UTILIZATION OF ELECTRONIC INFORMATION RESOURCES BY UNDERGRADUATE STUDENTS AT MAASAI MARA UNIVERSITY LIBRARY, NAROK, KENYA.

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A RESEARCH THESIS SUBMITTED TO THE SCHOOL OF PURE, APPLIED AND HEALTH SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE (MSC) IN INFROMATION SCIENCES, MAASAI MARA UNIVERSITY.

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DECLARATION

This thesis is my original work and to the best of my knowledge it has not been submitted before to any university and /or institution of higher learning for any award. No part of this thesis may be reproduced without the prior consent from the author and/or Maasai Mara University

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DECLARATION BY THE SUPERVISORS

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DEDICATION

I dedicate this work to my husband Douglas our sons Royman and Wuantai and my mother in love Violet Naisho.

ACKNOWLEDGEMENTS

ABSTRACT

The future belongs to countries whose people make the most productive use of information, Knowledge and technology; as such Kenya as a developing nation cannot be an exception. The traditional library ways of acquiring, repackaging, storing and communicating information has changed due to web and internet technologies. The aim of this study was to indentify the existing problems in the utilization of electronic information resources and how they were being accessed by undergraduate students in public universities in Kenya with special reference to Maasai Mara University library services and suggest possible solutions to the challenges. The specific objectives of the study were to: identify the available e-resources at the MMU library; assess the utilization of the available resources; identify the major challenges that confront users while accessing the resources and finally suggest possible solutions for the identified challenges. The study was guided by the Unified theory of acceptance and use of Information Technology (UTAUT). 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 their 2nd and 4th year of study. Stratified sampling technique was used to group the respondents into strata according to their respective Schools and year of study. Respondents were randomly selected. The drop and pick up method was used in administration of the questionnaires. Where a response rate of 266(76%) was achieved. Data was analyzed quantitatively whereby interpretation of the findings were achieved.. The study revealed that, a range of e-resources are available at Maasai Mara University for students to access. It was also found out that most of the respondents 106 (39.5%) used electronic journal resources .The study revealed that only 49 (18.4%) of the respondents' accessed electronic resources from their homes, while only 142(53.2%) accessed e- resources from the library at the university. The results indicated that the main reason for using e-resources was for academic purposes which included writing and completing assignments 266 (100%). Internet connectivity had proven from the study not to be a major problem as there was evidence of it being reliable on many occasions. It was also noted that e- resources were not frequently being utilizes as many respondents accessed the resources occasionally 128(48.2%) leading to low usage. The reason for low usage and access was mainly due to inadequate search skills 213 (80%); lack of appropriate library user education training on accessing the resources 207 (78%) and inadequate computers 192 (72%). The study recommends that sufficient networked computers, students' sensitization on the worth of electronic resources and well planned user awareness and user education programs by the library, be put in place.

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OPERATIONAL DEFINITIONS OF TERMS

Electronic information Resources-data encoded for manipulation by computerized devices or documents that are available in a digital or electronic format

Access- this is the ease at which a library user can retrieve the required information

Utilization- is the act of making use or the state of being used.

E- book-any piece of electronic text regardless of size but excluding journal publication made available electronically these are books that are delivered in a digital form for use via the internet, a computer and other electronic devices

E- journals-It's a journal that is available in electronic form through an online host

Online Database-is collections of electronic information sources by publishers from various fields.

OPAC- is a database of bibliographic records describing the holdings usually of one particular library

LIST OF ABBREVIATIONS AND ACRONYMS

AACR2   Anglo American Cataloging Rules

CILIP   Charted institute of library information professional

HTML   Hyper Text Mark-up Language.

IR   Institution Repository

KENET   Kenya education Network

KLISC   Kenya Libraries and information services consortium.

NACOSTI   National Council for science Technology and Innovation.

OPAC   Online Public Access Catalogue.

UTAUT   Unified theory of Acceptance and use of information Technology.

MMU   Maasai Mara University

FAQs   For Any Questions

RFID   Radio-frequency identification

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The international standard organization (2015)has defined academic libraries as libraries of institutions of higher education primarily serving students and lecturers in universities and other institutions of education the prime objective is to meet the academic needs and desires of the particular institution. University libraries primarily provide information, knowledge and communication services to students' faculty members, non- academic staff, and community and affiliate colleges of the parent institutions. Thus electronic library resources would provide services to support teaching leaning research and community services of the university. The fundamental function of university libraries is to provide quality and value added services to the academic community.

The university academic libraries are trying to move away from the physical books and other print materials to individual databases with single search engines towards the open environment of the World Wide Web. Thus libraries with modern electronic resources are the most appreciated centres to finding the answers to the challenges being faced in the digital environment of electronic information resources and he internet.

In the knowledge society information is a basic and highly valued resource for human development with ICT as a major driver of the process. The Kenya vision 2030 recognizes the role of ICT in development. Universities are expected to play a major role in the social economic, political, cultural, and technological development of their

country; As such universities libraries have their role curved out in preservation and diffusion of knowledge and intellectual records

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 users' requirements different types of services are provided in academic libraries which include the provision of electronic resources and services.   Library electronic information resources are extensively important resources in many dimensions of life such as education, employment, government, commerce, and 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. These advances have affected the format and bases and the library has 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 library users, budget limits and the rising cost of library material are some of the challenges faced by academic libraries (Nazir &Wani, 2018). Kahn and Underwood (2018) 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 It

equipment Universities are already experiencing financial constraints and decrease of funding from the government, it is becoming hard for academic libraries to afford these resources. The issue of migrating from print collection to more affordable equivalent electronic resources becomes 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. 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 that enrich the image of the library and the position of library and information science. To achieve this, library professionals should be well conversant with up-to-date practices of information provision. In an effort to reach users accessing the library via their computers, many library consortia are extending their service to include virtual services. Web-based services internet library services digital library services and electronic library services are terms with similar meanings. As many libraries change to the provision of services in a digital setting, the enriched access to the electronic library collection is making the use of digital resources more attractive and more realistic. Traditional services had changed themselves into

internet-based 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. 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 the following;-ensure that user' needs and accessibility of information sources matches at all times;

- Information delivery to the users is timely and in an appropriate fashion.
- Ensuring the information provided is of high quality, appropriate and accurate.
- Provide 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 information communication technologies (ICTs) and are characterized by the dominant role of information available in electronic format (Okon &Ogbado, 2019). 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. The present day's academic system digital records resources have come to be a key platform for students and faculty, and the management also investing cash in upgrading their current systems. The very old information source library has become a fairly affected domain in terms of round-the-clock access and reliability with velocity and security in contrast to the modern-day electronic sources resources. It is indispensable to create new modes to supply services to the user computers even off-campus by the use of the WWW platform.

As greater sources are created by means of the web, issues occur related to search & access to the same. Users would like to see their library on the e-resources, capable to meet their all data desires no longer solely on demand but also in anticipation of demand. But to overcome this problem, MMU libraries may have to have more & more electronic resources which shall assist to offer new and more qualitative services to their users. E-resources mean sources, which are handy in digital form, it might also be books, databases, journals, full-text articles, pictures, photographs, images, music, & different multimedia. These resources are delivered via Android Phones, Tablets, Laptops, and computers with the help of e- devices. Other comparable terms used for E-resources are net sources, digital resources, and online resources. The electronics sources have the greater benefit of easy and portable benefits assisting users, like students, researchers, and individuals access well-timed services with superior choices like sharing, editing, modifying, etc.

1.1.1 Information Technology

Information Technology (IT) is playing a vital role in developing libraries and information centers. IT refers to anything which is related to computing technology. The present scenario of Information Technology (IT) is enjoying a vital role in growing libraries and records centers. IT refers to anything which is associated with computing technology. The existing situation of the library system in India is basically geared up with E-books, e-journals, repositories, etc.

Information Technology (IT) has made a great contribution to all admire of day to day lifestyles for example majority of people are using cell phones, gazing television, listening radio, the usage of computers, etc. The influence of IT can be considered in all areas like Medical, Agriculture, Robotics, business, etc. Information technology affords very advanced amenities like video conferencing, satellite tv for pc communication, cloud computing, networking, and synthetic Genius in robots. IT refers to something which is related to computing science such as software, hardware, networking, communication, etc. The time taking techniques observed in libraries formerly like registers, printed catalogue etc. seen whole substitute with the modern-day ICT equipment with the introduced benefits like time saving, accuracy, speed, access etc. Now the majority of libraries are using Online Public Access Catalogue (OPAC) to find out the location of studying materials. Library has transformed their printed material into digital format with metadata looking and browsing. Libraries are using bar code and RFID (Radio-frequency identifications) science for inventory verification and automatic circulation of reading materials.

1.1.2 Importance of Electronic Information Resources

The initiation of information and communication technology (ICT) has improved the ease of use of electronic information resources among the academic community in the recent years all over the world. This growth has posed challenges to libraries in their attempt to meet up information needs of clienteles in the digital age. Due to the technological upraising and advent of current ICT, the scholarly society no longer depends upon the traditional library resources and services. They are, however, encouraged to rely on electronic information resources with hope that, the enormous of information available for access and use in electronic formats can extremely accomplish their research and scholarly needs as a better alternative to traditional print services (Swain, 2019). Hence, as the popularity o e-resources continues to grow, almost all academic libraries, are progressively shifting from print documents to e-resources where provision, access and dissemination of these information resources is considered paramount than merely owning it. With this libraries are obligated to rethink the aspect of collection development. Commenting on the advantages of electronic resources, Dadzie (2018) writes that electronic resources are very useful research tools that complement the print — based resources in traditional library setting. Their advantages include: access to restricted information that might be restricted, access to more current information which are available in various formats that is full text, abstracts, tutorials PDF etc.

1.1.3 Advantages of Electronic Information Resources

The following are the added advantages of e-resources over the print media

Multi-access: A networked resource gives multiple access points to multiple users at the same time irrespective of their geographical location.

Speedy retrieval: An e-resource is lot quicker to look through to extract, and to incorporate the information into other material and to cross refer between various publications.

Content analysis: The E-resources contain a gigantic amount of information, but more significantly in a mixed format mode i.e. images, video, audio and animation which could not be replicated in print.

Consortia mode: The E-resources can be subscribed in a consortia format too thus cutting down the costs but reaping the same benefits.

Interactivity: Articles/issues/chapters can be read, commented by the readers, amended quickly and greater feedback can be given through the web, it allows interaction among the users.

1.1.4 Special Features of Electronic Information Resources

Electronic resources in general have some discrete qualities which distinguish them from traditional resources. E-resources are further distinct by the nature of the information on the net itself. These qualities are: High compact storage, Ease of reproduction, multiplication, manipulation and transmission, Contents can be very easily detached from its media or container, Ease of moving the contents from one medium to another, Ease of transmission, communication and storage, Hypertext and multimedia and Seamless integration of print and electronic resources among others.

1.1.5 Maasai Mara University library

The library started operating as a University Library from the year 2007 after the Narok Teacher's College Library. The Maasai Mara University Library serves a growing population of nearly 10,000. Each day, approximately 600 users come into the library's facilities. The library has over 30,000 information materials that include books, monographs, government publications, theses, and research materials. The Library supports the University's learning and teaching, research, innovation, and engagement by providing resources, high-quality services, and professional expertise to enable the effective discovery and use of information, and the development and communication of knowledge. The library also subscribes to online full-text academic journals and e-books in various disciplines through the Kenya Libraries and Information Services Consortium (KLISC). The Kenya Library and Information Services Consortium (KLISC) is an initiative of International Networks for the Availability of Scientific Publications

(INASP). KLISC was established in 2003 with the main objective of collective subscription to electronic resources to cope with the increasing cost of information resources. Subsequently, it was agreed that the Consortium would draw its membership from university libraries, research institutions, and public/national libraries. Since its inception, the Secretariat of the Consortium has been based at the University of Nairobi library.

