

# Use Of Electronic Resources By Postgraduate Users in Kenyan Selected Academic Libraries

Justin Merande<sup>a</sup>, Dr. Naomi Mwai<sup>b</sup>, Dr. James Ogalo<sup>c</sup>

Kisii University, Kenya<sup>a,c</sup>

Technical University of Kenya<sup>b</sup>

Corresponding Author: [maranga200@gmail.com](mailto:maranga200@gmail.com)

Received: May 17, 2021; Accepted: June 25, 2021; Published: October 30, 2021

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Cite this article: Merande, J., Mwai, N., & Ogalo, J. (2021). Use Of Electronic Resources By Postgraduate Users in Kenyan Selected Academic Libraries. *Journal of Information Sciences and Computing Technologies*, 10(1), 1-12. Retrieved from <http://scitecresearch.com/journals/index.php/jisct/article/view/2055>

## Abstract.

Electronic resources have presented many benefits alongside challenges to information consumers. The advent of new technologies facilitates virtual resource sharing by diverse users compared to print resources. However, despite academic libraries spending a huge sum of money subscribing to various e-resources, it has been noted that some of these resources are under-utilized due to low levels of awareness and lack of access and skills. This study used a mixed-method design in four (4) Kenyan university academic libraries. SPSS software was used to analyse data and information. It was established that 73% of respondents have access to e-journals while 29.7% reported that the high cost of the subscription to some resources was a challenge to them. It was however concluded that electronic resources are heavily used and are vital to support objectives of universities by improving the performance of students.

**Key Words:** Electronic resources, access, use, challenges, academic libraries, awareness.

## Introduction

Electronic resources are materials in digital format that can be accessed using electronic and computer networks. Resources such as OPAC, CD-ROM, Online databases, e-journals, e-books, digital repositories, and internet resources are some of the electronic resources available in libraries. The advent of ICT has greatly impacted how institutions of higher learning carry out their day to day functions; however, the role of librarians has remained the same: to collect, organize, access, and preserve information for the end-user (Elly et al., 2004). According to Kiambati, (2015), everything is having an “electronic” prefix in the modern world; the way information is accessed has changed due to advanced computer technology and high-speed internet connectivity. Omeluzor et al., (2016) established that the 21<sup>st</sup> century has brought benefits as well as challenges for information centres due to the emphasis laid on ICT infrastructural development, hence paving the way to use internet services, library automation systems, and electronic information and services.

In the contemporary world, academic libraries are not considered modern by many users if not automated and offering basic electronic resources like OPAC and internet services to their clientele. There is a growing demand for the use of electronic resources in many academic libraries due to the dynamic nature of interoperability and flexibility compared to print resources. This explains why there is an increase in the subscription to electronic resources and a reduction in print resources. E-resources are gradually complementing the existing library resources, hence reducing pressure on print materials. This has led to the global dissemination of e-resources using electronic mail and social media platforms by sundry libraries.

The establishment of electronic resource centres is of great help to educationists in accessing new research developments as soon as they are made available to improve teaching, learning to prepare learners to face contemporary challenges that would enable them to obtain solutions to global problems. It is becoming increasingly convenient to search for a piece of electronic information from any point and at any time compared to conventional sources due to its accessibility. This development has shown many information centres offering "just in time" access to electronic resources should the user need them, while; other centres provide remote access to information resources from anywhere, anytime (Aniedu & Uzuegbu, 2014). Academic libraries necessitate sound ICT support by integrating their content with communication technologies from traditional print to e-resources because an enormous percentage of the library budget is spent on subscription. Okite-Amugboro et al., (2015) indicate that academic libraries have reached an era of replacing printed research materials with electronic materials that are widely accessible via the World Wide Web technology ((www). This development considerably facilitates internet connectivity in many parts of the world for quick access and utilization.

In most learning institutions, e-resources have become powerful teaching and learning tool for lecturers and students as the internet becomes a gateway to global information accessibility allowing users to access huge amounts of information. It also enables lecturers to virtual link with their students to access information from anywhere, anytime. Most academic libraries are gradually embracing library remote access platform to provide resources and services to off-campus users. Nevertheless, inadequate access to information can greatly impact the performance of students undertaking various courses in learning institutions. Most postgraduate students depend on online resources for assignments and research, therefore, non-subscription to vital electronic databases negatively impacts their performance.

