

**EXAMINING THE AVAILABILITY AND USE OF ELECTRONIC RESOURCES
BY POSTGRADUATE STUDENTS AND ACADEMIC STAFF IN ACADEMIC
LIBRARIES IN TANZANIA: A CASE STUDY OF MUHIMBILI UNIVERSITY
OF HEALTH AND ALLIED SCIENCES LIBRARY**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT FOR THE
REQUIREMENTS OF THE DEGREE OF MASTER OF LIBRARY AND
INFORMATION MANAGEMENT OF THE OPEN UNIVERSITY OF
TANZANIA**

2019

CERTIFICATION

The undersigned certify that he has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation titled "Examining the Availability and Use of Electronic Resources by Postgraduate students and Academic Staff in Academic Libraries in Tanzania: A Case Study of Muhimbili University of Health and Allied Sciences (MUHAS) Library" in partial fulfilment of the requirements for the degree of Master of Library and Information Management of the Open University of Tanzania.

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DECLARATION

I, Agnes Modestus Mkolo, declare that this dissertation is my original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

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Signature

í í í í í í í í í í

Date

DEDICATION

This dissertation is dedicated to my lovely Parents Edda M. Mkolo and Modestus C. Mkolo who sent me to school. To my beloved fiancé Msafiri Y. Mkonda for his love and support. You are all special to me.

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ABSTRACT

Library users in academic libraries are influenced by information needs such as searching and accessing online materials and other e-resources. This study was set to find out the availability and use of e- resources by postgraduate students and academic staff in academic libraries in Tanzania taking MUHAS library as a case study. This study used a case study research design with application of both qualitative and quantitative methods. Simple random and purposive sampling techniques were employed to obtain 100 respondents made up of postgraduate students, academic staff and library staff. Data were collected using questionnaires, observations, focus group discussions and interviews. Besides, Statistical Packages for Social Sciences and Ms-Excel were employed for data analyses. The main findings of study revealed that the MUHAS library has e-resources such as e-journals, e-books and websites. The study also found that all 100% academic staff and 96% of postgraduate students make use of these e-resources. Apparently, the mostly preferred e-resources were e-journals 97% and websites 91%. However, the study showed that lack of awareness, inadequate training, bandwidth and materials, just to mention a few, were some of the key challenges of using the e-resources. Overall, the majority 71% of academic staff and 58% of postgraduate students asserted that; the available e-resources were not adequate to support user information needs. Respondents specifically pointed that their favorite journals were PubMed which requires subscription fees to be accessible. Therefore, this study recommends the changes to be made in the University strategic plan the library policy reforms to improve information infrastructures. This will raise the standards of MUHAS library and elicit academic performance at university level and Tanzania as a whole.

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LIST OF ABBREVIATIONS

ACRL	Association of College and Research Libraries
ALA	American Library Association
CD	Compact Disc
CD-ROM	Compact Disc Read Only Memory
COTUL	Consortium of Tanzania Universities and Research Libraries
CPUT	Cape Peninsula University of Technology
DUCE	Dar es Salaam University College of Education
DVD	Digital Versatile Disc
FGD	Focus Group Discussion
HINARI	Health Inter-network Access to Research Initiative
ICT	Information Communication Technology
IFLA	International Federation of Library Associations
INASP	International Network for the Availability of Scientific Publication
LAN	Local Area Network
MLIM	Masters of Arts Degree in Library and Information Management
MUHAS	Muhimbili University of Health and Allied Sciences
OECD	Organization for Economic Co-operation and Development
OPAC	Online Public Access Catalogue
OUT	Open University of Tanzania
PERI	Programme for the Enhancement of Research Information
SIDA	Swedish International Development Agency
SPSS	Statistical Packages for Social Science

UDSM University of Dar es Salaam

WWW World Wide Web

CHAPTER ONE

INTRODUCTION

1.1 Genera Introduction

This chapter presents the general introduction, background to the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, limitations and delimitation of the study and definitions of key terms.

1.2 Background to the Study

An academic library is a library that is attached to a higher learning institution which supports the mission of the parent institution (Kumar, 2006). As an integral part of the university, an academic library exists to support the core functions of the university, which are teaching, research and consultancy services in all subject disciplines within the host institution (Gakibayo et al., 2013). Rao and Chowdhury (2009) opined that education and the library are inseparable-invisible concepts, working for the promotion and evolution of teaching, learning and research for greater use of academic library with the proliferation of information resources.

University libraries provide their users with access to a diversity of electronic resources which complement print collections and have become vital tools for research and study (Gutierrez and Wang, 2001). It is acknowledged worldwide that library supports the core functions of parent institutions by providing quality information in various formats. An academic library has a great role in focusing on the needs of its academic community by developing a well-organized collection based on the quality and quantity of the required resources and services. Besides

that, it serves as a university information repository in order to support the institution's mission and vision (Weber and Flatley, 2008).

