaire developed.

B. Respondents

The responses of 18 postgraduate students were obtained from students at different stages of their research work. Some have just completed their research concepts; some are working on their proposal, while others are drafting their thesis. The respondents were drawn from the School of

Engineering, School of Science, School of Business and Economics, School of Arts and Social Sciences, School of Public Health and Sports Science and School of Disaster Management of Masinde Muliro University of Science and Technology. This comprised 2 PhD students in Business Administration and 16 Masters students undertaking Msc in Economics, MBA, Msc in Crop Rotation, Msc in Electrical and Communications Engineering, Msc in Communication Studies, Msc Bioinformatics, and Msc in Public Health and Msc in Health Promotion degrees.

C. Data Collection

The researcher collected data using a Google form. This was chosen because it was easy to create using current Gmail account and its efficiency in collecting data. The postgraduate students were also able to easily navigate the interface as they have had several recent online surveys since the pandemic broke out. In addition feedback received was stored for analysis. Finally, it allowed for unlimited questions and answers without minimal cost, compared to other survey tools requiring a payment based on the number of questions and recipients.

A total of 18 postgraduate students undertaking different degrees were selected. The survey questionnaire was administered to collect data on “opportunities and use of e-resources and challenges of using e-resources. Consent was obtained from Masinde University Institutional Ethics Committee (IERC) to undertake the study.

D. Data Analysis

Data collected was cleaned by checking for clarity and consistency. It was then analyzed using percentages. Finally, the results were presented using pie charts and bar graphs.

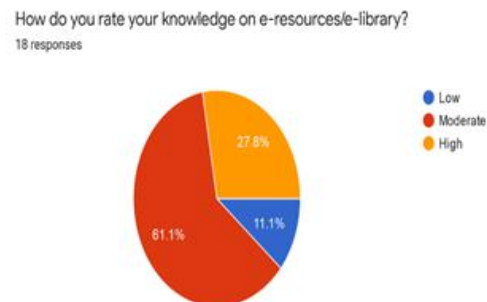
VI. FINDINGS AND DISCUSSIONS

A. Demographics

The study obtained feedback from randomly selected 18 postgraduate students, of whom 88.9% were male and 11.1% were female students. The responses received were from 2 PhD and 16 Masters Students from different Schools at Masinde Muliro University of Science and Technology.

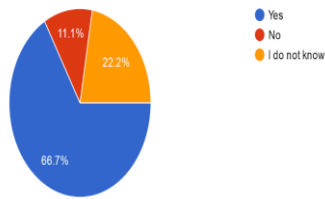
B. Opportunities and Use of Electronic Resources

The postgraduate learners rated their use of e-resources. The findings indicated their knowledge levels are at a low of 11.1%, moderate at 61.1 and high of 27.8 %.



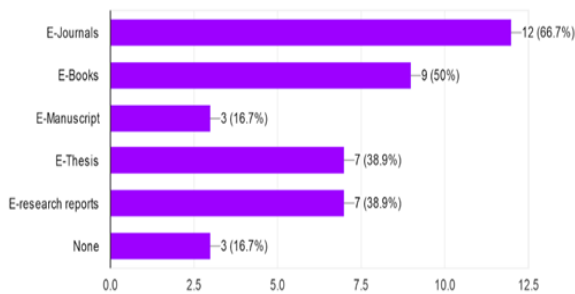
The University has been instrumental in providing access to the university virtual library as reported by majority of the students at 66.7%, 11.1% mentioned that they do not know, while 22.2% reported total lack of lack of awareness.

Does the university provide virtual access to the e-library?
18 responses



A total of 66.7 % postgraduate students reported using electronic journals during the COVID-19 pandemic. 50% used e-books, 38.9 % used electronic thesis and 38.9% went for electronic research reports. 16.7% used electronic manual scripts while 16.7% reported they did not make of use any e-resources. The findings therefore indicate the preferred e-resources for majority of postgraduate learners are electronic journals and books. Liewet et al (2000) and Tenopir (2003) established that that majority of postgraduate learners used e-journals.

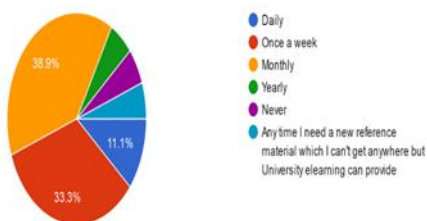
What types of e-resources are you aware of/are provided by your institution during Covid-19?(Multiple responses allowed)
18 responses



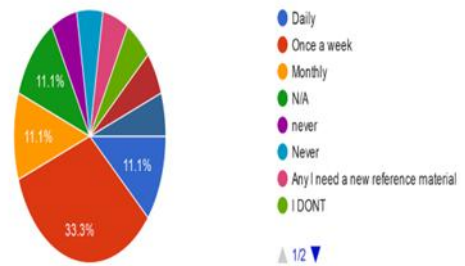
A comparison was made on the number of times postgraduate students used e-resources before and during COVID-19 pandemic. The results in the pie-charts below indicate that 11.1 % used electronic resources daily before and during the Covid-19 pandemic. 33.3% once a week before and after the outbreak of the pandemic. 38.9% used electronic resources monthly before the pandemic compared to 11.1% of the students.

