IDENTIFICATION AND ASSESSMENT OF UTILIZATION OF ELECTRONIC INFORMATION RESOURCES AVAILABLE AT MAASAI MARA UNIVERSITY: A CASE STUDY OF MAASAI MARA UNIVERSITY LIBRARY, KENYA

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Abstract   *The future belongs to countries whose people make the most productive use of information, knowledge and technology; Kenya being a developing nation is no exception. The traditional library ways of acquiring, repackaging, storing and communicating information have changed due to web and internet technologies. The aim of the study was to identify the available e-resources in the Maasai Mara University library and assess its utilization. The study was guided by the Unified Theory of Acceptance and Use of Information Technology. The study adopted a descriptive survey design with a target population of 3180 students a sample size of 343 participants drawn from undergraduate students who are in the second and fourth year of their studies. The response rate obtained for the research study was 76 per cent, drop and pick-up method was used for the distribution and collection of questionnaires. The study found that a range of e-resources is available at Maasai Mara University for students use. From the findings, the majority of the respondent used electronic journal at 39.5 per cent. It was noted that a small fraction of the respondents' access electronic resources from home (18.4 per cent) while a majority of them (53.2 per cent) access the library and the computer labs available at the university.*

Keywords: *Identification, Utilization, Electronic Information, Access*

INTRODUCTION

The integration of Information communication technology (ICT) in the field of library and information sciences has transformed the methods of accessing storing, retrieving, and dissemination of information among library users. Based on user's requirement different types of services are provided in academic libraries which include the provision of electronic resources and services (Feather & Sturges, 2003). Library electronic information resources are extensively important resources in many dimensions of life such as education, employment, government, commerce, healthcare among others. Information has become fundamental to the current society. The information desires of every person in this era have enlarged in manifolds, established on the exactness and immediate and above all further than the constraint of place

and time. Due to the remarkable progression and continuous enlargement of technology, the roles of academic libraries become quick to respond in making information and also how and where to provide the facilities (Lamptey, 2010). These advances have affected the format and bases and the library have moved moderately to the simulated domain of the internet; due to this library consumers can access services from the exterior of the library.

Due to high expectations from the library users, budget limits and the rising cost of library material are some of the challenges faced by academic libraries (Nazir & Wani, 2015). Kahn & Underwood (2013) state that with the increase in the price of printed journals and books due to the higher cost of production academic libraries have been stressed. Notwithstanding the significance of e-resources to academic libraries their utilization is hampered by various

factors which include poor funding and the high cost of equipment Universities are already experiencing financial constraints and a decrease in funding from the government, so it is becoming hard for academic libraries to afford these resources. The issue of migrating from print collection to more affordable equivalent electronic resources become necessary for academic libraries. The Maasai Mara University library services are incorporating electronic information resources in their traditional (print) information resources as the institution strives to improve the quality and quantity of its collection. If e-resources are not widely utilized then it's difficult to obtain a corresponding return on investment. The emergence of electronic information resources is becoming the new practice of information distribution and access which has steered a revolution in academic libraries (Adio, 2017). In the electronic environment, the information services can be accessed and disseminated as and when necessary and therefore the services of the libraries are not narrowed to the physical four walls, but are incorporated into local, regional national and global networks. The ultimate objective of the library is to gratify the user requests by giving better and more value-added information services which enrich the image of the library and the position of library and information science (Ramakrishna et al. 2016). To achieve this, library professionals should be well conversant with up-to-date practices of information provision. In an effort to reach to users accessing the library via their computers, many library consortia are extending their service to include virtual services. Web base services internet library services digital library services and electronic library services are terms with similar meaning. As many libraries change to provision of services in a digital setting, the enriched access to electronic library collection is making the use of digital resources more attractive and more realistic. Traditional services had changed themselves into internet base online services using electronic technologies. The predetermine tasks like purchasing, organizing preserving retrieving, and distributing information to the users are mainly entrusted to the libraries. Even before the present internet era right from the ancient times this always remains the primary objective of a library (Mwantimwa & Elia, 2017). Electronic resources require the same attributes as the manually offered services that are timeliness and accuracy accompanied by knowing the needs of the user. Electronic resources are well known for ensuring that users' needs and accessibility of information sources matches at all times, information delivery to the users is timely and in an appropriate fashion, the information provided is of high quality, appropriate and accurate, and that it provides users with guidance and support to build their information search and application skills.