The revolution brought by ICT has made significant change in the manner libraries are providing services to their users. Libraries join as one to beneficiary from these technologies vis-a-vis internet thus seeing the introduction of electronic resources to the library collection and services (INASP/KLISC, 2011). In 1990 the world saw the availability of electronic resources such as e-journals, e-books and full-text databases in most academic libraries as important sources of information to library users which can easily be disseminated globally (Nisonger, 2003).

The terms availability and use of resources complement each other. It is availability which influences the use. The development and application of ICT has changed and shaped the way information is made available, stored and accessed. Information Communication Technology in an academic library acts as an effective tool for scholarly communication. Through ICT information can be accessed and used globally, it provides multiple access, is richer in content, timeless, allows reuse of information, uses less human resources, provides e-learning facilities, is paperless, exists in a wall less environment as physical space is not required; there are no geographical barriers and provides other ICT benefits (Perera and Chandra, 2010).

This technological development has made significant changes in the academic library field, whereby academic library resources rely not only on printed materials but they also use e-resources to meet the informational need of users. In fact, e-resources can be viewed as an integral part of the collection in academic libraries

and are entrenched in the library collection. Luambano and Nawe (2004) considered electronic resources among the many formats which the library collects to support the entire library collection. These e-resources have changed the way information is stored, processed, disseminated and retrieved. Besides, they also changed the attitudes of academic library users on the way they seek information to support their learning, teaching and research activities (Nkoyo and Nsanta, 2016). In Tanzania, library users in academic libraries are increasingly accessing and utilizing online materials for their academic endeavors. The studies conducted by Msagati (2014), Alphonse (2015), Katabalwa (2016), Mollel (2016) and Mwantimwa et al. (2017) reveals this trend.

1.3 Statement of the Problem

Providing access to, and the use of electronic resources is one of the key components in supporting teaching, learning and research endeavors. The importance of electronic resources as a means of communication in any academic community is that it helps to build up an excellent academic institution as well as quality output to its library users such as postgraduate students and academic staff. MUHAS through COTUL has made significant investments in electronic resources and ICT infrastructures for access of e-resources. However, Bennett (2003) emphasizes this view by pointing out that an academic library should not be seen solely as a traditional storage facility for books or simply as a technology center.

Thus, instead, the library should focus on the process of learning that takes place within its space, bringing resources to learners and experts into easy proximity to facilitate collaborative learning. However, in spite of the importance attached to

electronic resources in the world of academy, issues related to the availability and use of electronic resources at Muhimbili University of Health and Allied Sciences (MUHAS) remain unknown. A number of scholars have investigated the use of e-resources in some libraries but none has studied MUHAS library. For example; Mpembo (2015) investigated Access and Use of Electronic Resources by Distance Learning Students to Support Research at the Open University of Tanzania.

Mollel (2016) concentrated on user attitudes towards the utilization of e-resources at the Institute of Finance Management Library, Dar es salaam, Tanzania. Isowe (2016) investigated the Utilization of Information and Communication Technologies by Distance Learners at the Open University of Tanzania Library in accessing academic information. Katabalwa (2016) conducted a study on use of electronic journal resources by postgraduate students at the University of Dar es Salaam. From the above examples, it can be seen that, in the context of Tanzania, the availability and use of electronic resources by postgraduate students and academic staff at MUHAS has not yet been addressed as there is no study that has examined the use of e-resources. This study therefore, intended to examine the availability and use of electronic resources by postgraduate students and academic staff at MUHAS which trains medical practitioners and academics and needs to be in the forefront in the use of electronic resources so as to be up to date in the rapidly changing information needs in the medical field.

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of this study was to investigate the availability and use of

electronic resources by postgraduate students and academic staff at MUHAS.

1.4.2 Specific Objectives

Based on the general objective, the specific objectives of this study were:

- i. To find out the availability of electronic resources at MUHAS Library.
- ii. To investigate how awareness is created for MUHAS Library users on the available electronic resources.
- iii. To find out the extent to which postgraduate students and academic staff use the available electronic resources in MUHAS Library.
- iv. To identify the challenges that postgraduate students and academic staff face when using electronic resources at MUHAS Library, and seek suggestions on how to solve the identified challenges.

1.5 Research Questions

On the basis of the specific objectives, the study was guided by the following research questions:

- i. What are the available electronic resources at MUHAS Library?
- ii. To what extent are MUHAS postgraduate students and academic staff aware of the availability of electronic resources?
- iii. To what extent do MUHAS postgraduate students and academic staff use the available electronic resources in their learning, teaching and research activities?
- iv. What are the challenges that postgraduate students and academic staff face when using electronic resources at MUHAS Library, and what are the possible solutions to address these challenges?

1.6 Significance of the Study

The results of this study will help decision makers at MUHAS and other medical institutions to make informed decisions on the use of available electronic resources. Knowledge on the availability and use of e-resources will improve the quality of learning, teaching and research. Also, the study will benefit those interested in taking similar studies in the context of developing countries because methods and approaches used by the researcher will help them to conduct further studies of a similar nature. The study will also be used as a spring board for further research in Tanzania and other countries in generating new knowledge. And finally, this study will serve the academic purpose of obtaining a higher degree.