The vision of KLISC is to realize unlimited access to knowledge and information resources while the mission is to provide leadership and building of synergy in knowledge and information sharing through capacity building, advocacy, networking, and collaborations. The University is also a member of the Kenya Education Network (KENET) and connects to high-speed internet through it. The main objective of KENET is to establish sustainable communication and networking among educational and other institutions in teaching, research, and telemedicine. KENETs other objective is the sharing of other information resources with the public at an affordable cost. The University has a website that provides links to almost all academic disciplines within the university. The University's vision to be a world Class University committed to excellence for development will be achieved through the library webpage. The vision of the library is "To be the leading library providing a world-class information service and with a mission "To provide an efficient and effective customer-driven library service in support of teaching, research, consultancy, and extension." MMU library is guided by the following objectives, to;

1. Ensure fair and equitable access and use of library services by all library users;

2. Ensure that the library staff maintain high standard of professionalism in provision of library and information services;

3. Equip library users with information literacy skills;

4. Develop and secure high-quality, relevant, and balanced collections that support and strengthen teaching, research and consultancy.

5. Expanding access to works by staff in order to demonstrate the scientific, societal, and economic relevance of the University's research activities by developing a digital repository.

1.1.6 MMU Library collection

Print Collections- The Maasai Mara University Library contains more than 37,000 printed items. Books are classified according to the Library of Congress Classification Scheme and arranged on shelves by call number, which can be found in the Library Catalogue.

E-Journals & Database- The university library subscribes to online full-text Academic journals in various disciplines through Kenya Libraries and Information Services Consortium (KLISC), directly with publishers as well as open-access databases. The E-Library contains electronic resources including databases that cover thousands of full-text titles, subscribed electronic journals, and selected Internet resources it has a total of 28 e-journals databases, 3 e-book databases, and numerous open access sources all accessible via the university website on the library webpage.

Reference Collection- the Reference Collection consists of standard reference tools such as dictionaries, directories, encyclopedias, indexes and abstracts handbooks and atlases that are for use by the patrons within the Library only

Special collection -Special collection consists of undergraduate, and post graduate projects, assignments, print journal papers and selected research books.

LIBRARY ORGANOGRAM
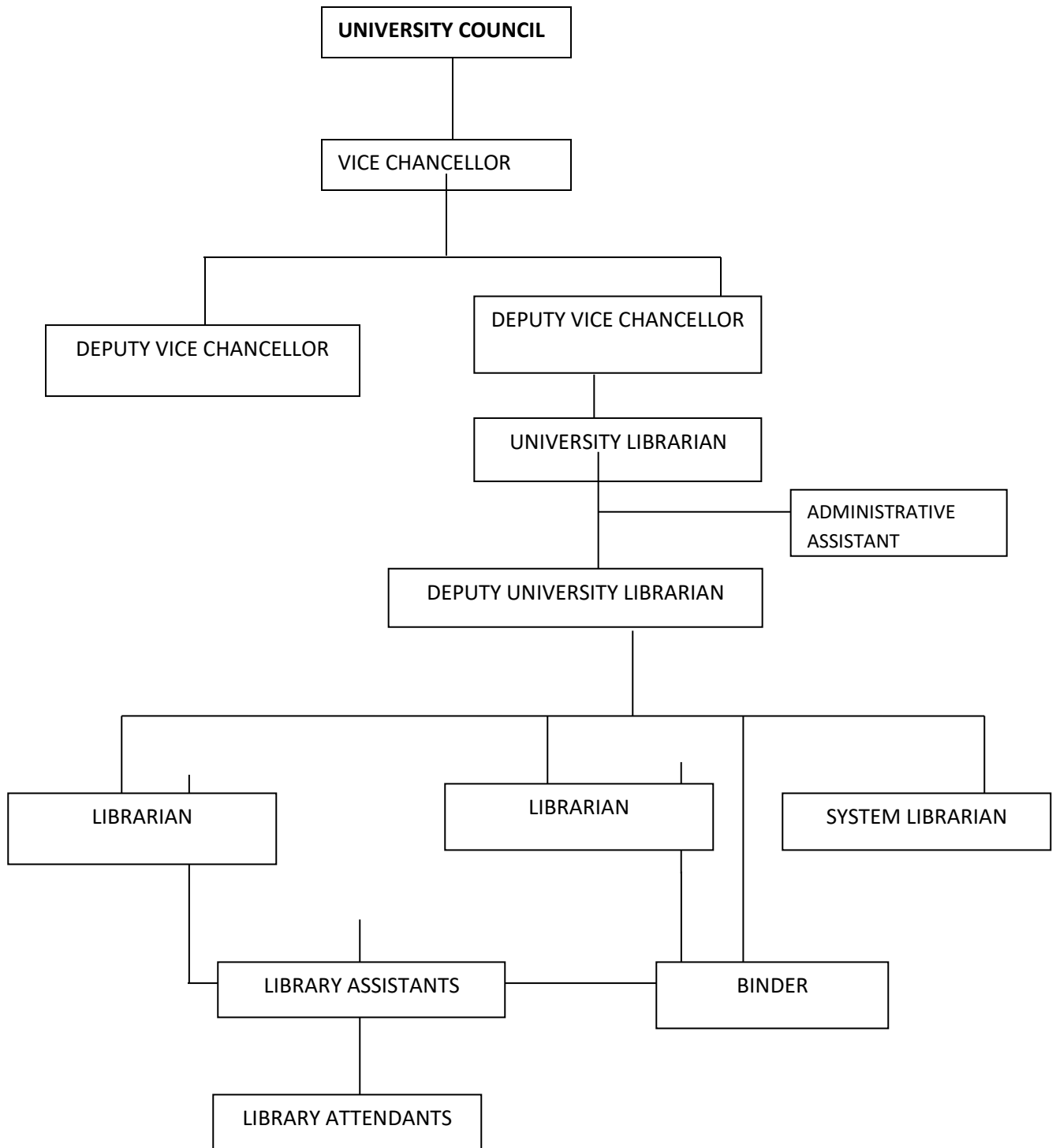
Figure 1: **Source ; MMU Library Organ Gram,(2019)**

1.2 Area of study

Maasai Mara University was chosen as a case study because it is one of the Kenyan public universities. It is located at the gateway of Maasai Mara National reserve the university is two kilometres away from Narok town along the Narok-Bomet highway. The university is a successor of Narok University College which started in 2007 as constituent campus of Mo University. Previously it used to be Narok Teachers training college. In 2013 February, when it was awarded a charter and renamed Maasai Mara University with a mandate to teach, conduct research, and provide consultancy services. The University has made significant strides in putting in place the required infrastructure to mount quality doctorate, master's degree, undergraduate, and diploma and certificate programs. Currently, it has a student population of slightly above 13,000. This has been made possible through the support of the Government of Kenya. The University aims to increase access to university education in Kenya. It also aims to serve as a motivator to the youth, and as a catalyst for economic growth in Narok County and the country as a whole.

1.3 Statement of the problem

Libraries in Kenyan public universities are currently faced with complex challenges posed by rapid revolutionary advances in ICTs technologies and that MMU library services cannot be the exceptional thus MMU library must redesign its position as an academic library in order to meet the above evolving information needs for users. The purpose of this study was to identify the existing problems in utilization of electronic information resources and how they were being accessed by the undergraduate students in public universities in Kenya with regards to Maasai Mara university library services and suggest possible solutions to the challenges.

The sad reality is that the expense of developing and maintaining the MMU university library collection to support teaching, learning, and research which has proved beyond the existing electronic resources up-to-date well selected and well cared for collection is the exception rather than the rule so that students lack the essential electronic information resources for progressive scholarship and as such are often forces to rely exclusively on their own lecture notes.

At MMU library the use of use of emerging current relevant ICT technologies to manage and deliver electronic information services to students and other users is inadequate. Other challenges among others; the library has small stock capacity for readers; poor financial finding from the university administration; lack of enough networked computers students as users not well trained in computer and information literacy to handle and access electronic material in the library and, lack of proper defined policies on how the utilization of exiting electronic resources. Based on these challenges the purpose of this study was to investigate the utilization of electronic information resources by the undergraduate students at MMU and attempt to provide possible solutions to these challenges.

1.4 Aim of the study

The main aim of this study was to investigate the utilization of electronic library resources by undergraduate students with special reference to Maasai Mara University library services, and come up with possible solutions to the identified challenges.

1.5 Specific Objectives of the study

The specific objectives of the study were to:

i. Identify the electronic information resources available at MMU Library.

ii. Assess the utilization of electronic information resources.

iii Identify the major challenges in utilizing electronic information resources.

iv Suggest possible solutions to the identified Challenges.

1.6 Research questions

i. What types of electronic information resources are available at MMU library web page for access?

ii. How accessible are electronic information resources at MMU Library?

iii. What challenges confront students in the access and use of electronic information resources?

iv. What are the possible solutions to improve utilization of electronic information resources?

1.7 Significance of the study

The results of this study will contribute to the understanding of utilization of e-resources in Maasai Mara University library and other academic libraries. The study will help the library management to make informed decisions that are related to the utilization of electronic resources and policy development and for better provision of the services to their patrons. The findings of this research will be used as a monitoring and evaluation tool for the library with regards to budget allocation in that the library management will

be in a position to know how cost effective e- resources are utilized in relation to the funds allocated.

1.8 Assumption of the study

The studies assumed that all students were aware and utilizing electronic resources of Maasai Mara University library.

The study also assumed that Maasai Mara University has internet connectivity.

The study also assumed that suitable policies are in place and awareness can assist to promote access and use of electronic information resources

1.9 Delimitation of the study

There are various categories of students at MMU certificate, undergraduates, and post graduate pursuing different programs. The study was limited to undergraduate students who are on their second and fourth year of their studies at Maasai Mara University.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will explain how the purpose of the research will be reviewed by consulting the related literature. It focuses on what other researchers reviewed works concerning utilization of electronic resources other factors that directly or indirectly impact on the access and utilization of electronic library resources. The chapter also discusses the theoretical framework which the study is based.

2.2 Theoretical framework

The main objective of the section is to describe the theoretical background which guided the study. Several models have been proposed to guide the utilization of e-resources as a form of technology. Technology acceptance model (TAM) by Davis (1989), Chau (1996), Venkatesh and Davis (2000); Diffusion of innovation theory by Rogers (2003); and the Unified Theory of Acceptance and Use of Technology (UTAUT) by Vankatesh, (Moris, &Davis, 2003).

2.2.1 Technology Acceptance Model (TAM)

TAM is one of the most persuasive theories in explaining Information Technology /Information Systems adoption behaviour. Its main aim is to provide a basis for discovering the impact of external variables on internal belief attitudes and intentions. TAM was developed by Davis in 1989 to explain and understand factors affecting the acceptance and use of computer technology in organization or institutions. Essentially TAM has been used robustly to explain and understand individual acceptance and intention to use various information and communication technology.   The model

suggests that behavioural intention determines the actual use of information and communication technology. Although behavioural intention is jointly determined by: perceived usefulness and perceived ease of use. TAM assumes that the two variables influence attitude toward intention to use information communication technology. Davis (1989) affirms that the main aim of the TAM is to "provide better measures for predicting and explaining the use of ICT in organizations. TAM gets its basic strength from its power and capability to predict the use of technology in organizations and its main weakness is its failure to regulate obstacles to technology adoption. Hence, the Unified Theory of Acceptance and Use of Information Technology (UTAUT) was developed to address the limitations/weaknesses of the TAM.

2.2.2 Unified Theory of Acceptance and Use of Information Technology (UTAUT)

The unified theory of acceptance and use of information technology by Venkatesh (2003) is one of the recent advancements in the general field of technology acceptance models. It aims to explain users' intention to use an information system and increase user behaviour. Venkatesh (2003) developed this model to give a more complete representation of the acceptance process than previous models. The UTAUT models integrate the major elements from previously used models in the IS field.

The UTAUT aims to explain user intention to use the system and succeeding usage behavior. The theory has four constructs; performance expectancy, effort expectancy, social influence, and facilitating condition that are the direct determinants of intention and behaviour of usage which are moderated by gender, age, experience, and voluntariness in use. Performance expectancy (PE) -"PE is the degree to which an individual believes that using a particular system will help her/him attain gain in job

performance". For this study, PE is the degree to which students believe that access and use of electronic resources will help them in their research output/ productivity. It becomes a measure that motivates students to utilize electronic resources in their research.