Social well-being and economic growth in the 21st century are driven by the developments in ICTs and characterized by the dominant role of information available in electronic format (Okon & Ogbado, 2014). The manner in which students access and incorporate information resources such as journals books and periodical into their research and academic assignments have changed and the advancement in electronic services have simplified their work.

An improvement in the way in which information is accessed stored and transferred in the library has improved due to the preface of new technological developments. This development has largely impacted the mode of library operations and information services. These developments gave rise to new sources of information for the library patrons that are electronic information resources. Their use has become common in many universities and other institutions of higher learning (Majumder, 2014).

In the present days educational system, electronic information resources have become a key platform for students and faculty, the management also investing money in upgrading their existing systems. The very old information source library has become a highly affected domain in terms of round-the-clock access and reliability with speed and safety compare to the latest resources of information sources (Madhusudhan & Nagabhushanam, 2012). It is necessary to create new modes to deliver services to the user desktops even outside the campuses using the WWW platform. As more resources are created via the web, issues arise related to search & access the same (Vukeya, 2017). Users would like to see their library on the e-resources, able to meet their all information needs not only on demand but also in anticipation of demand. but to overcome this problem, Maasai Mara University libraries may have to have more and more electronic resources which shall help to offer new and more qualitative services to their users. E-resources means sources, which are available in electronic form, it may be books, databases, journals, full-text articles, pictures, photographs, images, music, and other multimedia. These resources are delivered via Android phones, Tablets, Laptops, Computer with the help of e-resources. Other similar terms used for e-resources are web sources, digital resources, and online resources (Hikmany, 2014). The electronics sources with greater user-friendly and portable advantages helping users, like students, researchers and individual users' timely services with advanced options like sharing, editing, modifying, etc.

The study thus aims at identifying the electronic information resources available at MMU Library and assess its utilization.

METHODOLOGY

Research Design

The research methodology involves the procedures to be followed in conducting the study. The research methodology in this study provided information on aspects such as population, data collection method adopted, and sampling

techniques. The study adopted a descriptive survey design. The use of the quantitative methods was important for this study, as it led to a better understanding of the research problem and gave a comprehensive view of electronic information resources and their utilization in MMU. For the purpose of this study, a quantitative research approach was adopted in order to solicit views from library users by means of questionnaires. The research strategy adopted in this study is a survey. A survey strategy is basically the most popular data collecting technique (Neuman, 2014). This study focused on the usage, experiences and purpose of the electronic information resources. The flexible character of a survey was particularly relevant for the study as flexibility allowed representation of the demands and circumstances of the research problem.

Target Population

The target population for this study was the undergraduate students of Maasai Mara University. Mugenda (2003) defines population as a complete set of individuals or objects with common observable characteristics. Neuman (2014) also defines a population as a group of people or objects that a researcher draws a sample to which the results are created. The population of this research was undergraduate students who are in the second and fourth year of their study and were a target because of their perceived knowledge and understanding of electronic information resources. According to the student record and admission office, there were 3180 who were the target population.

Sample Size and Sampling Technique

Sample Size

Sampling is selecting a representation of the target population. A sample size is the number of elements used to represent the entire population that is the definition of a sample size as defined by Cooper and Schindler (2011). It must be well and accurately selected to as to be a true reflection or representation of the population under study. To get the population sample size for this study, the study used Krejcie and Morgan formula to calculate the sample size of a finite population thus,

$$s = \frac{X^2 NP(1-P)}{d^2(N-1) + X^2(1-P)}, \tag{1}$$

where

S = Sample size,

X = z-value (1.96 for 95 per cent confidence level),

N = Population size,

P = Population proportion 9 expressed as a decimal assumed to be 0.5 (50 per cent) for maximum the sample size, and

d = Degree of accuracy (5 per cent) expressed as a proportion (0.05) margin error.