1.7 Scope and Limitations of the Study

Due to financial and time limitations, the study was conducted only at Muhimbili University of Health and Allied Sciences (MUHAS). However, its findings are expected to reflect the situation in other universities and can be replicated in other universities elsewhere. The study was limited to electronic resources available at MUHAS such as websites, online databases, e-journals, e-books, electronic integrating resources, and other information carriers whether free or fee-based.

In terms of limitation, some of the respondents hesitated to give out their information based on the use of available e-resources for fear of revealing their weakness in the use of e-resources. The researcher overcame this limitation by explaining the aim of research and that it will help to build their capacity in the use of e-resources for their own benefit and academic requirements. The study also was limited in the number of academic staff who were able to participate in focus group discussions because of

the nature of their work during data collection, whereby some of them were busy preparing for exams, others were busy supervising the exams and others were busy marking the papers. Thus, the researcher had to wait until the opening of the university when the situation was less constrained. But this was still difficult because academic staff were busy with supplementary exams. In spite of this situation, the researcher managed to get enough respondents for the study.

1.8 Definitions of Key Terms and Phrases

This section provides the definitions of some key terms which were used in this study. Where there is more than one acceptable definition, an operational definition in relation to the study is provided. For the purpose of this study, the following terms have been defined as follows:

Academic Library: According to Akporhonor (2005) academic libraries are libraries attached to tertiary institutions such as universities, polytechnic institutions, colleges of education, agriculture, technology, and research institutes. Also Reitz (2014) furthered the definition of academic library by adding that it is a library that is an integral part of a college, university or other institutions of postsecondary education, administered to meet the information and research needs of its students, faculty and staff. This study concurs with both definitions and uses them as they are.

Academic Staff: The Organization for Economic Co-operation and Development (OECD) Glossary of Statistics Term (2003) defines academic staff as personnel whose primary assignment is instruction, research, or public service. The Free Dictionary (2013) says an academic staff is a member of the faculty of a college or

university usually having qualified status without rank or tenure. This includes staff personnel who hold an academic rank with titles such as professor, associate professor, assistant professor, instructor, lecturer, or the equivalent of any of these academic ranks. This study has adopted the definition by The Free Dictionary (2013), above.

Availability of Electronic Resources: According to Oxford Dictionary (2017) availability is the quality of being able to be used or obtained. Also the Cambridge Dictionary (2017) defines the term availability as the fact that something can be bought, used, or reached. In this study, availability denotes the presence of electronic resources within the libraries that library users such as postgraduate students and academic staff use in supporting their learning, teaching and research activities.

Electronic Resource: According to Johnson et al. (2012) Electronic resources can be defined as the electronic representation of information which can be accessed via electronic system and computer network. Reitz (2014) further defines electronic resource as material consisting of data and/or computer program (s) encoded for reading and manipulation by a computer, by the use of a peripheral device directly connected to the computer, such as a CD-ROM drive, or remotely via a network, such as the Internet. For the purpose of this study, electronic resources refer to electronic representation of information which can be accessed via electronic system and computer network, thus concurring more with the definition by Reitz (2014), above.

Postgraduate Student: Dolo-Ndlwana (2013) defines a postgraduate student as a student who already has an undergraduate degree, and who is studying for a

postgraduate qualification which may be a diploma or a degree such as Masters or Doctor of Philosophy. Collins English Dictionary (2017) says a postgraduate student is a student with a first degree from a university, and is pursuing studies for a more advanced qualification. In this study a postgraduate student is one who has completed his/her first degree and is taking either a postgraduate diploma or Master's Degree or above who helped the researcher to obtain reliable information easily.

Use of Electronic Resource: According to New Webster Dictionary (2004) the term use is defined as an act of employing anything, for example, using information sources such as books, journals, CD-ROMs and others. Also Oxford Dictionary (2017) defines the term use as to take, hold, or deploy (something) as a means of accomplishing or achieving something. For the purpose of this study, the term use means the application of those electronic resources such as e-journals, e-books, websites, e-thesis and others to support the learning, teaching and research activities.

1.9 Organization of the Study

This study is organized into five Chapters. Chapter One contains the background to the study, statement of the problem, research objectives, research questions, significance of the study, scope and limitation of the study, and definitions of key terms. Chapter Two contains literature which was relevant to the study; the main focus was on the theoretical perspective and empirical studies before presenting the research gap and summary of the chapter. Chapter Three covers the research methodology used to collect and analyze data concerning the research problem, specifically research design, population, sample size and sampling procedures.

Chapter Four contains the presentation, analysis and discussion of the findings in accordance with the specific objectives and questions of the study. Finally, Chapter Five provides the summary, conclusion, recommendations of the study and areas for further study.