Effort expectancy (EE) - "It refers to the degree to which a user considers it easy to use a system". This means that whether the design of the system can allow the user to use it easily or not it is one of the factors in accepting technology. For example, if the access and use of e-resources are clear and easy to understand or it's easy to navigate around the various databases. All these matter whether a system is easy to use or not.

Social influence (SI) –"It is the degree to which an individual perceives that it's important others believe that he or she should use a system".

Facilitating condition (FC) –"the degree to which individual believe that an organizational infrastructure exist to support the use of a system". It is basically that students believe that the university ICT infrastructure facilities are available to support them in accessing electronic resources., or put it that the student believes that his/her university has an enabling information environment that will facilitate access to electronic resources.
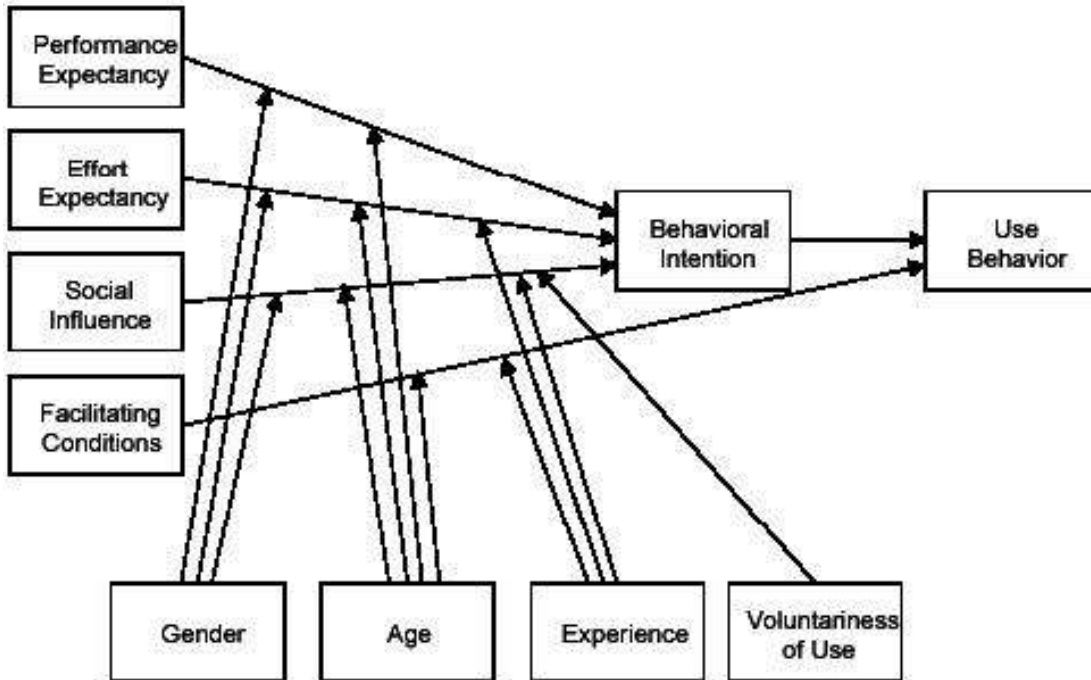
Figure 1: Interrelationship of variables in UTAUT model
Source: Venkatesh, et al (2003).

2.2.3 Application of the model on utilization of e- resources.

The study adopted the UTAUT model. The researcher considered this theory because of its relevance to the study. UTAUT which is one of the most persuasive theories in explaining IT adoption behaviour was used in the study. The performance expectancy and facilitating conditions are the two UTAUT variables that were used to guide the present study on the utilization of electronic information resources by undergraduate students at MMU Library. From UTAUT, the extent of access and use of electronic resources depends on facilitating condition (electronic information environment). UTAUT is advantageous in that it is a hybrid theory that has taken the best from other previous theories. UTAUT model has earned wide acceptance as a strong flexible and accommodating model in technology acceptance studies. UTAUT has been used across all cultures of the world. It has also found widespread use in Africa and other developing

countries. Some of the studies that successfully used the UTAUT model are as follow (Dulle &MInishi- Majanja, 2019)applied the UTAUT model to study the adoption of open access electronic journals in six Tanzanian universities. Machimbidza (2019) applied the Model on his study on the adoption and use of peer reviewed electronic journals by academics at selected Zimbabwean state universities. In Sudan Khater (2018) successfully used UTAUT model to justify customers' acceptance of internet banking services. In the Kenyan context scholars have also used the model in various studies Wendo (2018) used the model to study access and use of electronic journal by students and academic staff at USIU library. Nyamwembe (2019) also applied the model in his study on students utilization of open educational resources for academic work an exploratory study of private universities in Kenya. A number of these studies employed the survey research design which is also going to be used in this study.

Finally, the UTAUT is also chosen as a theoretical model to guide the study. This is due to the relevance of two of its variables, the performance expectancy and facilitating condition on the objectives of the study. The performance expectancy presumes that accessibility and utilization of electronic information resources increases the productivity of the students. Thus the two variables, performance expectancy and facilitating condition would provide proper guide in investigating the utilization of electronic information resources in academic libraries. It is evident that UTAUT can be used in various situations and settings and it is an applicable model for this study.

2.3 The role of academic libraries

In a university set up the academic library remains the integral part of the university organization to meet the informational needs of the academicians and other users.

Onwudinjo (2018) indicates that the main function of academic library is to serve as supplementary to its maternal institution in carrying out its mandated objectives and goals. He also adds that the library is an imperative knowledgeable resource of any university, as it aides the institution to accomplish the curriculum necessities and promotes research and teaching. In another related study by Abubakar (2019) he also stressed the fact that a library is a place of great concern to students as it gives relevant ,adequate and up to-date information resources that are needed to support the curriculum. This is the main reason as to why academic library collections are set up to meet the information essentials of any academic program undertaken by the institution.

According to Singh and Arora (2018) they articulated that academic libraries are the heart of universities as they offer access to immense knowledgeable resources with the intention of enriching teaching and learning and research activities. These libraries are projected to ensure that they have adequate and suitable information resources to be used by their users. Some of the key roles that academic libraries performance in the universities are as follows according to (Zhang, Ye, & Liu, 2017).

2.3.1 Support learning and teaching

The academic library plays a protruding role in supporting teaching and learning activities to accomplish the objective of its parent institution. Users are provided with the facilities required for mastering the theme. Libraries help patrons by allowing the easy and free access to the library electronic information resources such as e-books, e-journals, e-databases and other relevant library materials in support of their learning. According to (Barbara , 2019), academic libraries support students in teaching and learning by;

- Providing training through designing and delivering online instructional library training such as information literacy, digital literacy skills and subject specific training,

- Designing and implementing online learning and digital tools,

- Designing, delivering and assessing instructional sessions.

2.3.2 Support research

For students to conduct effective literature reviews when they become researchers, information literacy skills have to be developed at early stages. The academic libraries promote information literacy skills so as to ensure that students are able to use the electronic information resources effectively and efficiently.

Both the students and researchers rely heavily on the library for easy access to electronic information resources in order to enhance the effectiveness of their research activities (Hart &Kleinveldt, 2017). According to Rasul and Singh (2018), library support students in research by:

- Developing students` research skills.

- Assisting students to identify and evaluate new information relevant to their area of research in order to contextualize research hypothesis.

- Helping students to use a variety of strategies and research findings tools in order to identify and use information sources most appropriate to the research question or problem,

- Training students to use multiple forms of evidence obtained from various sources to be able to evaluate the accuracy and credibility of ach source in order to support their research goals,

- Training students to use information across multiple formats such as print, multimedia and data to seek and evaluate relevant evidences.

2.4 Electronic information resources available in the library

According to AACR2 2005 updated an electronic resource is: a manual (data or program) encoded for manipulation by a computerized device. This material may require the use of a peripheral directly connected to a computerized device or connection to a computer networks. e- Resources are electronic information resources that can be accessed on the web or on off campus. Users can get information of what they are looking for as when needed. Basically e- resources can be said to be a collection of digital content delivered to users by means of the internet. E- Resources contain various types of content which include full text images research data sound films and it also encompass abstract and indexing. The development in information technologies has led to various types of e-resources. These resources are available to patrons and other information seekers via academic libraries.

e- Resources in the library are doing great in context of connectivity, comprehensiveness and compactness. They have facilitated fast information services on one hand and links to variety of sources on the other hand. The major aspect in the application of e-resources is the use of simplified technology to create and distribute information. E- Resources have the following characteristics that cannot be ignored; do not require physical space, feasibility in full content search ability, Constrains that are in physical libraries are barred in e- resources, Hyperlinks help users to quickly access the required information. Kenchakkanavar (2019) in India identifies the following major type's electronic resources available in academic libraries: e- journal, e- Books, e- Databases, e-

newspapers, Subject gateways, e- Thesis and dissertation e- patents and standards, e-reports –maps, e- manuscripts, websites, FAQs and OPAC

2.4.1 Benefits of using electronic information resources

Quadri, Adetimirin, and Idowu,(2019) provide emphasis that e-resources have a huge impact on information offerings furnished to college students in things of access and utilization of the same. Their examination of two non-public universities (Babcock & Redeemer) has revealed that most college students use e-resources for assignments, research, and projects, and this has resulted in improved class activities and collaboration. This discovery is regular with the view of Olofinniyi et al. (2018) that cellular phones, tablets, and i-pads affect the study pattern of students all over the world. With the use of these devices, students now easily join the Internet and e-learning systems as nicely as social media platforms.

A related study, Edem and Egbe (2019) notes that e-resources provide postgraduate students at the University of Calabar, Nigeria the chance to access and utilize relevant and updated facts from different concern areas. E-resources are available at any time of the day, supply hyperlinks to different resources, have huge statistics reservoirs, give quick information and a variety of search selections for handy retrieval, are convenient to cite and thereafter convenient to generate bibliographies, and can effortlessly be uploaded, stored, archived, disseminated, shared and updated, and have flexibility features. For the physical library, it is solving the trouble of restrained physical space, and because they do not wear and tear, they are most economical in the long run (Tekale, 2016; Tekale & Dalve, 2018).

The fact that electronic resources can be accessed remotely without visiting the physical library building is becoming more popular among students and researchers in general and the resources are used to complement printed resources. Thanuskodi (2018) study on e-resource usage by students has revealed that e-resources supplement printed resources but because they can be accessed remotely without a physical presence in the academic library, they are popular with students and are seen as disseminated data for research.

Chimah and Udo (2018) posits that electronic resources are not made publicly available unless subscribed and authenticated. Their study has exposed that the open-access movement ensures that innumerable e-resources are currently available to library users free of charge on various open-source platforms. Additionally Lippincott, (2018) asserts that "in support of education, some academic libraries are bringing their open access principles into the realm of e-textbooks" and that libraries can come up with learning laboratories and provide hardware and software's necessary, tools, facilities and expertise and any other essential necessity that will assist students to develop new skills in accessing and utilizing information products.

2.4.2 Electronic journals

It's a journal that is available in electronic form through an online host. E-journals have existed since late 1970s but it was only in 1990s with the mushroom growth of the internet and the development of the World Wide Web that they become common. E-journals are compiled by well-informed researchers and scholar's subject specialists determine whether the article add valuable information to the subject thus the articles are peer reviewed. E-journals can be equated to intellectual magazines that can be accessed via electronic communication. E- Journals can be "born digital meaning that they are

solely published on the web and on digital format while others can initiate as print which successively progress to have an electronic version. E-journals have all the components of a print journal including the serial number and volume. Many e- journals are available for download in mainly two formats that is as a PDF and in HTML. The great benefits of e-journals are as follows;

- The users can access the services concurrently using the internet irrespective of their geographical location.

- They also provide the advantage of full text browsing and downloading of the articles.

- They can include more images and audio visual materials

- The use of hypertext links allows users to move to different sections of a particular journal and can link to related resources available on the internet.

2.4.3 Electronic books (e-books)

E books can be defined as any piece of electronic text regardless of size but excluding journal publication made available electronically. These are books that are delivered in a digital form for use via the internet, a computer and other electronic devices like an e-book reader.