Every fiscal year, academic libraries set aside a significant amount of money to subscribe to various online resources to satisfy the needs of their users (Maina et al., 2017). Study findings have shown that despite the heavy investments in online database subscriptions, some resources are extensively underutilized (Uzuegbu et al., 2012). This is largely attributed to lack of awareness, poor searching skills, unreliable internet connectivity, among others. Dolo-Ndlwana, (2013) did a study on use of e-resources among postgraduate and established that students and faculty staff used and valued electronic resources and its usage was common among postgraduate students. Majority of them were aware of these resources and valued their availability. They were mainly used it to obtain answers to specific questions as well as to gain general information in their areas of study. However, it was noted that the main reason was for academic purposes. The study reported that most users encountered problems of infrastructure as well as personal basis. Yebowaah, (2017) on his study showed that, 65% of users were aware of e-resources mainly from friends, memos, workshops and library websites. A total of 67.5% did not use e-resources despite being aware of its existence. In Uganda, a study was done on e-resource utilization by students in Mbarara University library and suggested for a need to

increase the level of usage. Training on use electronic resources was key to all users (Gakibayo et al., 2013). Ankrah & Atuase, (2018) conducted a study on the use of e-resources by postgraduate students on the University Of Cape Coast and established that training is very necessary because it provides adequate skills on the use of computers since that is the major means of accessing e-resources. They however reported that, e-resources were not fully utilized due to low publicity, inadequate training, restriction of access and poor internet connections.

Therefore, this study sought to investigate how electronic resources are used and the challenges facing postgraduate students in four Kenyan academic libraries and proffer practical policies and interventions. The study will create awareness among researchers and information providers on available e-resources. It will identify under-utilised resources by devising strategies for promoting their use. Challenges facing postgraduate students on the use of electronic resource are also identified and recommendations will be offered.

### **Main Objective**

The main aim of the study was to find out the challenges facing postgraduate users of electronic information in selected Kenyan public academic libraries.

### **Specific Objectives**

1. To identify various electronic information resources used in selected Kenyan academic libraries.
2. To assess the challenges facing postgraduate student users of electronic information resources.

### **2.1 Literature Review**

Electronic resources are materials available in a digital form and can be accessed electronically. They include e-journals e-books, online databases, online catalogues, internet services and email reference services offered by academic libraries.

Historically, academic libraries have been natural destinations for students and researchers searching for information because they are believed to acquire materials from different sources from within and outside the country. They also link users to additional sources from side to side searching across a wide range of information. E-resources are becoming widely common because they are easily accessible, usable, and can be shared simultaneously (Ugwu & Orsu, 2017). (Chetan et al., 2011) reported that electronic resources are becoming common among teachers because they obtain desired and relevant information to accomplish their tasks. Many researchers also use both electronic and print resources and printed resources only as reported by (Imsong, 2016). It is worth noting that these resources have brought tremendous changes in the performance of students due to freely available information.

According to Sharma, Chetan & Singh, Lakhpat & Sharma, Ritu (2011) on the usage and acceptability of electronic resources in the National Dairy Research Institute (NDRI) and National Bureau of Animal Genetic Resources (NBAGR), India, most respondents indicated that they were aware of the available electronic resources and used it regularly. E-journals were the most frequently utilized resources for teaching, research, entertainment as well as

communication. They, however, reported some challenges such as slow internet speed, difficulties in retrieving the content, and poorly designed websites. Nevertheless, his report, (Mostofa, 2013) posted different results from the respondents in selected private universities in Bangladesh by indicating that 24.24% of students preferred using electronic theses followed closely by e-books and e-newspapers while e-journals were infrequently used. This was different from other researchers who indicated that many users preferred e-journals.

Newly and improved library technologies have offered recent ways of gathering, storing, retrieving, and providing information despite notable challenges. Lack of awareness of the available services among students has been identified as one of the main challenges. Lack of adequate finances to acquire ICT facilities like computers, scanners, photocopiers, and software has also been an impediment to access and use of information. The availability, awareness, and use of electronic resources can, therefore, be a solution to access, accurate, reliable, timely, and authoritative information. There is, however, a concern with a low level of usage witnessed by frequent use of specific databases while ignoring others. They include; AJOL, SCIENCE-DIRECT, EMERALD, AGORA, HINARI, and PUB-MED while other resources are underutilized due to unawareness and limited searching skills. (Adeleke & Nwalo, 2017) ascertains that the availability of large electronic resource collection and the rate of usage is minimal due to lack of awareness, slow downloading, and lack of time among postgraduate students. The results, however, showed that e-journals were frequently used by many students compared to e-books and e-theses.