CHAPTER TWO

LITERATURE REVIEW

2.1 General Introduction

This Chapter reviewed relevant literature on the topic of the availability and use of electronic library resources in academic libraries. The literature is based on the following themes: Concept of Electronic Resources in Academic Library; Availability of Electronic Resources in Academic Libraries; Awareness of Postgraduate Students and Academic Staff on Available Electronic Resources; The Use of Electronic Resources by Postgraduate Students and Academic Staff; The Challenges Faced by Postgraduate Students in the Use of Electronic Resources; and Suggestions on How to Solve the Identified Challenges on the Use of Electronic Resources in Academic Libraries in Tanzania, The Current Status on the Use of Electronic Resources in Academic Libraries in Tanzania, a Conceptual Framework, Research Gap and Summary of Chapter Two.

2.2 Concept of E-Resources in Academic Libraries

According to International Federation of Library Associations (IFLA) (2012:3) electronic resources refer to those materials that require computer access, whether through a personal computer, mainframe, or handled mobile device. They may either be accessed remotely via internet or locally. Some of the common types of e-resources include e-journals, e-books, full text databases, indexing and abstracting databases, reference databases like bibliographies, dictionaries, encyclopedia, E-audio and visual resources. Zhang, Ye, and Liu (2011) note that the electronic resources in academic libraries are an integral part and vital resources in the

academic library field. These electronic resources are raw materials that academic libraries should acquire, stock, and make available to postgraduate students and academic staff in supporting their learning, teaching and research activities.

Ani and Edem (2012) found that the emergence of electronic resources changed the way academic libraries store, process, and disseminate information in an academic environment to support library users such as postgraduate students and academic staff. Abinew and Vuda (2013) added that the application of information communication technology in libraries brought many changes by transmitting the library resources from printed form to electronic form such as e-books, e-journals, e-magazine, e-newspapers and the information is now disseminated globally. This situation leads academic libraries to acquire adequate electronic resources as the best way to meet the information needs of its library users, and encourage them to regard academic libraries as important places where they can make use of the available electronic resources. It has enormous practical implications for academic endeavors.

2.3 Availability of Electronic Resources in Academic Libraries

Availability of electronic resources refers to the presence of electronic resources for immediate use in libraries to support library users in their learning, teaching and research activities. Habiba and Chowdhury (2012) show that academic libraries acquire a large number of e-resources and make them available to their library users such as students and academic staff in order to satisfy their information needs. The availability of electronic resources is very important in academic libraries in Tanzania, like MUHAS, because these e-resources provide up to date and timely information to a broad spectrum of users. They allow easy citation, quick

information, provide downloading options, and provide multiple search options. Therefore, in this study the researcher sought to know the variety of electronic resources available at MUHAS library in supporting the needs of their library users.

2.4 User Awareness on Available Electronic Resources

Awareness influences the use of the available resources in supporting learning, teaching and research activities. Ani and Edem (2012), Kaur and Verma (2009) recognize that awareness of the electronic resources contributes to the use of e-resources because e-resources provide access to a wide range of information, provide quick information, ensure the availability of resources 24hrs a day, facilitate easy citation and provide downloading options, provide hyperlinks and multiple search options compared to printed resources. Obuh (2009) notes that nowadays awareness of electronic resources has become a major concern in academic community. This indicates that the level of awareness on the available resources by postgraduate students, academic staff and library staff and having adequate skills help to maximize the use of available electronic resources in meeting their information needs.

In Tanzania not all library users such as postgraduate students and academic staff are aware of what is happening in academic libraries in terms of new item lists of e-resources in the library stocks. Nkebukwa (2016) shows that the majority of students at the college of Business Education (CBE) were not using e-resources because they were not aware of the available educational e-resources at the institution. The researcher in this study therefore wanted to know methods used to create awareness and how knowledge of such methods is provided to influence the optimal use of

available electronic resources to meet the demands of library users.

2.5 Information Literacy Training

According to the American Library Association (ALA) (2000:1) Information literacy is the ability to locate, evaluate and use effectively the needed information. Information literacy is regarded as a set of skills required to find, retrieve, locate, analyze and use information effectively (Association of College and Research Libraries, 2000). Information Literacy is important because it creates a more informed citizenry coupling it with the bunch of abilities necessary to use the available information effectively. Library users such as postgraduate students and academic staff need to become familiar with the available electronic resources, how to access, evaluate and manipulate the electronic information and use the obtained information for the desired goals.

Dutton (1990) observes that the searching skills required in the use of electronic resources in academic libraries are much more important than those skills required for searching printed resources. Watts and Ibegbulam (2005) show that the use of electronic resources largely depends on the library user skills to locate, access and evaluate the electronic resources available through technology-based terminals. The skills required include a searching strategy on how to conduct advanced online search through different sources, citing and referencing literature and others. This shows that the library needs to provide different kind of training to their library users, also space for one to one consultation, and the library staff should participate in the training.

Therefore library users such as postgraduate students and academic staff need to pay attention to the training provided so that they can acquire adequate knowledge on how to locate, evaluate and use the electronic information obtained through different databases in supporting their learning, teaching and research activities. However, Mtega et al. (2014) argue that for information literacy to enhance the accessibility and use of e-resources, for effective access to, and usage of e-resources, individual and infrastructural factors must be considered as well. For information literacy to be meaningful it should go hand in hand with infrastructure development.