The results of integrating classical book structure, or rather the familiar concept of a book with features that can be provided within an electronic environment is referred to as an electronic book (e-book), which is intended as an interactive document that can read on a computer. The main features of e- books are that they are dynamic reactive and can be made available in different formats and /or editions in a short time. Doiron (2017) listed the following benefits of using e- books: The text is fully searchable, e- books are safe

from theft, The same book can be used by many users at the same time, All time accessibility and availability from any location via the internet and The font can be resize for different reading experiences.

2.4.4 Online database

For electronic books and journals to be accessed in academic libraries is through the subscription to online databases which can be accessed through the internet. Online database are collections of electronic information sources by publishers from various fields. Databases are provided free of charge to libraries by publishers or vendors and others can be accessed by subscription to the vendors. The freely accessed databases are called open access databases research fields. Access to these databases provide users with millions of scholarly articles in their

2.4.5 Institution repository

An IR is an online locus for collecting, preserving and disseminating, in digital form the intellectual output of an institution particularly a research institution. For a university it this would include materials such as journal articles, peer reviews, and the digital versions of theses and dissertations, but it also included digital information generated by the university such as administrative documents ,course notes and other learning material. An IR is published online and is basically open to the public .the four main objectives of IR are as follows: To create global visibility of an institution's scholarly research, to collect content in a single location and to provide self-archiving and open access to institutional research output.

2.4.6 Online public Access Catalogue (OPAC)

OPAC is a database of bibliographic records describing the holdings usually of one particular library. It allows searching by name, title and subject and offers online access through public terminals. According to (Cutter,2019) the objective of a catalogue in the library are: To enable a user find a book based on the title, the subject the author and the date of publication, to show the collection of a library by a given author, on a given subject and in a given kind of literature and to assist the user in the choice of a book as to its edition (bibliographically) and as to its character (topical).

OPAC have greatly enhanced the use of catalogue in libraries. It is the only gateway to all library's resources that every library user must be aware of and be able to use to fulfil their bibliographic information needs Fabunmi and Asubiojo (2019). OPAC allows for searching of all library collection easily quickly and available at all times from any location.

2.5 Student skills to use e –resources

For users to effectively utilize any information resources it is necessary to have basic skills and in this sense information literacy skills. Information literacy is the ability of individual users to know when there is need for information so as to be able to identify locate retrieve and evaluate and effectively use the information to solve a problem or carry out research. Halls describe information literacy as the potential for people to be aware of when there is a need for information so as to be in a position to identify, locate, retrieve, evaluate and successfully use the same information to solve the problem. It entails understanding when and why you want information the place to find it and how to evaluate, use and communicate it in an ethical manner (CILIP 2019) information literacy

forms the basis for lifelong learning which is common to all disciplines all learning environments, and to all ranges of education. It assumes that a person acknowledges the want for data and is aware of how to discover it considers and communicates facts efficaciously to clear up trouble or a specific project at hand.

Students with lookup data desires will most in all likelihood use the digital resource if they have the capabilities required for its use. Skill is the capability to bring about some result with maximum walk in the park and minimum outlay of time and energy. Computer literacy which is sometimes supposed by some college students to imply information literacy only refers to the remedy degree any person has with the use of a computer and other its associated applications. Information literacy consists of having the capabilities to now not solely access information, but additionally to verify its veracity, reliability, bias, timeliness, and context. IL is necessary for the modern environment of rapid technological change and the proliferation of information resources. Information and communication technology (ICT) developments and the use of digital resources, in particular, the net promise to improve the flow of information to research and academic communities

Boothman, et al. (2018) Information Literacy can be the capability to comprehend when information is needed, to evaluate the information, and to use the information found. These include having technological abilities that permit users to use and get entry to data sources. Information literacy has the following core features: unique skills, ability to apprehend a need for information, potential to find data, capacity to evaluate, and recognition of the law of records online. To be profitable students in research and studies, they want a high level of information literacy. For students to fully utilize the growing

range of electronic resources they must acquire and practice the skills, strategies and techniques necessary to exploit the resources. Tella et al. (2019) notes that student's ability to find and retrieve information effectively is a transferable skill useful for their future lives as well as enabling successful use.

2.6 The utilization of electronic information resources by students.

Academic libraries are very important aspects in any given institution of higher learning. They can be said to be the life wire of universities as their critical role is to support the vision and mission of the institution which is teaching learning and research. Unfortunately many library patrons are not aware of the various information resources available in these libraries and hence not using the resources much. Research has shown that usage pattern is mostly influence by the discipline and members from the science faculty tent to use electronic resources more than the humanities faculty. (Oyedapo & Ojo, 2017) found out that e resources are under-utilized at Obafemi University in Nigeria. Endouware and Ubogu 2019 studied the awareness and use of online information resources by medical students at Delta state university and found that the resources were under-utilized.

The wide ranging and importance of electronic information resources for general communication, information retrieval and dissemination and instructional delivery to support teaching and research activities in universities is acknowledged worldwide (Thanuskodi, 2018). Academic libraries have the challenge to maintain the surplus of new- fangled literature. Progresses have been noticed with respect to electronic resources in recent years. Publishers are concern about the reader behaviour and expectancy, cost organization and archiving. Patrons prefer to have trouble-free access to elaborate

information including easy access to full text and reference linking. Library consortia have become extremely significant by means of cooperative purchasing and conciliation of licenses, they are assured for access and proper management. (Kumari,2017.)Points out that e- resource serve the following purposes: Solve the space problem in the library, save the time of user and staff, Easy to use and disseminate the information finally they provide most current information.

Tyagi (2019) asserts that access to and use of e-resources helps faculty members and researchers to collect current teaching and materials "as to a very high extent e- resources have become a substitute for print materials". The use of e- resources varies from one institution to the other and to this regard; users with knowledge skills and competencies are more likely to use e- resources effectively.

According to Elia and Ndenje-sichalwe (2018) in their research on the utilization of e-resources research to support teaching and research points out that indeed, e- resources have brought about dramatic change in learning, teaching, and research in institutions of higher learning.

Electronic information resources must be utilized for better quality efficient and effective output. In a research by Tyagi (2019) on the use and awareness of electronic resources at IIT Roorkee in India in his survey the researcher noted that there is increase growth in of interest on electronic resources among the users of IIT Roorkee. In addition many users are aware about the available electronic resources through the library and they can utilize them for different purposes.

While investigating awareness and utilization of e-resources by faculty members of Chennai college in India Velmurugan (2017) found out that electronic resources and the internet in general are vital tools for teaching and its clear from the findings that faculty members are highly depending on e- resources for their learning research and teaching. The outcome from the research is that the members are using electronic resources satisfactory.

According to Mirza and Mahmood (2017), Pakistani university libraries are giving their users effective electronic resources and are content with the services. The users are satisfied with OPAC internet services, and online databases provided.

In Greece for instance based on the findings of Adamou, Ntoka, Boshuijzen -Van Burken, and Mörtberg (2017), users of academic libraries are satisfied with the functionality of the electronic resources and the general facilities of digital libraries. Electronic resources have unique characteristics and advantages than the print resources. However undergraduate do not consider using electronic resources as long as they retrieve free information on the web.

The pattern of utilization of electronic resource in developed countries is different for those of developing countries. Egberongbe (2019) the results of the study showed that the use of electronic resources is common among researchers and scholars in Lagos but nevertheless the research revealed that the use of electronic resources cannot be compared with the investment made to acquire them.

Owolabi, (2016) while investigating utilization of electronic resources by undergraduate students of university of Ibadan in Nigeria the results show that the use of the said

resources is a bit low. Gakibayo and Okello-obura (2018) the findings of their research showed that students could exploit the many advantages, benefits and opportunities of electronic resources but the supposition from the study is that there is low usage of electronic resources in Mbarara university in Uganda. According to Mawere and Sai, (2018) an investigation on e- resources utilization among university students in developing countries, the research provided an insight on e- resources utilization with reference to universities in developing countries. The young generation who are digital natives or who are said to be born digital and in the digital era, it's manifested from the findings of this research that their application of technological innovations in education is quite poor and wanting.

In Kenya, a study by Wendo (2018) on access and use of electronic journals by students and academic staff at USIU library the study concludes that several databases are outdated and their access and use is low. The study also notes that the frequency of accessing e- journals is low and generally there is a low access rate.

2.7 Challenges in utilization of electronic library resource

Several factors have been identified in the literature that hinders college students from using sources effectively. They consist of records literacy skills, awareness, availability of digital resources, get entry to electronic databases, value of acquisition/subscription, infrastructure, web connectivity, etc... For example, troubles recognized by postgraduate college students in gaining access to digital resources in Makerere University, Uganda include slow web connectivity, insufficient computer systems and opening hours, the unwillingness of library workforce to help them in the lab, and the price of printing (Okello-Oburu, 2018).

Due to high expectation from the library users, budget limits and rising cost of library material are some of the challenges faced by academic libraries (Nazir &Wani 2018). Kahn and Underwood (2017) state that with the increase in the price of printed journals and books due to higher cost of production and subscription rates 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 high cost of Its equipment Universities are already experiencing financial constraints and decrease of funding from the government, it is becoming hard for academic libraries to afford these resources

In the year 2005 INASP carried out a survey and found out that the use of electronic resources in the African continent faces the following challenges that cannot be ignored if their access and utilization is to be fully realized. The challenges are: Poor ICT facilities, lack of electronic resources themselves, poor connectivity to the Internet poor funding, lack of management support Lack of user education in use of electronic resources and low bandwidth among others

The INASP sentiments are real to some extent. There are some libraries in Kenya that have all these but the usage of e-journals is nevertheless very low. In 2012, INASP was once commissioned to undertake a survey of initiatives that have been in place to enable get entry to digital journals within the developing world. The survey showed that there used to be goodwill among the publishers to make their content on hand as broadly as possible within the growing world, at a low cost, or free.

In Ghana for instance, Agyekum and Ossom (2018) studied the extent of electronic assets usage among tutorial personnel and faculty individuals of Kumasi Polytechnic, the investigations pointed out that even though over twenty databases comprising three thousand e-journals have been subscribed thru the Consortium of Academic and Research Libraries in Ghana, utilization was loaded by means of complication referring to access, sluggish Internet connectivity, regularly occurring energy outages and lack of enough search skills.

In the University of Nevada, Beiseler and Kurt (2017) noted that E-books workflow is hampered by issues to do with pricing, licensing digital rights management and digital formats. Johnson et al. (2018) share the same sentiments and he is of the same view that there is no standard mode for packaging and pricing electronic resources and libraries can best determine the range of purchasing and pricing models to adopt in relation to access agreements and value for money.

Because of the various challenges and technicalities involve in the whole process of acquiring, processing and accessing e- books Beisler and Kurt (2017) showed how their library has shifted from its conservative operation to digitized services incorporating electronic resources on the technical division of the library. Library collections today consist of printed material, electronic resources, subscription databases and open-access resources.

In the 21st-century academic library students expect to without difficulty access digital sources and offerings at a single point. The management of these two collections (print

and electronic) is posing a huge task to librarians thinking about the restricted budgets, expertise needed and different technical problems involved. Kahle (2017) recognized three essential corporations, namely Google, Amazon, and the Internet Archive, have digitized substances at a very massive scale in order for customers to search and purchase resources. The thousands and thousands of archived books have advanced libraries that many can be downloaded in an open-access domain.

Yaya and Adeeko (2019) defined digitization as the process of conversion of analogue educational resources present in the library into digital format for the purpose of extending access and, where appropriate, to assist with preservation and also referred to as the management of new materials created in digital formats. Rafiq and Ameen (2018) that digitization enables the creation of digital libraries by converting analogue contents into digital formats. They further explained that academic libraries globally are custodians of large amount of vital information in print format and therefore it's vital to digitize them. The digitization of these print collection and them being accessed online promotes the general aspect of remote access. According to Obahiagbon and Otabor (2018), the lack of library automation affected Physical Science students, especially undergraduate students, in utilizing the academic library, generally stunted their studies.

Licensing has become an issue of concern among the librarians in that its posing challenges in the area of interlibrary loaning and resources exchange (Strieb & Blixrud, 2017). They surveyed a total of 125 libraries and the study showed subscription from different vendors and publishers revealed a non-disclosure of licence terms with them.