Whilst reporting their findings on the use and user perception of e-resources in Annamalai University, Natarajan, et al., (2010) stated that over 73% of doctoral students experienced diverse challenges when accessing full-text articles due to the high cost of subscription and low internet speed. This challenge was also reported at the UNISA Regional Learning Centre in Ethiopia; slow internet connections and unreliable power supply determined the frequency of access and use. It was, however, established that numerous students use e-resources for course work, assignments, examination, and writing course proposals. However, some computer skilled students lacked advanced information searching skills, thus affecting the maximum use of available resources (Desta, 2016).

(Ferdinand et al., 2015) informed that despite numerous merits, many universities are yet to harness e-resource opportunities due to a lack of facilities, awareness, and skills to navigate modern technologies. On the other hand, (Chandel & Saikia, 2012) identified three main e-resource challenges as pricing, management issues, and online archiving. It was noted that subscription prices are not fixed due to a lack of standard pricing models of e-resources. On the other hand, e-resource management is not visible like print materials because libraries subscribe to various packages from different publishers making the content scattered. This process greatly inconveniences users while browsing and searching. For archival purposes, e-resources remain under the ownership of the publisher or vendor while libraries only access it under some terms and conditions of the agreement and licensing policy. This presents serious challenges, especially after the expiry of the subscription.

To ascertain the level of awareness on the frequency of access and constraints of e-resource usage among faculty members, Aregbesola & Oguntayo, (2014) established that information usage is indispensable among academic staff in Nigerian institutions of higher learning by providing online databases to support teaching, learning and research.

### 3.1 Methodology

The study was conducted in four Kenyan public academic libraries in Nairobi, Kenya. These libraries are funded by the exchequer and servers a population of over 250,000. The student and staff population is as follows; however, the number keeps on rising:

No	University	Students	Library Staff
1	Kenyatta University	79,698	102
2	Multimedia University	66,891	96
3	Technical University of Kenya	49,627	47
4	Jomo Kenyatta University of Agriculture & Technology	71,289	62

The target group were students undertaking postgraduate studies in science-based courses and some library staff. It was assumed that masters' students are aware of available e-resources and utilize them more frequently than undergraduate students.

This study employed a descriptive research design using both qualitative and quantitative approaches to gather adequate data. A stratified sampling technique was used to sample students by dividing them into groups and randomly picking samples from every group in a number proportional to the size of the group compared to the entire population. A total of 160 questionnaires were distributed to selected postgraduate students and library staff across four academic libraries. However, only 120 questionnaires were completed and returned.

A structured face to face interview with open-ended questions was done for heads of electronic resources in four academic libraries to gather views on the state of electronic resources in their respective libraries. The response was categorised by the objectives of the study. Collected data was analyzed statistically using SPSS package with findings presented in form of tables.

### 4.1 Study Results

This section presents the finding of the study on challenges affecting postgraduate students on the use of electronic resources in selected Kenyan academic libraries.

Data were presented as follows:

#### 1. Demographics of Participants

The following participants formed part of the study in finding out diverse challenges affecting postgraduate students on the use of electronic resources in selected Kenyan Academic libraries.

**Table 1: Demographics of Participants**

Name of University/Library	Population	Location
Jomo Kenyatta University of Science & Technology	45	Kiambu County
Multimedia University	25	Nairobi County
Technical University of Kenya	35	Nairobi County
Kenyatta University	55	Kiambu County
<b>TOTAL</b>	<b>160</b>	

### Types of Electronic Resources in Academic Libraries by Staff (N=37)

Electronic Information Resources	Name of your University				Total
	MMU	JKUAT	TUK	KU	
E-journals	3(8.1)	13(35.1)	8(21.6)	13(35.1)	37(100%)
Open access resources	3(8.1)	13(35.1)	7(18.9)	14(37.8)	37(100%)
E-theses	3(8.1)	12(32.4)	8(21.6)	13(35.1)	36(97.2%)
E-books	3(8.1)	13(35.1)	8(21.6)	11(29.7)	35(94.5%)
Digital Repositories	0(0.0)	13(35.1)	8(21.6)	13(35.1)	34(91.8%)
OPAC	3(8.1)	13(35.1)	8(21.6)	9(24.3)	33(89.1%)
Free online journals	3(8.1)	1(2.7)	0(0.0)	5(13.5)	9(24.3%)

It was established that 37 (100%) have access to diverse electronic journals and open access resources, e-theses response stood at 36 (97.2%), while e-books were reported at 35 (94.5%) and OPAC at 33 (89.1%). Free online journals were, however, the least at 9 (24.3%). It is therefore observable that most libraries have access to electronic books, open access journals as well as electronic journals available for their users.