Then,

N = 3180,

X = 1.96 for 95 per cent,

P = 0.5, and

d = 0.05

$$S = \frac{(1.96)^2 \times (3180 \times 0.5)(1-0.5)}{(0.05)^2 (3180-1) + ((1.96)^2 \times 0.5)(1-0.5)}$$

$$S = \frac{3.8416 \times 1590 \times 0.5}{0.025 \times 79.375 + 0.9604},$$

$$S = 343.$$

The sample size was 343 students.

Sampling Technique

In order to achieve the objectives of the study, the research applied purposive a stratified sampling technique. This technique allowed the researcher to make personal judgments to determine a suitable sample for the research. The main aim of stratified sampling is to achieve desired representation from various subgroups in the population and it results in more reliable and detailed information (Kothari, 2019). Neuman (2014) defined purposive sampling as a judgement sampling in which the researcher utilises a wide range of methods to place all possible cases of a highly specific and difficult-to-reach population. Similarly, Appau-Yeboah and Yeboah (2015) defined this sampling method as the process selection in which the researcher uses his/her personal judgement to determine which sample is suitable for the research. It is based on the personal criteria and views of the researcher on a large group of people. For this research, the undergraduate students were divided into faculties and a sample was obtained from each faculty.

Table 1: MMU Student Records September 2019

School	Second Years	Fourth Years
Arts and social science	208	316
Business and economics	530	743
Education	532	
Science and information sciences	260	181
Tourism and natural resource	150	260
Total	1680	1500

Source: MMU student record 2020.

Table 1a: MMU Student Records September 2019

Undergraduates	Total Population	Sample Size	Percentage
Second years	1680	178	52
Fourth years	1500	165	48

Source: MMU Student Records 2020.

Data Collection Method

For this study, the preferred method of data collection is by was the use of questionnaires. The data were collected through the use of structured and semi-structured questionnaires, which were developed by the researcher based on the research objectives. The questionnaires constituted both open- and closed-ended questions. The researcher used structured or closed-ended questionnaires in the collection of data from students due to the advantage that closed-ended questions give the respondents a list of all possible alternatives thus giving the respondents complete freedom of response. It is also the case that structured or closed-ended questionnaires are easier to analyse and administer, since each question is provided with alternative answers. They are also economical to use in terms of time and money. The respondents were also given an opportunity to express their views in the open-ended questions in respect of addressing the concept under study Questionnaires are easy to distribute and they can be distributed through email or even the web. They were self-administered with guidance to ensure relevance in answering the questions. This was deemed to be the best way of collecting the type of data required for this study.

Pilot Study

A pilot test involving 16 respondents, who are in their third year of study who were not the part of the study, was carried out to evaluate the completeness, precision, accuracy, and clarity of the questionnaires. This was to ensure the reliability of the data collection instruments used. In addition, the test was able to identify possible problems in the data collection procedure; thus, set the stage for the actual study. The results of the test study were examined to gauge the overall efficacy of the questionnaire in addressing the research questions. Where gaps were identified, the questionnaire was revised to ensure clarity, relevance, and simplicity. The test study also provided assurance of the research methodology being proposed. In order to test the reliability of the instrument, the α reliability coefficient was performed using the SPSS package version25 and it yielded a coefficient of 0.089.

The actual study was rolled out as soon as the results of the pilot study were deemed valid and satisfactory.

Reliability of the Study

Reliability is the measure of the degree to which a research instrument gives consistent results after being applied severally. In every research, reliability is influenced by random error. As random error decrease's reliability increases. A pilot study was undertaken to ascertain the validity and reliability of the tool that was used.

Validity of Research Instruments

Validity is the degree to which the findings obtained from data analysis is the actual representation of the problem being investigated. It is therefore how accurate the data obtained in the study represent the variables of the study. The presence or absence of systematic error in data will highly determine the validity. The researcher consulted an expert in computing and electronic resources to provide their opinion on the questionnaire and their response will be used to determine the validity of the instrument by applying the validity coefficient formula.