Eisenhauer (2019) defines information architecture as "the art and science of organizing and labeling websites, intranets, online communities and software to support usability". This implies that librarians are people who structure and repackage information resources in the library internet portal to help students retrieve and utilize them effectively. In a different view, Dresselhaus (2016) argues that both Utah State University Eastern and Northern libraries should prioritize their collections and resources to meet the curriculum demands of users. During the whole process of negotiating with the vendors electronic journals should be considered by library managers together with other resourceful electronic resources that are of high demand by students and are useful for libraries cooperation and collection development in general.

Some of the challenges that users of the internet in Africa are confronted range from poor skilled man power, lack of regulations and guiding policies, very high cost of both software and hardware ,erratic power supply and last but not least limited funds from the government. The study further notes that internet access was generally inadequate in academic libraries and advocates for its improvement which will only be possible if there is enough funding graded to the African Region Anie (2019) currently all over the world internet is accessed via wireless connection with local area networks nominated at various points for uninterrupted access everywhere in campus.

As observed by Chandel and Saikia (2018) the main issue facing academic libraries in electronic resources collection development in general includes licensing and copyright issues, organization, maintenance & archiving in consideration that the quality and quantity of electronic resources is slightly complex when compared to print materials. On this Point, Nwosu and Udo-Anyanwu (2018) have been of the opinion that librarians

conceive nicely collection development which encompasses selection, acquisition selection, user studies, stock monitoring, and evaluation, weeding, and library cooperation. This element is at par with the American Library Association's (ALA, 2013) recommendation that library collection development comprises the coordination of selection, collection evaluation, planning for resource-sharing, collection maintenance, and weeding activities.

Patel (2016) in a related study details the steps involved in collection development process, the step are; information need of users analysis, formulation and implementation of selection policy to fit the needs and purpose of the library, acquisition of resources, resources sharing weeding policies and practices. The research extends to give the consideration of properly evaluating electronic resources from content context, structure, access, cataloging ease of use and manipulation and usage statistics. Considering users needs and preferences library collection have transformed to digital structure where users depend more on online electronic resources for accessibility, expediency and speed.

In an associated study, Ajayi, Shorunke, and Aboyade (2017) enumerate that electronic resources are chiefly made handy for academic purposes. The study concludes that elements hindering the superb use of e-resources in Nigerian higher institutions are lack of tactical planning, unskilled workforce, Internet access, inconsistent training, monetary constraints, few computers, and undependable electrical energy supply.

The find out about by Makgahlela and Bopape (2016) on the use of electronic resources by the postgraduate college students at the Delta State University, Nigeria, revealed that, although the postgraduate students had to get right of entry to digital resources, bad

searching skills, shortage of power supply, a confined area in the library and low bandwidth subscription have proved to avert the utilization of electronic resources by the postgraduate students. The researchers advocated proactive measures like the collaboration between colleges and faculty librarians to provide orientation and coaching and to create greater cognizance of e-resources. The library was additionally counselled to deploy generators to aid electricity supply, to set up an unbiased Internet server to grant uninterrupted Internet connection, and to create an institutional repository for open access.

Zinn and Langdown (2019) studied e-book usage among South African academic librarians. The research showed that the trend e-books adoption was gradual among academic librarians in South Africa, and that libraries have preferred both printed and electronic resources. They listed factors hindering sufficient e-book availability to be the high cost of subscribing to the e-books and scarce e-books in most disciplines. The cost of equipment to read e-books, the unreliability of Internet access and the lack of training on how to using e-books were identified as the major factors for ineffective utilization of e-books in South Africa academic libraries.

As discussed by Zhu (2017) the national site licensing of e-resources mannequin that is used in educational institutions involving authorities and large-scale collaborations in America. The paper published that the consortia have to remedy many troubles associated with the complexity of licensing e-resources as in contrast to negotiating with publishers and companies on the individual or collaborative framework. As cited through the author, site licensing emanated from the software industry, but it reserved the legal backing to produce copies of the software to some places for academic or corporate purposes.

The thought of licensing is now not new to libraries. It used to be adopted in the Nineteen Eighties when libraries leased and shrivelled computer tools and accessories. Fortunately, this thinking grew to facts resources in electronic formats which publishers and vendors used it frequently in the Nineties (Zhu, 2017). Therefore, librarians are influenced to come to terms with electronic resource providers and publishers to minimize the challenges of dealing with licensing agreements. There are a whole lot of considerations to harness the facts vendors and the institution partnership to assist remove access complicity and license issues. Adeniji, Babalola, and Ajayi (2018) examined the focus and utilization of e-resources by librarians of the Olabisi Onabanjo University Ogun State in Nigeria. The library had a range of digital assets which included: CD-ROM resources, e-books, e-journals, e-magazines, an OPAC, and Internet and e-mail facilities. This study published that the Internet and e-mail services had been the most used e-resources by way of the librarians. The e-resources were used for multipurpose reasons from in-house legitimate responsibilities to information services for their consumers (Adeniji et al., 2018).

In a related study, Dolo-Ndlwana (2016) examined the use and value of library e-resources through lecturers and postgraduate college students at the Cape Peninsula University of Technology, South Africa. The study revealed that, though the university had notably invested in e-resources and associated computer-based technological know-how to ensure 24/7 accessibility each on and off-campus, e-resources have been usually under-utilized by students.

In a comparable study by Badenhorst (2016) the lookup revealed that, in spite of continuous training and information literacy, the use of e-books used to be low. Although

67% of students had been aware of e-books, only 63% of them used e-books, and 57% preferred using both printed and e-books. Possible constraints identified had been the use of technology, lack of devices to access e-books, inadequate digital literacy, lack of infrastructure, and access restrictions to e-books. Schaub (2019) referred to that 92% of university students in the United States, Slovakia, Japan, and Germany overwhelmingly indicated a preference for studying printed books over e-books. The purpose for this as established by Orgem (2016) that the ease of use of digital assets will surprisingly motivate users.

A survey with the aid of Joshua (2019) unfolded that students at the University of the Philippines, Diliman, were barely utilizing e-resources due to insufficient recognition and training. While the find out about pointed to the truth that students used both printed and digital formats, they strongly affirmed that if enough e-resources were provided, they would like to migrate to digital data retrieval.

This corresponds with findings from the survey by Du Plessis and S Wiese (2019) of South African students' acceptance and use of e-textbooks which concludes that most college students select both printed and e-textbooks. Although the study has revealed that 82% of students hardly ever use e-textbooks, the majority of the college students choose e-textbooks if there had been sufficient and provided.

Both Nisha and Ali (2017), Kwafoa, Osman, & Afful-Arthur (2017) mentioned that over 90% of library customers had been aware of databases at the Indian Institute of Technology, Delhi, the Delhi University, and the University of the Cape Coast, Ghana respectively. Users, if true skilled and furnished with adequate e-resources, using a

"Google-like" portal access approach ought to eventually have an effect on their assessment rating of the library system. Based on this, libraries are stimulated to take a periodic evaluation of the utilization frequency of users in their domain. Akin to this assertion, the study by Owolabi et al. (2016) indicated that the undergraduate students of the University of Ibadan derived pride from the use of e-resources in the college library.

The more latest research on e-resource utilization all concluded that, even though most respondents had access to contemporary and updated e-resources, utilization was once hampered by using low bandwidth, lack of skills, unreliable Internet access, inadequate workstations, inappropriate information in databases, and budgetary constraints (Adeleke & Nwalo, 2017) Based on the findings of this study , the fact that the 21st-century user prefers online information (Kumah, 2018), supported by Kahn and Underwood (2018), predicts that "with an alternate in the way libraries operate comes the need for librarians to be inclined and in a position to change as well".

According to NASIG (2018), a core competency for e-resource librarians is an in-depth grasp of the components of the life cycle of e-resources (fig.3) to intermediate between users of e-resources, to organize information more efficiently and to maintain the core values of acquiring, accessing, administering, aiding and evaluating resources.

Fig. 3. E-resources life-cycle (Pesch, 2009)
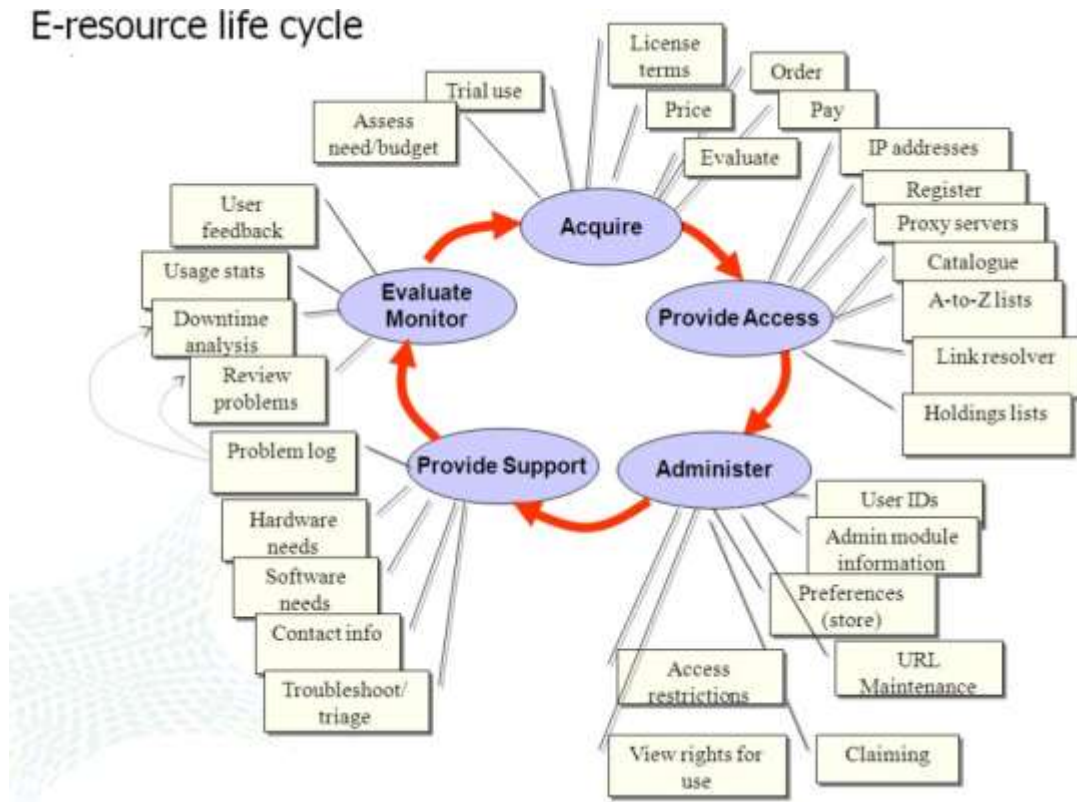
Source: Pesch, (2009)

The above Fig. 2 on e-resources lifecycle denotes that librarians must be proactive and be able to evaluate, acquire, access, administer and support e-resources to their users (particularly students and academics) in a more efficient manner, otherwise, these e-resources if at all supplied would be underutilized or users would not be aware if they are provided for the use.

Librarians say that the lives of e-sources are as complicated and tough as those of human beings: e-resources are born, and at times in addition they die or are reincarnated under a specific name or in a one of a kind form; they form households, and the households might also unite with different households, quarrel, or break up; treaties between households are signed and may be later discarded; and so forth. Preserving in thoughts that change is constantly a possibility, we can now study the lifestyles cycle of an e-resource.

a) **Discovery**

The cognizance of a new e-resource originates from a college member's request, are commendation from a subject librarian, an advertisement, a message in a forum, or any other source. The librarian then locates information about the e-resource data that would possibly include, for example, the bibliographic small print of an e-journal, the coverage period available, the applications that encompass this e-journal, and the interface or interfaces via which such packages are offered.

b) **Trial**

In many cases, a librarian will desire to attempt out an e-resource earlier than determining whether to buy a license for it. A trial allows the librarian to provide the e-resource to some or all customers – who may additionally consist of patrons and librarians alike – and then base a decision on their feedback. During the trial process, the librarian activates the e-resource in the preferred areas of the library environment, notifies the applicable audience, and obtains feedback. Librarians pay sizeable interest to particular issues when

trying out an e-resource. One example is the technical infrastructure required by the person interface.