### Types of Electronic Resources by Users (N=101)

Library users were requested to indicate the availability of electronic resources in their respective libraries. A total of 101 postgraduate responded.

Information resources	Name of the University Library				Total
	MMU	JKUAT	TUK	KU	
E-journals	4	25	14	30	73(72.2%)
E-books	10	10	16	16	52(51.4%)
Online catalogues	6	15	5	12	38(37.6%)
Digital Repositories	0	10	6	13	31(30.6%)

The above table shows that 73 (72.2%) of postgraduate students can easily access e-journals in their libraries, closely followed by 52 (51.4%) of respondents who agreed that electronic books were accessible. These findings were contrary to library staff who indicated that e-books were readily available compared to e-journals. The availability of the Online catalogue was reported

at 38 (37.6%) while digital repositories were at 31 (30.6%). It is therefore evident that electronic journals were readily available to many users.

#### 4.5.1 Challenges of Using Electronic Resources by Library Staff

A total of 37 library staff highlighted the diverse challenges they face while providing electronic resource services to their users as shown below.

The high cost of subscription was cited as one of the biggest challenges facing users at 43.1%, while inadequate desktops were reported at 21.6%. There was reported slow internet speed while accessing and downloading articles 18.9%, while inadequate marketers to promote the use of resources was reported at 13.5%. At Technical University of Kenya, (TUK), the electronic resource librarian had this to say, “the *high cost of subscription has been a big impediment since some of the high impact journals cannot be accessed due to the cost factor, we only access databases subscribed as a consortium while other high-quality databases are inaccessible because they are too expensive for us.*” At Kenyatta University, the e-resource Librarian stated that “*In ensuring efficient e-resource provision to our clients, high-speed internet is necessary, slow and unreliable internet has become one of the biggest hindrances to information access and use; downloading online articles and books becomes a big challenge to us. Access to high impact journal articles from reputable databases is also one the biggest challenge due to the high costs of subscription.*” Therefore, high subscription cost was the foremost impediment to the use of electronic resources in many Kenyan academic libraries as reported by library staff.

#### 4.5.2 Challenges of Using Electronic Resources by Postgraduate Users (N=101)

The researcher established the following challenges from users (Postgraduate Students).

Challenges	Frequency	Percentage (%)
The high cost of the subscription	30	29.7%
Low level of awareness	24	23.7%
Unhelpful staff	18	17.8%
Inadequate search skills	14	13.8%
Inadequate computers	10	9.9%
Unreliable Internet connectivity	5	4.9%
<b>TOTAL</b>	<b>101</b>	<b>100%</b>

It was informed that 30 (29.7%) of respondents experienced the challenge of the high cost of the subscription to various databases. Other respondents 24 (23.7%) reported a low level of awareness of the available resources among the students, while 18 (17.8%) indicated the unwillingness of some members of staff to help them obtain the right information. It was also noted that 14 (13.8%) lacked adequate skills to independently search for information, while 10

(9.9%) indicated a lack of adequate computers to assist with academic assignments. Slow and unreliable internet connectivity was reported at 5 (4.9%).

## Discussion of Findings

E-resources are gradually becoming popular among postgraduate users in academic libraries due to their benefits. The adoption of new online technology in academic institutions has brought many benefits to end-users. Many library users have decided to adapt this technology due to its convenience on access and use to satisfy their information needs. This study, therefore, established that e-journals and open access resources are widely available and utilized by most postgraduate users compared to other resources. Many students utilize e-journals for daily assignments with over 72.2% using them more frequently. These findings are in line with Akpojotor, (2016.), who indicated that electronic resources are essential tools to academically empower postgraduate users of information science in Southern Nigeria.

Despite the numerous benefits brought by electronic resources, they have also presented challenges as reported in this study. The high cost of subscription was the biggest impediment to accessing vital resources as reported by many users. Most library staff and users access electronic resources subscribed to as a consortium while reputable, expensive but high-quality databases are inaccessible due to the high cost of subscriptions. Users have limited access to these resources; hence fail to obtain essential information. Saturday et al., (2016) also reported that there were insufficient electronic resources in diverse areas in the Federal University of Petroleum Resources Effurun Library in Nigeria.