Data Analysis

Data analysis was done on the obtained data from the questionnaires. It was analysed by simple descriptive analysis and cross-tabulation. Tables and charts were used to summarize the findings of the research.

Logistics and Ethical Considerations

Logistics in research are all activities and processes that need to be carried out for the research to be successful. The logistics are pre-fieldwork fieldwork and post-fieldwork logistics. According to Khamadi (2014) in the research context, ethics refers to the appropriateness of your behaviour in relation to the rights of those who become the subject of your piece of work and or are affected by it. The researcher adds that ethics involves the responsibilities that the researcher bears towards those who participate in the research, who sponsor the research and those who are potential beneficiaries of the research.

The following considerations were taken into account during the research period:

Permission: All the needed approval to carry out the research study by the school of science and information sciences of Maasai Mara University will be mandatory and a research permit from NACOSTI. All necessary approval was requested and permission granted by Maasai Mara University and the Kenya National Council of Science and technology.

Informed Consent: Participants should have a clear idea of what they are engaging in this will be necessary to gain their trust and confidence. Permission was obtained from all those who provided data for the research.

Confidentiality and Anonymity: Will be vital for participants who would like to remain anonymous while participating in the research.

Acknowledging Sources: In good faith, the researcher will acknowledge other researchers cited in the study as it's the basis of academic work.

Objectivity: The researcher works at MMU and so it was important not to be biased on opinions at the same time while giving both sides fair consideration.

Results and Discussion

Questionnaire Return Rate

The target population of the study was 343 respondents to fill in self-administered questionnaires. However, out of the 343 targeted respondents, the researcher managed to get back 266 copies of questionnaires returned and found fit for the analysis, representing a response rate of 76 per cent.

Demographic Characteristics

The demographic information was important for the research study because it provided their background information which helped to establish the respondent's differences and find out how they may affect the outcome of the results which was useful as background data. The demographic characteristics are summarized in the section.

Gender of the Respondents

Gender was considered an important factor in this study for the students in relation to the utilization of electronic information resources. Since different gender has different perceptions of the access and utilization of electronic information resources. Table 2 shows the gender distribution of the respondents.

Table 2: Gender of the Respondents

Gender	Frequency	Per cent
Male	170	63.9
Female	96	36.1

Source: Author, 2021.

The results presented in Table 2 show that majority of the respondents were male gender 170 (63.9 per cent) while the rest were female gender 96 (36.1 per cent) it was the opinion of the researcher that the university has not achieved gender parity in the enrolment and intake of students.

Age of the Respondent

Age is also an important issue considered in the study as it helps to give a varied experience and opinion of the respondents. It is noted that the opinion of various people can be analysed effectively considering their age groups. The results were presented in Table 3.

Table 3: Age of the Respondent

Age	Frequency	Percentage
19–21	67	25.18
22–24	172	64.66
25 and above	27	10.15

Source: Author, 2021.

The results presented in the table above indicate that a majority of the respondents are in the age bracket of between 22 and 24 years 172 (64.6 per cent) and 19–21 years 67 (25.1per cent) and a few fell above the age of 25 years 27 (10.1 per cent). It was the opinion of the researcher that the majority of the respondents are of young age and are considered to be digital born.

Year of Study of the Respondents

The year of study of the respondents was important to this study because the researcher was interested to know how long the students have been in the university and probably their experience with electronic information resources. The data are presented in Table 4.

Table 4: Year of Study

Year of Study	Frequency	Percentage
Second year	138	52
Fourth year	128	48

Source: Author, 2021.

The results presented in Table 4 indicate that majority of the respondents are in their second year of study 138 (52 per cent) and those in their fourth year are 128 (48 per cent).