The librarian needs to document troubles related to internet browser and plug-in compatibility, which may have a have an impact on how browser configurations are rolled out to library and faculty computers or even whether the institution can aid the interface at all. Furthermore, the testers need to evaluate the usability of the interface, because the library can also nicely have a desire of interfaces from exceptional companies of a package deal of sources or subsets thereof. When the trial is complete, the librarian ought to be able to justify the choice of interface to the institution as a whole as well as to its more than a few departments

c) Selection

Once the trial is over, the librarian decides whether to acquire the e-resource. A decision now not to purchase the e-resource results in its deactivation in the library surroundings (if it had been activated until now as part of the trial process).

d) Acquisition

If the librarian decides to go ahead and subscribe to the resource, he or she incorporates an acquisition system that somewhat resembles the system for print resources; however, an extra level of element is required, such as records about the license and the availability of the resource to a range of populations of users. Also, when a library is acquiring e-journals as part of a bundle from an e-resource aggregator, such as EBSCO, the librarian needs to comprehend which journals are included by using the package deal and for what length of time; ideally, the librarian would have the option to pay one lump sum for the complete bundle or to pay one by one for each title. Furthermore, the print and electronic

codec's may additionally be linked in such a way that cancellation of the print layout would invalidate the license settlement for the digital format. Another issue is how to deal with the distribution of a price between the licensor of the package deal and one or more interface providers.

e) Access

Access of course, is an important difficulty when dealing with e-resources. Once a library has received an e-resource, the librarians want to make certain that it is well used. First, they need to make certain that customers can get admission to it without problems – for example, from an A-Z list; from the OPAC, if relevant; from a meta-search tool; or by a linked server. Issues such as access by using specific user organizations or by far flung users (for instance, proxy setup) additionally want to be solved. After the preliminary configuration of access, which would possibly have been taken care of, at least partially, at the trial stage, librarians have to deal with pursuits maintenance, problems such as the transient unavailability of the resource, and changes in the provider's address or the manner access.

f) Decision to renew or cancel

An e-resource subscription is usually legitimate for a described time period. When the length ends, the librarian must either renew the subscription or cancel it. Unlike the choice at the decision phase, this selection is based totally on the data collected in the management system, such as the real utilization of the useful resource whilst it was once available, the reliability of the interface, and the responsiveness of the provider. Whatever the outcome of the selection – renewal or cancellation – the device wishes to aid it. Furthermore, even after a subscription has been cancelled, the library would

possibly have perpetual get entry to or archiving rights to the data, another location that librarians need to deal with on an ongoing basis.

The description provided here is a simplified version of actual life. Many e-resources these days are bought via consortia, which wield large buying power. In a consortia environment, the tactics involved in acquisition, access, and choice making are a great deal and more complicated.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section presents the techniques that were used in conducting the study. It include the research design, study population, sample sizes and sampling techniques data collection methods and data analysis together with information on ethical issues that were applied during the research process.

3.2 Research design and study area

The research methodology involves the tactics to be followed in conducting the study. The research methodology in this study supplied data on aspects such as population, data collection approach adopted, and sampling techniques. The study adopted a descriptive survey design. The use of the quantitative techniques was necessary for this study, as it led to a higher understanding of the research trouble and gave a complete view of electronic information resources and their utilization in MMU. For the reason of this study, a quantitative research method was adopted in order to solicit views from library customers by means of the ability of questionnaires.

A research strategy is a typical method to how the research plans on providing solutions to the research question. The research strategy adopted in this study is a survey. A survey approach is basically the most famous facts amassing approach (Neuman, 2018). This study centered on the usage, experiences, and reason of electronic information resources. The bendy persona of a survey was once particularly relevant for the study as flexibility allowed representation of the demands and circumstances of the research problem.

survey research is generally quantitative in nature (Neuman, 2018). Since the research was based totally on the utilization of electronic information resources in public universities, a survey was once a beneficial and suitable research method for this unique research. The survey provided accurate, valid, and dependable data. In the quantitative paradigm, the data accrued needed to be quantitative in nature in order to explore complex holistic patterns. Descriptive design permitted the construction of inquiries that help to solicit the desired information. The location of the study was Maasai Mara University in Narok County.

3.3 Target population

The target population for this study was the undergraduate students of Maasai Mara University. (Kothari,2019) defines population as a complete set of individual or objects with common observable characteristics. Neuman, 2018 also defines 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 on their second and fourth year of their study were 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.

3.4 Sample size and Sampling technique

3.4.1 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 & Schindler, 2017). 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,

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

Where:

S = sample size

X = z value (1.96 for 95% confidence level

N = Population size

P = population proportion9expressed as a decimal assumed to be 0.5(50%) for maximum sample size.

d = degree of accuracy (5%) expressed as a proportion (0.05) margin error

Then

N= 3180

X =1.96 for 95%

P= 0.5

d =.05

S =   (1.96)2 x (3180x0.5) (1-0.5)

        (0.05)2(3180-1) + ((1.96)2 x 0.5) (1-0.5)

S =   3.8416x1590x0.5

        0.025x79.375+0.9604

S = 343

Sample size was 343 students.

3.4.2 Sampling technique

In order to achieve the objectives of the study, the research applied purposive stratified sampling technique. This technique allowed the researcher to make personal judgment 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 to more reliable and detailed information (Kothari, 2019). Neuman (2018) defined purposive sampling as a judgment sampling in which the researcher utilizes a wide variety of methods to place all possible instances of a fairly precise and tough to reach population. Similarly, Appau-Yeboah and Yeboah (2017) defined this sampling technique as the system decision in which the researcher uses his/her personal judgment to determine which sample is appropriate for the research. It is based on the personal standards and views of the researcher on a giant group of humans. 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	2nd years	4th 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

Undergraduates	Total population	Sample size	Percentage
2nd years	1680	178	52%
4th years	1500	165	48%

Source: MMU student records 2020

3.5 Data collection method

For this study the preferred method of data collection is by was the use of questionnaires. The data was 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 analyze 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.

3.6 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 decreases reliability increases. A pilot study was undertaken to ascertain the validity and reliability of the tool that was used.

3.6.1 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 presences 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.

3.6.2 Pilot study

A pilot test involving 16 respondents who are on their third year of study who were not 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 data collection procedure; thus set the stage for 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 o test the reliability of the instrument the alpha reliability coefficient was performed using SPSS package version25 and it yielded a coefficient of.089. The actual study was rolled out as soon as the results of the pilot study were deemed valid and satisfactory.

3.7 Data analysis

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

3.8 Logistical and Ethical considerations

Logistics in research is all activities and processes that need to be carried out   for the research to be successful. The logistic are pre-field work field work and post field work logistics. According to (Khamadi, 2014) in 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 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 research period;

First, 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 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. Secondly, Informed consent - participants should have a clear idea to what they are engaging to this will be necessary to gain their trust and confidence. Permission was obtained from all those who provided data for the research. Third is Confidentiality and anonymity- was vital for participants who would like to remain anonymous while participating in the research. Fourth Acknowledging sources- in good faith the researcher acknowledged other researchers cited in the study as it's the basis of academic work. Fifth is Objectivity- the researcher works in MMU and so it was important not to be bias on opinions at the same time giving both sides fair consideration.

CHAPTER FOUR

DATA ANALYSIS PRESENTATION OF THE FINDINGS

This chapter presents the data, analysis and interpretation based on the research questions concerning the data collected from the respondents. Background information, types of e-resources, frequency of access and use, Location of accessing electronic resources, Internet connectivity, Purpose for using electronic resources, Frequency of accessing electronic resources, Approaching the librarian for training, Training in the use of electronic resources, and finally Challenges faced while using electronic resources are discussed below.

4.1 Introduction

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

4.2 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 tables below

4.2.1 Gender of the respondents

Gender was considered as an important factor in this study for the students in relation to the utilization of electronic information resources. Since different gender has different perceptions on the access and utilization of electronic information resources.

Table 2: Gender of the respondents

Gender	Frequency	Percent
Male	170	63.9
Female	96	36.1

Source: Author, 2021

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

4.2.2 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 analyzed effectively considering their age groups. The results were presented in table 3 below.

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%) and 19-21years 67(25.1%) and a few fall above the age of 25years 27(10.1%). It was the opinion of the researcher that majority of the respondents are of young age and who are considered to be digital born. This is interesting as this age bracket is the age where students might be having advanced skills in technology.

4.2.3 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.

Table 4: Year of study

Year of study	frequency	percentage
2nd year	138	52
4th year	128	48

Source; author, 2021

The results presented in table 4 above indicate that majority of the respondents are in their second year of study 138(52%) and those in the their fourth year are 128(48%)

4.3 Different types of electronic resources

The study sought to establish the various types of electronic resources available for access by students via the university web page as shown in the table below. As revealed by the table 5 below106 (39.5%) whom are the majority of the respondents use electronic journals,25.2% used the institution repository,19.8% choose the OPAC 10.2 %and 5.3% preferred to use electronic books and online databases respectively. The study revealed that majority of the respondents used electronic journal as their preferred electronic information resource. The study agrees with Kenchakkanavar, (2019) 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

4.4. Location of accessing electronic resources

The study sought to establish the location which students access electronic resources most often, which the results are shown below. The outcome from the findings clearly indicates that majority of students' access electronic resources from the library 53.2%while 28.4% preferred to use the university computer lab while 18.4% accessed electronic resources from home. It is of interest to note that the respondent are aware that it is possible to access electronic information from anywhere and they do not need to rely only on access from inside the library.   The study reveals that many students/respondents used the university library as their preferred access place for electronic resources.
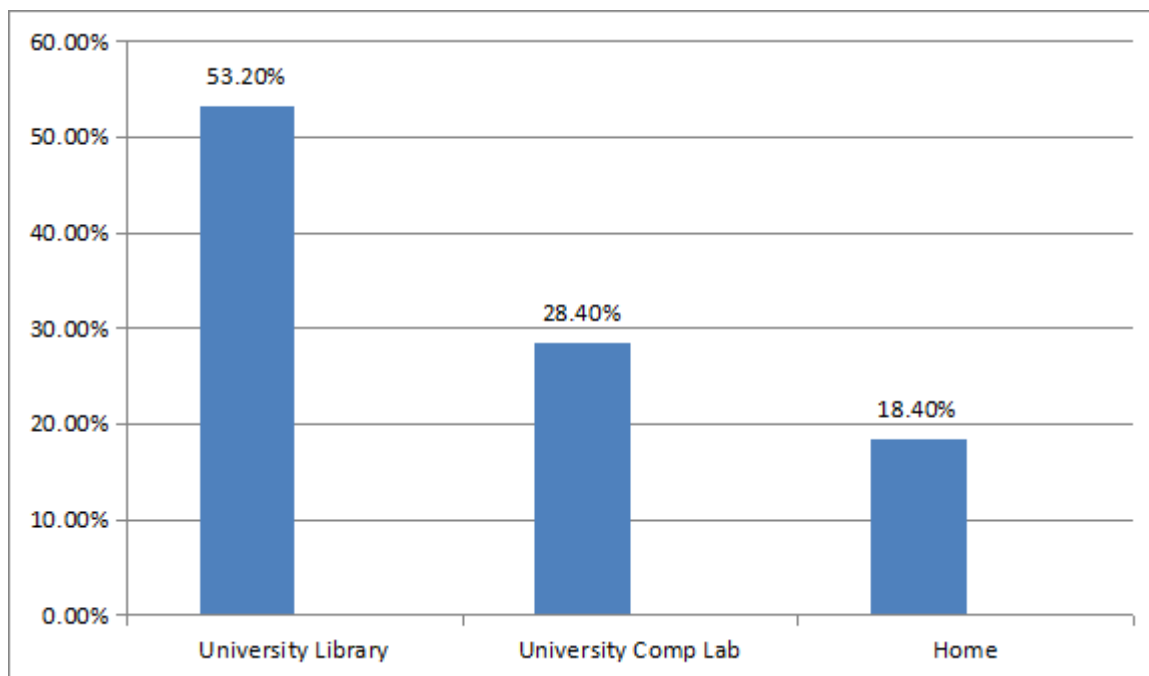
Source: author, 2021

Figure 4: Location of access

4.5 Internet connectivity and access of 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 are tabulated in the table 6 below. The findings from the study indicate that 114(42.9%) respondents attested that internet connectivity and access to electronic resources in the library was reliable. While 63(23.8%) said that connectivity and access was very reliable. 38(14.3%) noted that it was unreliable and 51(19%) were uncertain. Moreover the findings propose that connection to the internet was not one the critical challenges that affect the utilization of electronic information resource since respondents attested that internet connectivity and access to electronic resources in the library was reliable The study established that internet connectivity and access of electronic resources in the library was 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

4.6 Purpose for using electronic resources

The figure 4 below is the presentation of the findings on the study on the purpose why 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% of the respondents use electronic resources for research and another 80% used it 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 &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.