2.6 The Use of E-Resources by Postgraduate Students and Academic Staff

Use of electronic resources refers to the act of employing the electronic resources available in libraries for the purpose of meeting user information needs. Ramana (2006) argues that the majority of postgraduate students, in respect to their field of study, prefer the use of electronic journals in writing project reports and references in meeting their needs such as learning and research activities.

Kaur and Verma (2009) shows that most library users such as postgraduate students in India were using e-journals more than printed journals because electronic resources have a number of advantages such as enabling a user to access the resources at any time of the day, being huge information reservoirs, they provide multiple search options, easy citations, are easy in disseminating information, have flexibility in terms of reuse of information, and others, which result into shrinking the use of printed resources in most academic libraries. This shows that most postgraduate students adopt new ways of using computers in accessing e-resources because this solves their information needs as quickly as possible.

A similar advantage is identified by Egberongbe (2011) who notes that lecturers preferred to use electronic resources compared to print resources because they found it less time consuming, even though they also believed that electronic resources can never diminish the significance and importance of the print resources. Ndubisi and Udo (2013) explain that the use of electronic resources is influenced by many factors such as the variety of information sources available, the intended use of particular information, the background, motivation, professional orientation and individual characteristics of the users.

Most academic staff make use of e-resources available in academic libraries in supporting their learning, teaching and research activities simply because academic staff require a lot of materials to support their teaching and research endeavors; they need to use electronic resources because they provide a link to other resources, they are faster, provide easy access and have no geographical boundaries, and other benefits. Also the study by Katabalwa (2016) on the use of e-journal resource by postgraduate students at the University of Dar es Salaam reported that the majority of students used e-journal resources for working on assignments, research proposal writing, literature review, and research report writings. This researcher, therefore wanted to know the extent of the use of the available electronic resources, the kind of e-resources preferred most and frequently used by postgraduate students and academic staff at MUHAS in supporting their learning and research activities.

2.7 The Challenges hindering the use of Electronic Resources

The use of electronic resources has got many challenges in most academic libraries globally. Library users in Tanzania such as postgraduate students and academic staff

have failed to access electronic resources including E-books, E-journals, Databases, E-conference proceedings, E-Reports, Websites, E-Thesis, E-Magazines, Electronic Newsgroups and others. Wema and Manda (2003), INASP/KLISC (2011:9) and Nkebukwa (2016) reported that budget constraints is a significant challenge that leads libraries and information centers to fail to acquire relevant and update information resources or to subscribe to e-resources, poor connectivity, lack of adequate computers and institutional support.

2.7.1 Lack of Funds to Acquire and Maintain E-Resource

To subscribe for electronic resources needs funds. In developing countries like Tanzania; the major challenges that academic libraries face is shortage of funds as university funding bodies do not see the importance of libraries and thus allocate low budgets. Muller and Chandrasekhara (2006), INSP/KLIS (2011), Samzughi (2016) and Nkebukwa (2016) explain that there are several challenges associated with lack of adequate funds which hinder the effective use of electronic resources. These include lack of subscription fees, lack of training which makes library users fail to locate, access, evaluate and even to use the electronic resources, poor bandwidth, shortage of trained staff, inadequate facilities (computer work station), lack of awareness, inadequate searching skills, power surge and off campus access.

This challenge has great impact on the provision of quality and adequate library services, as it holds back the provision of adequate e-resources, acquiring new computer facilities, training of library users and payment for library staff who participate in the training, subscription to different databases and other services which could enable postgraduate students and academic staff to maximize the use of

the available e- resources for their academic requirements.

2.7.2 Poor Infrastructures

The presence of adequate infrastructure helps users to access information easily. Information infrastructure refers to all the computer and communications hardware and software, ICT infrastructure used to manage tasks in an organization. Infrastructures in most academic libraries in the Third World countries like Tanzania become a major obstacle that inhabits library users from accessing the electronic resources.

Manda (2005: 280), Ndubisi and Udo (2013) and Samzughi (2016) reveal that insufficient computers with Internet facilities, incessant power outage, slow internet connectivity, inadequate ICT infrastructure and difficulty in finding relevant information are challenges militating against the utilization of electronic resources like e-journals, e-books, website and databases and others by postgraduate students. Omeluzor, et al. (2014) point out that lack of personal computers and erratic power supply, among others, are major constraints that slow down the use of electronic information resources by postgraduates in Nigerian Universities, which always affects their research output.

The academic libraries in Tanzania face the challenges of poor infrastructure such as poor internet connection, low internet speed, insufficient computers, which hinder academic library users such as academic staff and postgraduate students from accessing the electronic resources. Therefore the researcher was interested to know whether or not postgraduate students and academic staff in MUHAS face similar

challenges in meeting their information needs while using electronic resources.