Different Types of Electronic Resources Available

The study sought to establish the various types of electronic resources available for access by students via the university web page. As revealed in Table 5, 106 (39.5 per cent) who

are the majority of the respondents use electronic journals, 25.2 per cent used the institution repository (IR), 19.8 per cent choose the OPAC 10.2 and 5.3 per cent preferred to use electronic books and online databases, respectively. The study revealed that the majority of the respondents used an electronic journal as their preferred electronic information resource. The study agrees with Kenchakkanavar (2014) study in India on the major types of electronic information resources.

Table 5: Types of E-Resources

Electronic Resource	Frequency	Percentage
Electronic journal	106	39.5
E-books	27	10.2
Online databases	13	5.3
OPAC	53	19.8
Institution repository	67	25.2

Source: Author, 2021.

Location of Accessing Electronic Resources

The study sought to establish the location where students access electronic resources most often, and the results are shown in Fig. 1. The outcome from the findings clearly indicates that the majority of students' access electronic resources from the library 53.2 per cent, 28.4 per cent preferred to use the university computer lab, and 18.4 per cent accessed electronic resources from home. The study reveals that many students/respondents used the university library as their preferred access place for electronic resources.
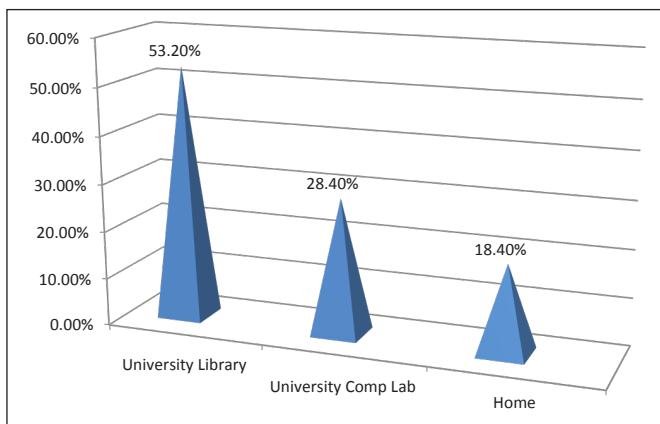
Source: Author, 2021.

Fig. 1: Location of Access

Internet Connectivity and Access to Electronic Resources

The study sought to establish the relation between internet connectivity and access to electronic resources in the library. The summary of the findings is tabulated in Table 6. The findings from the study indicate that 114 (42.9 per cent) respondents attested that internet connectivity and access to electronic resources in the library were reliable. Although 63 (23.8 per cent) said that connectivity and access was very reliable, 38 (14.3 per cent) noted that it was unreliable, and 51 (19 per cent) were uncertain. Moreover, the findings propose that connection to the internet was not one of the critical challenges that affect the utilization of electronic information resources since respondents attested that internet connectivity and access to electronic resources in the library were reliable. The study established that internet connectivity and access to electronic resources in the library were reliable.

Table 6: Internet Connection

Internet Connectivity	Frequency	Percentage
Very Reliable	63	23.8
Reliable	114	42.9
Uncertain	51	19.0
Unreliable	38	14.3

Source: Author, 2021.