Figure 5: Purpose of using e-resources
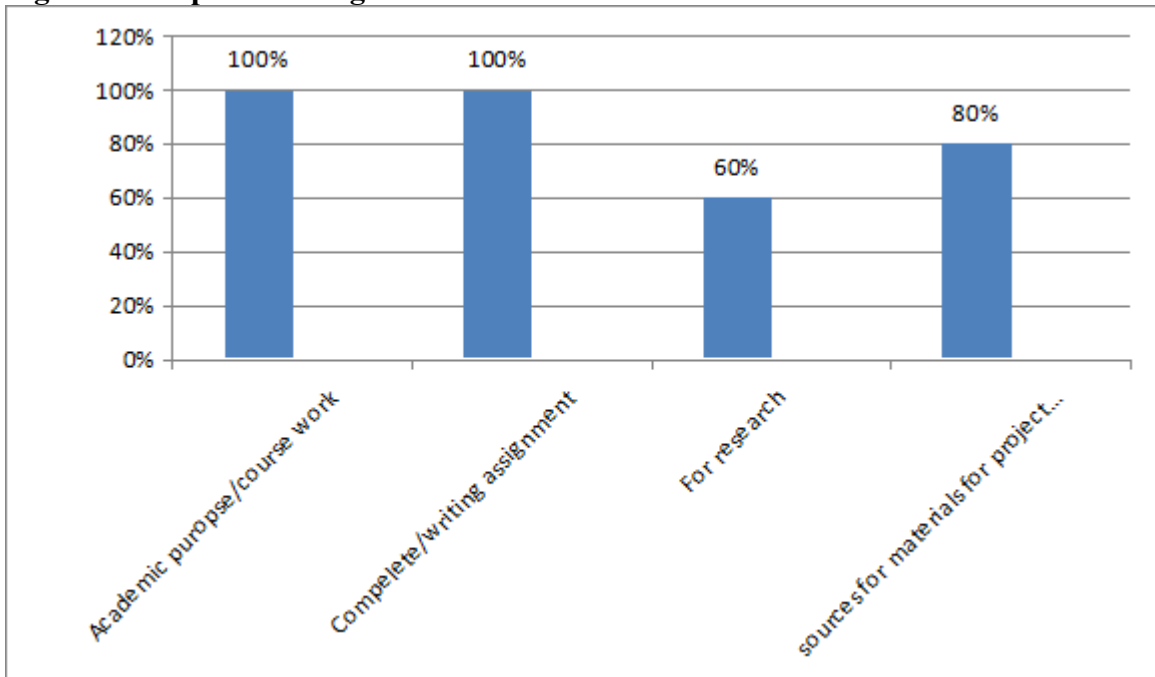
4.7 Frequency of accessing electronic resources

The study sought to find out the frequency at which respondents accessed electronic information resources. The study findings indicate that 128(48.2%) of the respondents occasionally access electronic resources 85(31.7%) indicated that they often access electronic resources.32 (11.8%) rarely access electronic resources while21 (8.3%) 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 (2019); Oyedapo and Ojo, (2017), and Wendo (2018) who found out in their research that electronic resources are not frequently accessed leading to low use of the same.

Figure 6: Frequency of access
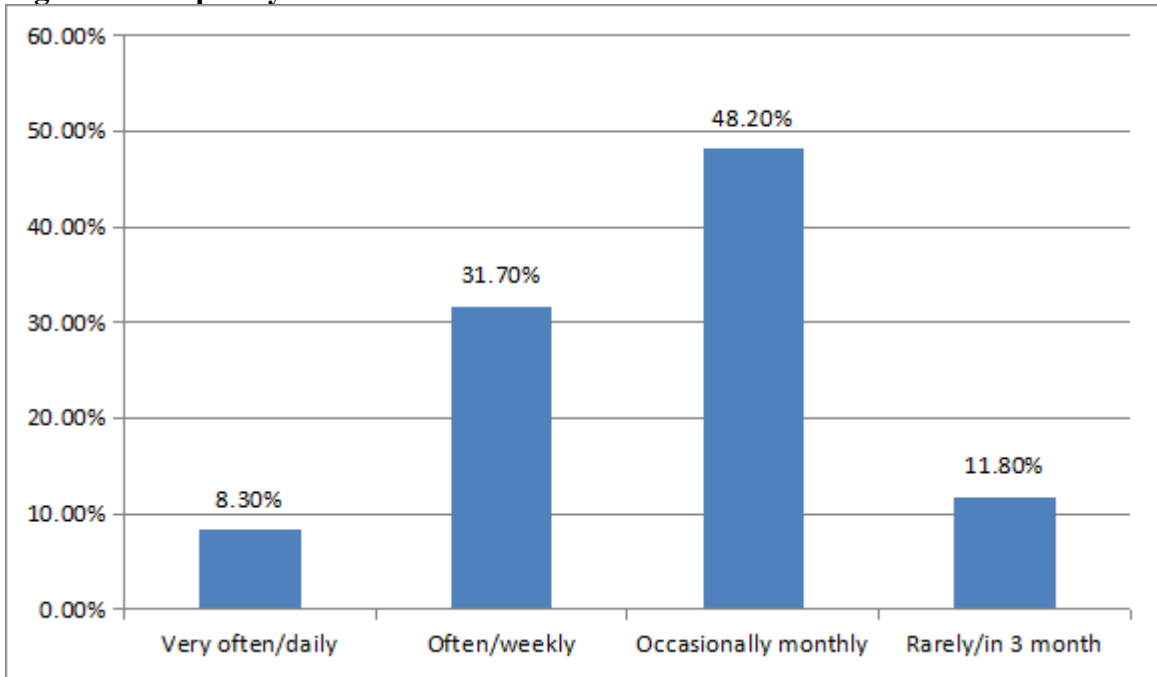
Source: author, 2021

4.8 Approaching the librarian for training

The study sought to find the rate at which respondents approach librarians for training and assistance on the access of electronic resources. The findings are given on the table below. From the results of the study41.9% responded that they seldom approach the librarian for training on the use of resources.20.2%stated sometimes while 13.3%of the respondents noted often. On the other hand 24.6%never approach the librarian for training at all. In line with the findings it is evident that 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

4.9 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% were trained. Majority of the respondents 72.2% 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.
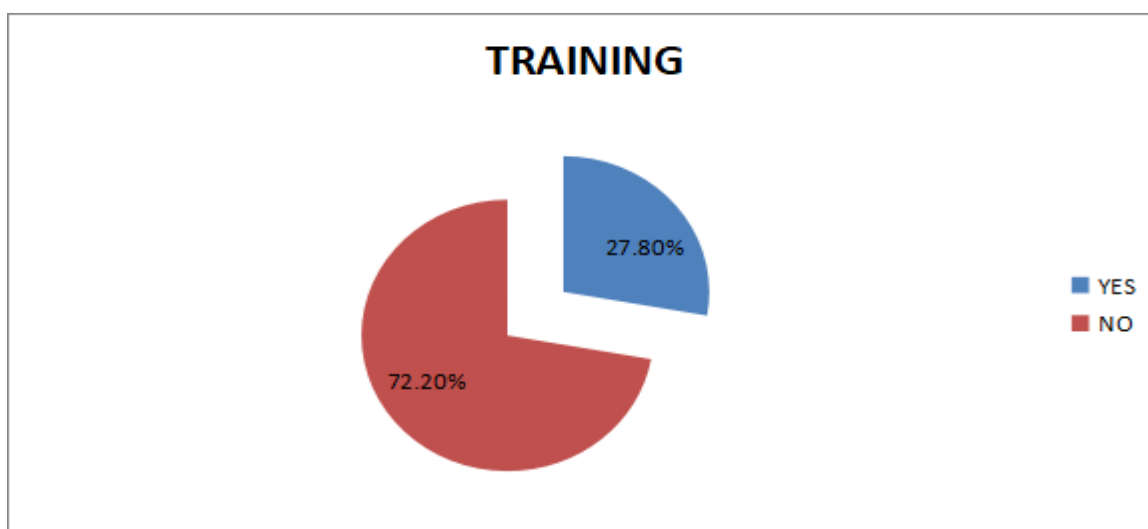
Figure 7: Training on use of e- resources

4.10 Adequacy of training

On the adequacy of the training no respondent indicated the training was either very adequate or poorly adequate.56% of the respondent indicated that the training was adequate and 44% said it was fairly adequate.

Table 8: Adequacy of training.

Training Adequacy	percentage
Excellent	0%
Very Good	32%
Good	56%
Fair	12%
Poor	0%

Source: author, 2021

4.11 Opinion on electronic resources

The study sought to establish the opinion of the respondents about various aspects regarding electronic resources. The findings imply greatly that many users expressed lack of training as the major problem that hinder the utilization of electronic resources and that students are familiar with electronics resources and also a majority of the respondents' disagree with the statement that students regularly seek online help from the library staff. This indicates that the respondents had expressed lack of training as the major problem in access and utilization and they really seek online help from the library staff.

Table 9: Opinion on e-resources

Statement	Strongly agree	Agree	undecided	Disagree	Strongly disagree
Students are familiar with e-resources	46%	54%	0	0	0
Lack of training is the major setback for access and utilization of e- resources.	78%	22%	0	0	0
Students usually seek online help from library staff	0	0	2%	68%	30%

Source: author, 2021

4.12 Challenges faced while using electronic resources

Identifying the major challenges that hinder access and utilization of electronic resources was also an objective of the study. 72% indicated inadequate computers and access points, 80% sited lack of adequate search skill, 78% said lack of appropriate training on access and utilization of electronic resources while 43% pointed out that a lot of information being retrieved is a problem and only 38% indicated poor network connectivity. in fact inadequate computers and limited access points, inadequate search skills and lack of appropriate   training on the utilization of electronic information resources are not only a challenges at Maasai Mara university but also in other institution of higher learning in other parts of the world see, (Khan, 2016), Okiki (2018) contends that information overload is a contributing factor to low usage of electronic resources.

Table 10: Challenges faced.

Problem	Frequency	Percentage
Inadequate computers/access points	192	72
Lack of adequate search skills	213	80
Lack of appropriate training on access of e-resources	207	78
Poor network connectivity	101	38
A lot of information that is retrieved.	114	43

Source: author, 2021

4.13 Strategies to improve on e-resources utilization.

To elicit the respondent's contribution to the improvement of electronic resources access and utilization, this was an open ended question to let the patrons make suggestions. The following are some of the suggestions that came up.

Provision of more networked computers.

It was noted with a lot of concern that there is shortage of networked computers in the library. The same findings were also found in a study by Haliso (2019) and other studies that investigated information Technology challenges in libraries and information centres. The respondents gave the following comments with regard to provision of networked computers in the library:

> *"Very few computers in the library, it is really difficult time wasting and frustrating waiting to get access of the machines"*

Lectures to insist students to use e-resources

The inadequate search skills were cited as one of the major challenges that students face in utilizing electronic resources in the MMU Library. The quote bellow from the respondent supports it.