..... Any time I need a new reference material which I cannot get anywhere but University e-learning access can provide.....(postgraduate student)

How often did you use the e-resources available in the library before Covid -19 pandemic?
18 responses



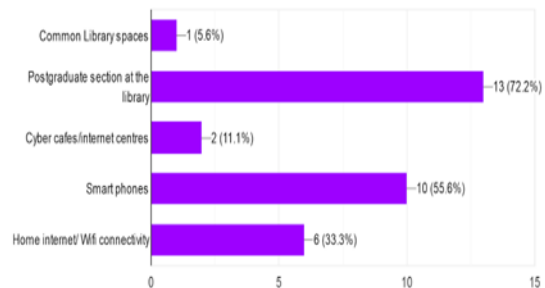
How often do you use the e-resources available in the library during Covid-19 pandemic?
18 responses



In addition, 72.2 % postgraduate students reported that the most preferred options for utilizing e-resources were postgraduate sections at the library. This finding agrees with a study by Shuling (2007), who established that there were 5% undergraduates, 16.6% teachers and 40% postgraduate users visiting the main library.

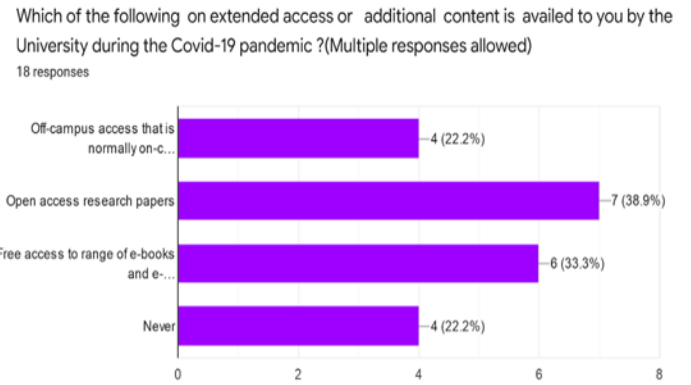
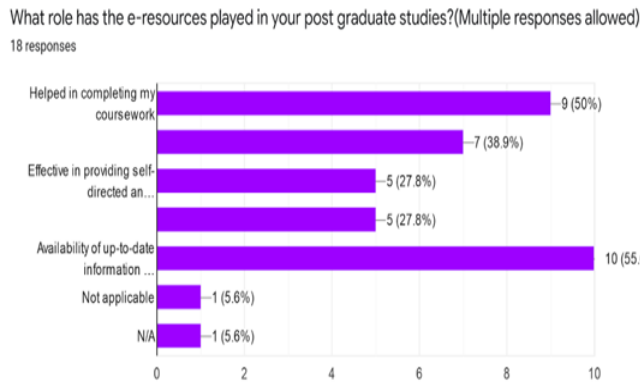
55.6% used their smartphones, 33.3 % accessed on home internet, 11.1% went to the cyber cafes and only 5.6% used the common library spaces. This finding should inform the university management and library the need to expand capacity at the postgraduate section or providing reliable internet access at the common sections at the library to accommodate the large number of students.

What are your preferred options for access to e-resources from the University library?(Multiple responses allowed)
18 responses



Further, when asked the role of electronic resources has played in their postgraduate studies, 50% students reported that it helped in completing their coursework, 38.9% in providing access to remote online resources, 27.8% mentioned effective in providing self-directed and self-paced learning, 27.8% in enhancing access to materials through interlibrary loans.

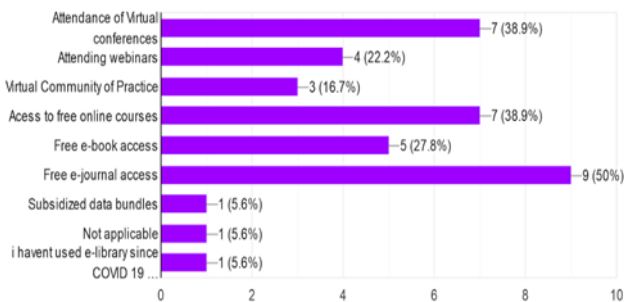
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Furthermore, 50% reported that they have had free e-journal access during the Covid-19 pandemic. 38.9% reported access to free online courses, 38.9% attended virtual conferences, 27.8% accessed free e-books, 22.2% attended webinars and 16.7% participated in virtual community of practice. Very few students have benefited from subsidized data bundles at 5.9%.