2.7.3 Lack of Awareness

The level of awareness on the available e-resources influences the use of resources by postgraduate students and academic staff. Anaraki and Babalhavaeji (2013) and Nkebukwa (2016) found that the major obstacles to the use of the available electronic resources are inadequate information for library users such as postgraduate students and academic staff about the existing e-resources. This provides evidence that even if the library subscribes and acquires the most current and expensive e-resources if the postgraduate students and academic staff are unaware about the available e-resources it means that these resources may not be optimally used. It can be inferred here that creating awareness of the available electronics resources influence its usage.

2.7.4 Low Use of Electronic Resources

The low level in the use of electronic resources in academic libraries is largely influenced by the lack of awareness, lack of information retrieval skill, unavailability of internet facilities, lack of constant internet network, inconsistency in electronic power supply and others. Egberongbe (2011) observes that some of the electronic resources in academic libraries such as bibliographic databases, e-newspapers and e-magazines are not optimally used by library users. This challenge is a result of many factors such as poor background of library users on the use of e-resources, lack of searching skills, lack of consistency in internet connection, lack of reliable power supply, inadequate training and others which make postgraduate students and academic staff fail to realize the value of e- resources in supporting their learning,

teaching and research activities. In this case therefore, there is a great need for a library to continue providing user awareness and training as a means of influencing users to make use of available resources and overcome the challenges of low use which are faced by postgraduate students and academic staff.

2.7.5 Lack of Training

Lack of training on how to use the available e-resources limits the number of postgraduate students and academic staff who make use of the available electronic information. Egberongbe (2011) notes a similar situation and explains that the level of information technology skills among library users is very low and this makes library users to use informal ways to train themselves in order to make use of the available electronic resources. Bakareet al. (2013) identify limited time and lack of effective information retrieval skills among postgraduate students and academic staff as the main barriers in making use of electronic sources.

Okite-Amugboro et al. (2014) note that though there are a variety of electronic resources available in academic libraries, still postgraduate students lack the required information literacy training to enable them to locate, access, evaluate and use the electronic information desired in supporting their learning. Manda (2015), Shija (2009) observed that many institutions do not provide end-user training, leading to users being unaware on how to access and use electronic resources. Therefore the library needs to overcome the challenge of lack of training for postgraduate students and academic staff by providing training and retraining in fostering the use of the available electronic resources in meeting user demands.

2.7.6 Low Speed of Internet Connection

The problem of low speed of internet connection in academic libraries leads to failure in making use of the available e-resources by postgraduate students and academic staff in meeting their information demands. Velmurugan (2013) explains that one of the problems faced by postgraduate students and academic staff is low internet speed which makes them waste their precious time when searching for e-resources. This challenge leads postgraduate students and academic staff to prefer to use their own WIFI which is more convenient to them than university wireless connection. Omosekejimi et al. (2015) add that the factors affecting use of electronic resources is download delay occasioned by slow network problems which makes postgraduate students and academic staff to ignore the use of electronic resources as they are discouraged by low speed of the internet. They have no time to waste.

Academic libraries in Tanzania face the similar challenge of low speed of internet connection due to the limited budget and over-reliance on donor support when it comes to subscribing to strong and good bandwidth. Samzughi (2016) continues that the donor dependency syndrome has a negative implication for long-term sustainability of internet connection. As a way forward, Samzughi (2016) called upon the Government to increase investment in infrastructure which supports higher bandwidth and subsidize the costs for use of bandwidth for educational and research institutions. The library needs to solve the challenge of low speed in maximizing the use of electronic resources by postgraduate students and academic staff.

2.8 Strategies that Have Been Used to Overcome the Identified Challenges

Availability and use of electronic resources in academic libraries has been limited by

many challenges as seen in the previous section. These challenges hinder postgraduate students and academic staff from maximizing the use of those resources. Several authors have suggested various ways by which the challenges affecting the use of electronic resources can be reduced to support their user information needs.

2.8.1 Providing Library Users with Skills

The use of electronic resources requires postgraduate students and academic staff to have greater searching skills than the skills required when using printed resources. Adekinya and Adeyemo (2006) explain that the skills required include the knowledge structure of databases and other strategies such as the use of Boolean operators. Providing searching skills to library users such as postgraduate students and academic staff helps library users to see the importance of electronic resources in their academic activities. User training like information literacy training on how to search literature on different databases, how to make citations, information literacy training workshops and others have been provided to postgraduate students and academic staff so that they become knowledgeable on how to use the available e-resources in meeting their demand.

Besides, publishers provide links with the training material, professional materials and tutorials. However, it is not known how frequently these training are conducted and whether the trainings have been integral part in the curriculum. Therefore an academic library needs to increase the number of training opportunities throughout the year so that postgraduate students and academic staff can be provided with adequate skills in the use of available e- resources.