"Not *finding some of the information that you are looking for on the databases. It can only be improved by lectures giving us assignments that we can find information relating to the topic that they give us. Because they also tell us that we must use the E- books and e- journals from the library data base"*

The best improvement that have been suggested by the respondent:

**"Through lectures motivating us to use such resources as form of comprehensive information and that regulates us form learning on how to access these materials. As most of them, I never knew they had existed since I have done this survey"*

Library to do awareness campaigns of e-resources.

The utilization of library information resource can be improve by doing Marketing and awareness campaigns as quoted by the respondents

"The Library should introduce out- reach programmers and vigorous Promotions on the use of electronic resources in order to ensure that electronic information resources are well marketed.

More training on search strategies techniques and skills.

Training should continue being provides to library users to further increase the number of effective uses. On the issue of training the respondents suggested as quoted below.

"Library orientation and training should be made a compulsory provision to the first years student."

"We should be taught about effective search strategies to alleviate the electronic search process"

Continuous training of library users on access and use of electronic resources will decrease the number of students who rely on other sources for information and consequently improve on the utilization of electronic resources at MMU Library.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENATIONS

5.1 Introduction

The chapter presents summary of the findings and recommendations of the study guided

by objectives ad research questions. The main aim of the study was to investigate the use

of electronic resources by students at Maasai Mara University.

The objective of the study included to:

1.   Identify the types of e- resources available at MMU Library.

2.   Assess the utilization of e- resources.

3.   Identify the major challenges in utilizing e- resources.

4.   Suggest possible solutions to the identified problems.

5.2 Summary of the findings

The study's findings are summarized as follows

5.2.1 Demographic information of the respondent.

The study revealed that 64% were male and 36%were females also majority of the

respondents were between 22-24 years. 52% of the respondents were in their second year

while 48% were on their fourth year. This means that the respondents are well informed

to give dependable responses.

5.2.2. Types of electronic resources

ICTs development has led to the advent of 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 4.4 showed that the most used electronic resources are the e- journals followed by access to the institution repository (IR), followed by the OPAC E- books and lastly the online Databases. The findings are in line with the findings of (Kenchakkanavar, 2019). 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 access and use.

5.2.3 Accessibility of electronic information resources.

Electronic resource utilization has increasingly become an important function of all academic libraries in the current era. The study has revealed that majority of the students access the electronic resources form 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 in 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, 2018 that electronic resources enhance the effectiveness of research and academic work. The findings also concur with Elia and Ndenje-sichalwe, (2018) a study on utilization of e-resources to support teaching and learning that points out that e- resources have brought about dramatic change in learning and teaching.

5.2.4 The utilization of Electronic Information Resources

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 figure 4.3. The findings are in line with the findings of (Okongo, 2016).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 show that 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.

5.2.5 Challenges in utilization of electronic information resources.

Research findings of this study designate that concurrent challenges undergraduate student's face in their quest to access electronic resources. According to this study the results have shown that the respondents are aware of electronic resources but the access and usage is low as many of the respondents admitted of accessing the resources occasionally. The reason for low usage and access was mainly due to lack of adequate

search skills, lack of appropriate training on accessing the resources, inadequate computers and finally poor network connectivity.

Despite the overwhelming benefits of digital resources users nevertheless face some challenges with the use of electronic information resources. This vogue is observed in other universities across the continent. For instance, Mbarara University Library Uganda showed low utilization of e-resources and this is shown in the library statistics, registers archives, and information received verbally as low usage of digital resources used to be mentioned as a challenge to the library management. Another study also published low utilization even though the university library conducts workshops, and seminars and communicates to college students in many instances about the reachable e-resources; college students are no longer productively using digital resources.

5.3 Conclusions

E – Resources are very costly and as a result its vital for MMU Library administration to be informed about the extent of use and the troubles related with 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 monies invested in its procurement.

5.3.1 Types of electronic resources

The leading means of gaining access and   understanding in scholarly articles is now through electronic information resources of Maasai Mara Uuniversity user centre of population is developing at alarming rate yet the reachable databases do no cut across all academic programs. Based on the rapid increasing size of Maasai Mara Uuniversity

community, it is concluded that these databases are not sufficient to serve the need of the all the users.

5.3.2. Accessibility of electronic information resources.

From the study, it can be concluded that the frequency of access to e-resources is quite low, with most e-resources users gaining access to the assets occasionally. The study also concluded that the availability of e-resources does no longer necessarily satisfy the wishes of users because of low access rates.

The study concluded that most library users do now not go via coaching earlier than they are aware of how to get right of entry to and use electronic information resources. It is clear that the few that go through coaching are helped with the aid of library staff. Dynamic youthful IT savvy university students take e-resources education packages for granted believing that they can without problems manoeuvre via them.

5.3.3. The utilization of Electronic Information Resources

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 the utilization of electronic information resources by students at Maasai Mara University is low. The study also notes that few students ask a librarian for assist 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. In deed professional help is wished and it's the librarian's duty to information customers on making correct use of electronic information resources

5.3.4 Challenges in utilization of electronic information resources.

The study shows that users are faced with numerous challenges while trying to access and utilize e-journals. This is due to inadequate training from instructional librarians on the best way to access and search the available journals. 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.

5.4 Recommendations

Based on the findings and conclusions of this research, the following techniques are advised for adoption in an effort to improve access and use of electronic information resources by undergraduate students at Maasai Mara University. . However, some of the guidelines are geared towards as an institution and greater so, the Library as a department considering the fact that this was a case on the Maasai Mara University library.

1. The University administration and Library in particular should ensure that there are sufficient networked computers with fast Internet connectivity. This will improve the access of electronic resources. This calls for increased procurement of such facilities.

2. Academic staff should sensitize students on the worth of electronic resources to students. Course works assignments requiring the use of electronic resources should be developed. Lectures should include in the assignments the instruction to use at least 6

references for electronic resources. This will compel students to utilize electronic resources and ultimately it will increase the usage frequency of these resources.

3. The library should play active role by commencing well-planned user awareness and user education programs, background sensitization of the electronic resources to the users, and ensure thorough and effective marketing and promotion strategies are enacted to enhance maximum utilization of electronic resource.

4. All the challenges of electronic information sources are revolve round desirable funding and budget cuts the study propose that the library need to foyer for greater funding also the library have to be allocated enough funds to fulfil the library mission of aiding teaching, learning, and research. As revealed and mentioned earlier that academic libraries have limited budgets, which cannot be keep in pace with publishers and vendors of electronic resources , increase price and devaluation of the local currency, the study therefore recommends that selection decision of electronic resources be made with great care taking into account the information needs of the academic community, collection relevancy accessibility usage and the overall cost and inflation.

5. The study also recommends that the Maasai Mara University Library services should develop and offer training programs on regular basis for effective access and utilization of electronic information resources.

5.5 Suggestions for further research

The study investigated the utilization of electronic resources by students in public Universities in Kenya with special reference to Maasai Mara University, due to time and financial constraints the study excluded representative institutions from private

universities, Teachers" Colleges, and Polytechnics. It is suggested that further study be conducted and expanded to these institutions as they are all important educational institutions in Kenya to determine how electronic information resources are accessed and utilized, what systems are in place to enhance access and their use.

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APPENDICES

APPENDIX: 1 QUESTIONNER

My name is Eunice Memusi a post graduate student at Maasai Mara University pursuing a Master's degree in Information Studies. I am conducting research entitled, "Utilization of Electronic Information Resources by Undergraduate Students at Maasai Mara University Library, Narok Kenya."

I will be grateful if you could spare a moment to respond to the following questions on the subject. The Information you provide is strictly confidential and will be used for academic work only. Thanks for your co-operation.

Part 1: Personal Data

1. Gender (please tick)

Male ( ) Female ( )

2. Age

19-21 ( ) 22-24 ( ) 25 and above ( )

3. Year of study: second year( ) fourth year( )

4. Which are the different electronic resources available and accessible through the university homepage?(Please tick)

	Electronic Journals	Please tick
b	Electronic Books	
c	Online databases	

d	Online Public Access Catalogue	
e	Institutional Repository	

      1.   From which location do you access electronic resources most often? (please tick)

	Location of access	Please tick
a	University library	
b	University computer lab	
c	Home	

6. How often do you find the internet connectivity in relation to accessing university library electronic resources and services in the library? (Please tick

      a) Most reliable ( )

      b) Very reliable ( )

      (c)Reliable ( )

      d) Uncertain ( )

      e) Unreliable ( )

Explain the reason for your answer_____

7. Give reasons why you use electronic information resources in the library? (please tick)

      a) Academic purposes/coursework ( )

      b) Complete/Writing assignments ( )

      c) For research ( )

      d) Sources for materials for project writing ( )

8. How often do you use the electronic resources? (Please tick)

      a) Very often ()

      b) Often ( )

c) Occasionally ( )

e) Rarely ( )

9. How often do you approach the University librarian about training on the use of electronic resources? (Please tick)

a) Always ( )

b) Often ( )

c) Sometimes ( )

d) Seldom ( )

e) Never ( )

10. Have you ever been trained on the use of electronic resources in the library? (Please tick)

(a) Yes ( )

(b) No ( )

If the answer is yes, how did you find it useful for your information searching? (Please tick)

a) Excellent ( ) (b) Very Good ( ) (c) Good ( ) (d) Fair ( ) (f) Poor ( )

11. Indicate the extent to which the following statements are true about electronic resources of the library. In the of scale of 1-5

No.	Statement	Strongly agree 1	Agree 2	Undecided 3	Disagree 4	Strongly disagree 5
1	Library users are familiar with the usage of					

No.	Statement					
	electronic resources					
2	Library users have expressed lack of training as a major problem in access and utilization of electronic resources					
3	Students regularly seek online help from the library staff					

12. Indicate the challenges faced when using electronic resources in the scale of 1-5

No.	Statement	Strongly agree1	Agree 2	Undecided 3	Disagree 4	Strongly disagree 5
1	Lack of adequate search skills/techniques.					
2	Inadequate computers and access location					
3	Poor internet /networks connectivity					
4	Lack of appropriate training on access and utilization					
5	A lot of information is retrieved					

Indicate any other challenges faced while using electronic information resources_____

_____

13. Please give any possible solutions or suggestions/improvements on the library electronic resources

_____

_____

APPENDIX II: APPLICATION FOR RESEARCH PERMIT

MAASAI MARA UNIVERSITY

(OFFICE OF THE DIRECTOR, POSTGRADUATE STUDIES)

TEL.. No.0722346 419   P. O. Box 861-20500
Email: graduatestudies@mmarau.ac.ke   NAROK, KENYA

Ref/MMU/AA0328/45/ VOL 1 (62)   Date: 21st June,2021

Council Secretary,
National Council for Science and Technology,
P.O. Box 30623-00100
NAIROBI-KENYA

Dear Sir/Madam,

**RE:APPLICATION FOR A RESEARCH PERMIT FOR: EUNICE MEMUSI, REG. NO.
SM06/MP/MN/8246/2018.**

I wish to recommend the above candidate for a permit to enable her collect data for her research.
She defended her proposal at the School of Science & Information Sciences successfully and has
made the necessary corrections. The title is *"Utilization of Electronic Resources by Students in
Public Universities in Kenya: A Case Study of Maasai Mara University."* She therefore qualifies
for a permit to conduct research.

Any assistance accorded to her will be highly appreciated.

Thank you.

MAASAI MARA UNIVERSITY
P.O. Box 861 - 20500
NAROK

2 1 JUN 2021
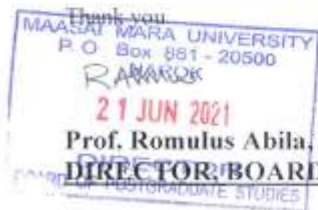
**Prof. Romulus Abila, PhD.
DIRECTOR, BOARD OF POSTGRADUATE STUDIES**

APPENDIX II: NACOSTI LETTER

Ref No: **843608**

Date of Issue: **19/July/2021**

RESEARCH LICENSE

This is to Certify that Miss.. Eunice Memusi of Maasai Mara University, has been licensed to conduct research in Narok on the topic: UTILIZATION OF ELECTRONIC RESOURCES BY STUDENTS IN PUBLIC UNIVERSITIES IN KENYA: A CASE STUDY OF MAASAI MARA UNIVERSITY. for the period ending : 19/July/2022.

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