Under-utilization of electronic resources by some users has been reported in various studies. Low level of awareness among some users indicated that users were not familiar with the available resources. It has also been revealed that some postgraduate students hardly use e-resources due to unawareness and infrequent library training programs. These findings were in line with Akpojotor, (2016) who reported that some postgraduate students did not utilize resources fully due to lack of awareness. This is despite the heavy budget on subscription, although most respondents indicated that unawareness and poor library marketing approaches attribute to this problem.

Searching and retrieval skills are necessary to obtain rightful information from various information sources. Poor searching skills due to improper training on access and retrieval of information were reported as a challenge. Many postgraduate users lacked the necessary searching and retrieval skills to independently obtain the correct information for research purposes. Ekenna & Iyabo, (2013) did a study in 10 Nigerian universities on information retrieval skills and the use of library electronic resources. They established that many students lacked the necessary searching and retrieval skills and relevance in learning and research. It is therefore, recommended for a high level of knowledge of retrieval skills for effective and maximum use of resources.

Most African universities are yet to harness, various opportunities brought by electronic resources. This is witnessed by the lower level of users in some academic libraries. This trend, therefore, presents a big challenge that demands library administrators and other policymakers to formulate appropriate ways of increasing the level of awareness among students and researchers.

## Conclusion

In conclusion, electronic resources are vital in academic institutions to support their objectives of promoting teaching, learning, and research. It is also worth noting that the quality of a university is measured by the standard of library services offered. The current generation of library users uses the internet in many ways. Therefore, the availability of electronic resources if properly utilized can improve the performance of students as well as promote research as one of the core objectives of the university.

As libraries struggle in ensuring that relevant and current resources are availed to end-users, the emergence of numerous challenges has continued to hinder the maximum use of these vital resources. The high cost of electronic resources has become the main hindrance to its use. It is therefore imperative for academic libraries to set aside an adequate budget for the subscription of relevant databases that serve the needs of their users.

## Recommendations

Most Kenyan academic libraries have immensely invested in online subscription of e-resources; others have deployed highly qualified staff to provide both one on one and online training services on access and utilization of e-resources. Other libraries sponsor their staff members to attend further training. It is therefore imperative to maximize the use of these resources for parent organizations to obtain value for their money.

The following are some of the recommendations on ways of using electronic resources

### *Electronic Resource Training*

The essence of training is to introduce users to various available e-resources and on how to access them for optimal use. It will educate users on various access policies and teach them the basic search skills required. Frequent library training will increase awareness on the use of available electronic resources. One-on-one training, virtual training, use of time-tables, training requests can be conducted on regular basis by the library team by involving faculty staff and students in various courses.

### *E-Resource Policy*

The library management can formulate a functional e-resource policy that governs the access and use of e-resources in academic libraries. This dogma should cover guidelines addressing the needs of users to reflect on the values and beliefs of the library. The policy should be dynamic to accommodate any future changes in the monitoring and evaluation of library ICT activities.

### *User Awareness Campaigns*

The study revealed that some users were not aware of the available resources due to a lack of knowledge. Therefore, academic libraries must sensitize users through frequent awareness campaigns. The use of social orientation, media programs, knowledge ambassadors, user education, seminars, and workshops can be ideal sensitization tools.

### *Reliable Internet Services*

The high level of electronic resource usage depends heavily on reliable internet service providers. By investing in faster internet speed, users can easily access, and use subscribed databases, hence saving their time. Quick access and use of resources will also enhance user's morale thus enabling sharing of resources, while slow and unreliable internet services will discourage usage and sharing leads to resource underutilization.

### *Sufficient Budget*

Subscription to electronic resources requires heavy funding while its inadequacy negatively affects service provision. Therefore, library management must allocate adequate funds for the subscription of various databases to serve the needs of users. The high cost of the subscription is cited out as an impediment to users who indicated that they were incomprehensible in accessing high impact journals.

### **Acknowledgement**

The authors wish to thank all postgraduate students and some library staff from the four Universities namely; Kenyatta University, Multimedia University, Jomo Kenyatta University of Agriculture and Technology and the Technical University of Kenya who accepted to take part in this study by sharing their experiences.

### **Disclosure Statement**

There was no reported conflict of interest by the authors.

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