...I haven't used e-library since COVID-19 pandemic broke out (postgraduate student).

What opportunities have you experienced while accessing e-resources during the Covid-19 pandemic?(Multiple responses allowed)
18 responses



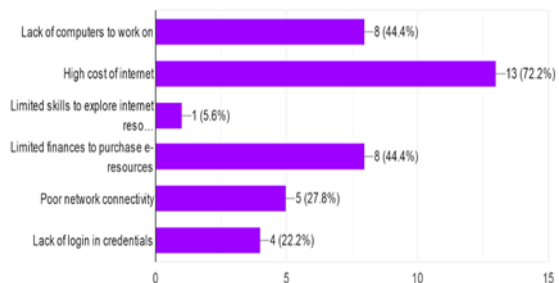
Finally when looking at opportunities of e-resources, 66.7% reported that the university availed information on extended access or additional content during the Covid-19 pandemic, while 11.1% reported that the university has not provided any information and 16.7% mentioned that they do not know. When asked about the specific extended access or additional content provided by the University, 38.9% reported open access to research papers, 33.3% open access to research books, 22.2% mentioned off-campus access for resources that is normally on campus. While 22.2% reported that they have never had any access to any additional resources.

C. Challenges in Accessing Electronic Resources.

Majority of postgraduate were able to access e-resources without any assistance. 88.9% reported that they can access electronic resources without any assistance, while 11.1% are not able to access electronic resources. 72.2% are able to retrieve and use electronic resources without any assistance, while 27.8% are not able to access electronic resources. This is positive and therefore can be enhanced with training on relevant search skills.

The postgraduate students encounter diverse challenges while utilizing electronic resources before COVID-19 pandemic outbreak.

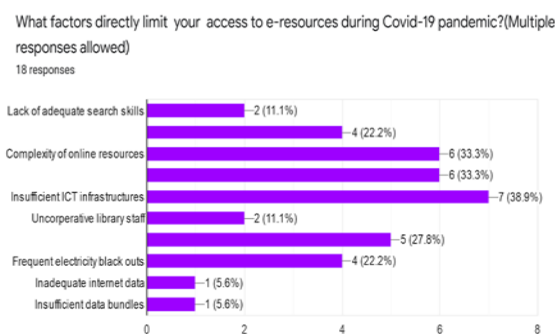
What challenges did you encounter when using e-resources before Covid-19 pandemic?(Multiple responses allowed)
18 responses



The high cost of internet was the main challenge for most of the postgraduate students at 72.2%, followed by limited finances to purchase electronic resources at 44.4% and lack of computers to work on at the same rate. Poor network connectivity was another challenge at 27.8 and lack of login credentials, 5.6% mentioned limited knowledge on how to access internet resources. 56.6% of postgraduate learners reported that the library staff are not available for assistance when faced with challenges in accessing e-resources, while 44.4% got support. An overwhelming 61.1% highlighted that they do not get any updates regarding e-resources during the COVID-19 pandemic, while 22.2% mentioned that the support is weekly and 16.7% monthly.

Additionally, 38.9% students categorically reported that they lack adequate ICT infrastructure in accessing and using e-resources. 33.3% are unable to navigate the e-resources platform because of complexity of online resources and another 22.2% have experienced frequent blackouts. Data access and availability is one of the least limitations at 5.6%

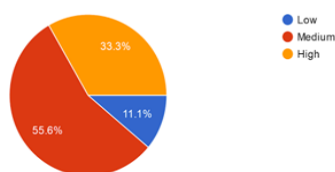
each. These results are in tandem with similar studies by Ahmed (2013), Rosenberg(2008) and Agber and Agwu(2013)



Finally, the finding shows that most students attach high importance to the e-resources in enabling them to prepare their research work.50% rate it as highly important while the other 50% rate it as just important. These findings are supported by research by Katabalwa (2016).

The value placed on lecturers, supervisors and mentors is at a high of 33.3%, medium of 55.6% and a low of 11.1%.

How do you rate the guidance and support provided by your lecturers, supervisors and mentors in accessing e-resources during Covid-19 Pandemic?
18 responses



VII. CONCLUSIONS AND RECOMMENDATIONS

The COVID-19 pandemic has necessitated the utilization of e-resources; therefore this has today the new normal for postgraduate students globally. It is of utmost importance that the libraries present permission use e-resources to rejuvenate the academic experience for postgraduate students who are faced with a myriad of challenges including personal sacrifices imposed by the pandemic. There should be efforts by the library on availability of extended access or new additional e-resources including databases. The Library should organize regular virtual trainings through different platforms such as Zoom, Microsoft teams or Google meet to provide students with necessary search skills for relevant e-resources and exploring on the immense opportunities at their fingertips such as webinars, virtual conferences and online courses.

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