Purpose for using Electronic Resources

Fig. 2 is the presentation of the findings of the study on the purpose because students access and use electronic resources. From the findings, all the respondents use electronic resources for academic purposes and for enriching course work. Also, the research notes that all the respondents use electronic resources for writing and completing their class assignments. About 60 per cent of the respondents use electronic resources for research and another 80 per cent used them as sources for materials to assist and guide them in project writing. The research established that electronic resources were majorly used for academic purposes/ coursework and for completing and writing assignments. The findings of the study concur with the findings of Elia and Ndenje-Sichalwe (2018) in their research on the utilization of electronic resources to support teaching and research and the finding are these resources have brought dramatic changes in learning teaching and research in institution of higher learning.
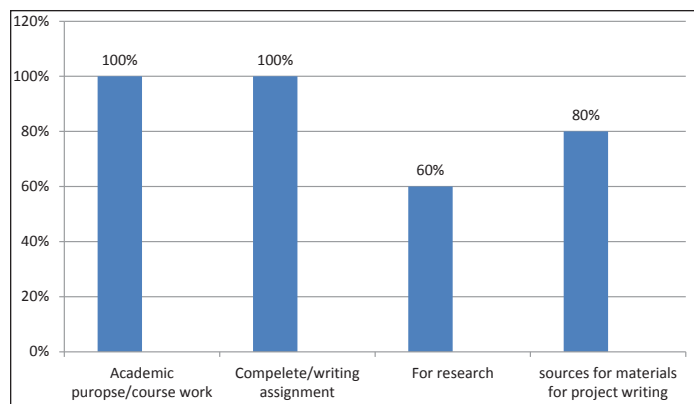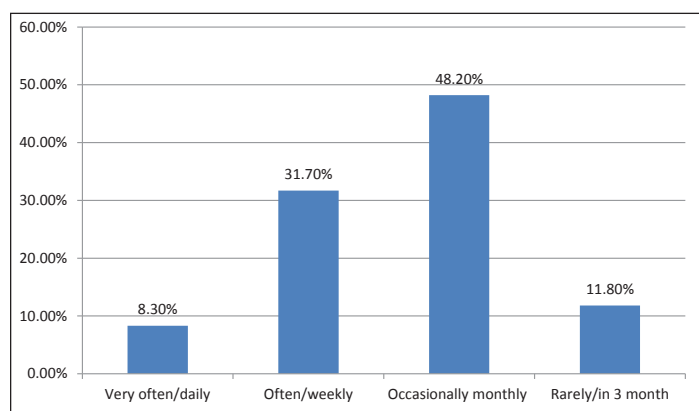
Source: Author, 2021.

Fig. 2: Purpose of using E-Resources

Frequency of Accessing Electronic Resources

The study sought to find out the frequency at which respondents accessed electronic information resources. The study findings indicate that 128 (48.2 per cent) of the respondents occasionally access electronic resources, 85 (31.7 per cent) indicated that they often access electronic resources, 32 (11.8 per cent) rarely access electronic resources, and 21 (8.3 per cent) very often access the resources. It is clear from the findings that the respondents occasionally access electronic resources. Scholars who have indicated the same results are Endouware and Ubogu (2011), Oyedapo (2013) and Wendo (2018), who found out in their research that electronic resources are not frequently accessed leading to low use of the same.

Source: Author, 2021.

Fig. 3: Frequency of Access

Approaching the Librarian for Training

The study sought to find the rate at which respondents approach librarians for training and assistance on the access

to electronic resources. The findings are given in Table 7. From the results of the study 41.9 per cent responded that they seldom approach the librarian for training on the use of resources, 20.2 per cent stated sometimes, and 13.3 per cent of the respondents noted often. On the other hand, 24.6 per cent never approach the librarian for training at all. In line with the findings, it is evident that the majority of the respondents rarely approach librarians for training.

Table 7: Seeking Help from Librarians

Approaching the Librarian	Frequency	Percentage
Often	35	13.3
Sometimes	54	20.2
Seldom	112	41.9
Never	65	24.6

Source: Author, 2021.

Training in the Use of Electronic Resources

The study sought to find out whether the respondents have received any form of training concerning the use of electronic resources. Only a few of the respondents, 27.8 per cent were trained. Majority of the respondents, 72.2 per cent attests that they have never received any training. The study portrays that majority of the respondents have not been trained on the use of electronic resources.
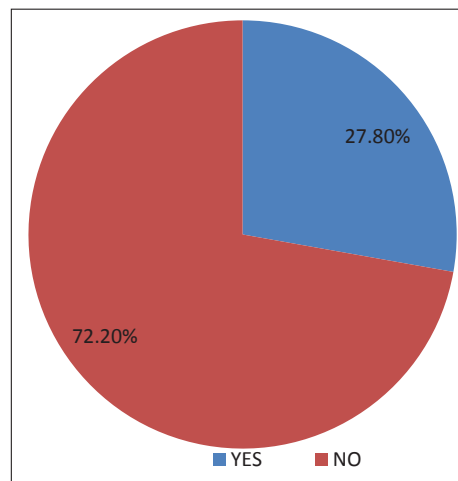
Fig. 4: Training on the Use of E-Resources

SUMMARY OF FINDINGS AND CONCLUSIONS

Summary of Findings

The study revealed that 64 per cent were male and 36 per cent were females also the majority of the respondents

were between 22 and 24 years. In total, 52 per cent of the respondents were in their second year, and 48 per cent were in their fourth year. This means that the respondents are well informed to give dependable responses.