2.8.2 Increase Awareness to Library Users

Raising awareness of library users helps to influence the use of available electronic resources in libraries. Aina (2014) notes that there is need to increase awareness of the electronic resources to which libraries subscribe simply because there is a large number of library users who are not aware of what is going on in libraries in terms of new stock of e-resources. Libraries can provide awareness through word of mouth, social media, library websites, YouTube, library week, user education programs, library exhibitions, seminars, symposia and workshops and other effective awareness creation methods so that postgraduate students and academic staff become aware of all resources available in libraries and make use of those resources. In order to increase awareness and promote maximum exploitation of information there is a need for libraries to allocate funds for marketing activities (Ndungu, 2016).

2.8.3 Provision of Adequate Funds

Igbo and Dike (2006) suggest that academic libraries be funded directly from the government instead of the libraries to receive their financial support from the university authority. This will help libraries to be assured of the amount of funds provided annually and the university librarians can be accountable for the fund they receive from the government. Also academic libraries can raise the local income which can be generated through the production and sales of different items such as bags, notebooks, T-shirts bearing library Logo, the library binding of student projects and similar projects.

Chimah and Nwokocha (2015) add that the academic librarian and information scientists must recommend the purchases of more up-to-date and accessible e-

resources through the allocated funds as the best way to facilitate easy information dissemination of these resources and making them available to library users in supporting their information needs like learning, teaching and research activities. The subscription to current and relevant e-resources through the allocated budget helps to support user information needs by acquiring adequate e-resources, acquisition of good and strong bandwidth, provision of wireless connection around the University compound and provision of training to library users and library staff and others.

2.8.4 Providing Adequate Skills for Library Staff

The nature of academic librarianship is changing as librarians move away from the creation of materials and into research support roles (Sewell and Kingsley, 2017). Ogbonna (2005) suggests that it is important to increase skills by training and retraining library staff so that they can participate in user training and offer assistance to postgraduate students and academic staff whenever they face problems during the use of those resources.

Adekinya and Adeyemo (2006) insist that there is a need to equip library users such as postgraduate students and academic staff with skills such as information literacy skills, information retrieval skills and computer skills as a means to promote the use of available electronic resources in academic libraries. The training helps library staff on how to handle some modern library facilities and resources. It is therefore, necessary for libraries to conduct more training for their library staff as a means of empowering them with the skills and knowledge to assist in the provision of training to library users in the changing environment.

2.9 The Current Status on the Use of E- Resources in Academic Libraries: Tanzania

The use of electronic resources in academic libraries in Tanzania started during the era of internet whereby libraries started to make use of new technologies for storing huge amounts of information and transmitting the information to any place, anytime without any geographical barrier. The retrieval and dissemination of information were made in more effective ways. These new technologies in libraries brought many changes such as changes on the attitude of library users towards the use of electronic resources which resulted in the academic libraries introducing new tools as the means to retrieve electronic information (Perera and Chandra, 2010).

In the late 1990s internet and WWW made significant increase in the availability and use of electronic resources in academic libraries such as full text journals among researchers and scholars in Tanzania (Msagati, 2014). The first phase started in the 1990s when the University of Dar es salaam introduced the use of CD-ROM facilities to its users (Manda, 2005 and Msagati, 2014). In 2001 the International Network for the Availability of Scientific Publication (INASP) through PERI, introduced the use of electronic resources such as e-journals and databases in research and academic institution in Tanzania (Manda 2005, Oduwole and Sowele, 2006, Msagati 2014).

The International Network for the Availability of Scientific Publication initiatives through (PERI) in 2001 was the first far reaching attempt to introduce the use of full text electronic journals in the research and academic community in Tanzania (Manda, 2001). Nowadays, the use of electronic resources in academic communities

has become a reality as many academic libraries include UDSM, OUT, DUCE, MUHAS and others make use of the those resources. It is through PERI that academic libraries in Tanzania enjoy online full text electronic journals, databases and back up support for document delivery (Msagati, 2014)

Most academic libraries in Tanzania enjoy the membership in COTUL ambit on the use of electronic resources which make them to subscribe to the electronic resources through PERI under the umbrella of the Consortium of Tanzania Universities and Research Libraries which facilitate collective acquisition of electronic resources. It allows users to access and download the required resources remotely by the users of the participating libraries, it provides extensive facilities to the full text databases and e-journals and others COTUL benefits.