ICTs development has led to the advent of a variety of electronic resources in universities. This study has revealed the electronic resources available at Maasai Mara University for access and utilization. Question four of the questionnaire presented the various resources that are available for access. Table 5 showed that the most used electronic resources are the e-journals followed by access to the IR, followed by the OPAC E-books and lastly the Online Databases. The findings are in line with the findings of Kenchakkanavar (2014).

This study concludes that just like other universities that have implemented the use of electronic resources, a range of e-resources are available at Maasai Mara for students use.

Electronic resource utilization has increasingly become an important function of all academic libraries in the current era. The study has revealed that the majority of the students access the electronic resources from the library and others from the computer labs available in the university and a few of the respondents reported to access the resources from home.

From the study, it is evident that internet connectivity is not a major problem as many respondents agreed that the internet connectivity at Maasai Mara University is reliable on many occasions. From the study, it is clear that respondents access the electronic resources for academic purposes and to write and complete their assignments. These findings can be compared with those reported by Hart and Kleineveldt (2013) that electronic resources enhance the effectiveness of research and academic work. The findings also concur with Elia and Ndenje-Sichalwe (2018) a study on the utilization of e-resources to support teaching and learning that points out that e-resources have brought about a dramatic change in learning and teaching.

The use of electronic resources varies from one institution to the other. The findings revealed that electronic resources were not frequently being used as a majority of the respondents indicated to use the resources occasionally as shown in Fig. 4. The findings are in line with the findings of Okongo (2014). The frequency of access and utilization of these resources indicates that much has to be done to attract users to utilize these resources regularly. With the advent of digital resources libraries have an opportunity to get hold of robust qualitative data about the utilization of their resources and analyze how far their return on investment for their institutions. This is an opportunity that Maasai Mara University should take advantage of and the library management needs to plan strategic ways to promote and keep an eye on electronic information resources. Also, the study shows that the majority of the respondents rarely

approached the librarians for training on the use of electronic resources. Further, the study implied that the students had expressed lack of training as a major problem in access and utilization of e-resources.

Conclusions

E-Resources are very costly and as a result, it's vital for MMU Library administration to be informed about the extent of use and the troubles related to access and use so that the quintessential movements are taken to ensure efficient and superb utilization. Such statistics will additionally justify the massive sum of money invested in its procurement.

Based on the rapidly increasing size of the Maasai Mara University community, the study concluded that the available databases are not sufficient to serve the need of all the users.

The findings of this study show that students could exploit the benefits of electronic resources in their academic work. The inevitable conclusion raised from this study is that students at Maasai Mara University's use of electronic information resources is low. The study also notes that few students ask a librarian for the assistance they in all likelihood prefer to turn to the net for their information needs. Finding facts especially electronically is confusing and quality would possibly be unreliable. Indeed professional help is wished and it's the librarian's duty to inform customers on making correct use of electronic information resources. The study concluded that users experience a variety of challenges like lack of adequate search skills, lack of appropriate training on accessing the resources, inadequate computers, and finally poor network connectivity leading to underutilization of electronic information resources at Maasai Mara University.

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Competing Interests

The authors declare to have no conflicts of interests of interest whatsoever.

Ethical Approval

The researcher sought relevant authorization before the commencement of the study. Informed consent was established by the researcher engaging the respondents in

a conversation and explaining to them what the study was about as well as giving them room for voluntary participation. Respect and confidentiality of the respondents were very well preserved as the information gathered was for academic purposes. The results were made available at Maasai Mara University and the National Council of Science and Technology Libraries, where they were made available to all. Findings may also be distributed in academic workshops and conferences as well as published in academic research journals so as to disseminate the findings.

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