2.10 Conceptual Framework

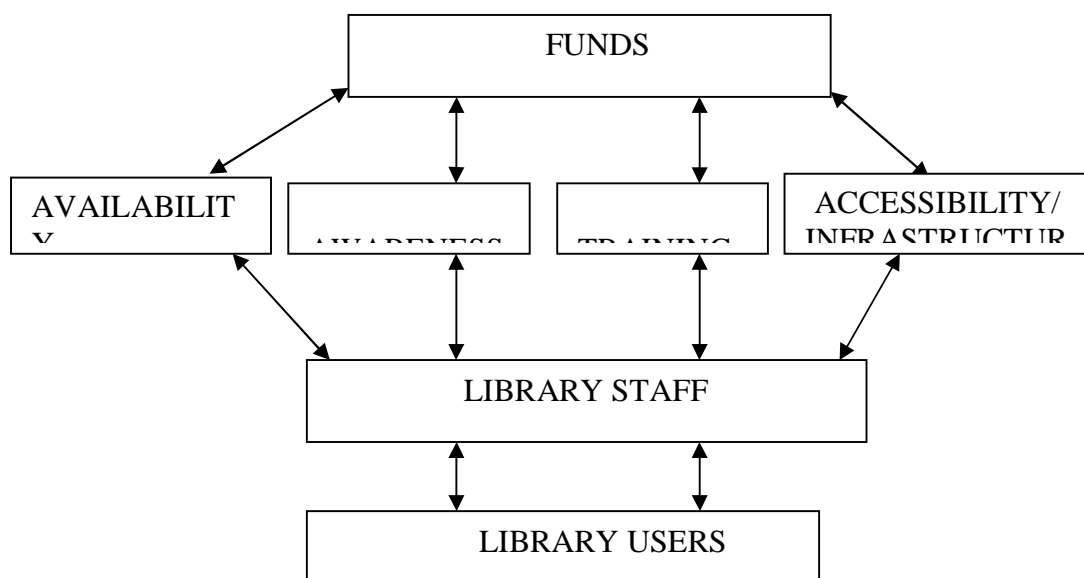


Figure 2.1: Conceptual Framework for Studying the Use of E-Resources by Postgraduate Students and Academic Staff

Source: Created by the Researcher (2017)

This study was guided by the conceptual framework which is the researcher's own construction based on the concepts derived from the literature review. In the conceptual framework, the use of electronic resources by postgraduate students and academic staff constitute dependent variables which are influenced by independent variables such as the availability of e-resources, level of awareness of available e-resources, information literacy training or the accessibility of electronic resources as well as infrastructure.

The framework emphasizes the coordination between different variables. The bottom figure shows library users who are postgraduate students and academic staff. The first row of the figure shows the one who facilitates the use of electronic resources by providing availability, awareness, training, and accessibility or infrastructure to postgraduate students and academic staff and provides support in case library users fail to use the electronic resources. In the second row of the figure are the ones which determine the use of the electronic resources by postgraduate students and academic staff provided in academic libraries. The upper row shows the funds which facilitate the availability of electronic resources, user awareness, training and infrastructure /accessibility of electronic resources in academic libraries and which allow library users to make use of these resources to support their learning, teaching and research activities.

2.11 Research Gap

Though a considerable amount of literature exists on the availability and use of e-resources in academic libraries it happens to be a point of interest in this period of globalization to numerous scholars in the world. However, there has been no

comprehensive study to fill the gap of examining the availability and use of e-resources by postgraduate students and academic staff at MUHAS Library which this study intended to address. It is remarkable that despite the significant role the academic library plays in ensuring that there are enough electronic library resources to support postgraduate and academic staff in their learning, teaching and research activities, the availability and use of these electronic library resources by postgraduate students and academic staff at MUHAS library in Tanzania has not yet been discussed. This is what the study managed to address thus filling the hitherto existing gap.

2.12 Summary for Chapter Two

This chapter has shown that many academic libraries Worldwide facilitate the availability of electronic resources in support of user information needs. The literature has also shown that library users have their own interests in making use of those resources like information searching, scholarly communication and other activities. The literature has shown some factors that hinder the accessibility of e-resources including lack of awareness, inadequate funds, poor infrastructure, low speed of internet connection, unreliable power supply, lack of skills for library staff, high costs of internet connectivity.

Moreover, lack of literacy skills, low use of electronic resources and others which result into low use of the available electronic resources which oppose Ranganathan's Five Laws of Library Science, "books/e-resources are for use", "Every user his/her book or e-resource", "Every book/e-resource its reader", "Save time of the reader" "library is a growing organism". Moreover, the literature has shown various

strategies to be taken so that the library can raise local income to subscribe for strong bandwidth, provision of regular training such as the production and sales of different items such as bags, notebooks, T-shirts bearing library Logo, the library binding of student projects and similar projects.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 General Introduction

Saunders et al. (2009) describe research methodology as the theory of how research should be undertaken, including the theoretical and philosophical assumptions upon which research is based and the implications of the method or methods adopted. This chapter provides the research methodology applied in this study. It consists of the following sections: Research design, Area of study and justification, population of the study; sample size and sampling techniques. It also provides details on data collection methods and instruments, data quality control, ethical issues and data analysis plan.

3.2 Research Design

Kumar (2011) defines research design as a procedural plan that is adopted by a researcher to answer questions validly, objectively, accurately and economically. There are two research approaches, that is the quantitative approach which is based on the measurement of quantity or amount, and data are presented through numbers and analyzed using statistics. The qualitative research approach on the other hand, is concerned with qualitative phenomenon, relating to quality of data represented through expressions, pictures and is analyzed using thematic exploration (Kothari, 2004).

This study used a case study research design with application of both qualitative and quantitative methods. A case study research is an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the

boundaries between the phenomenon and the context are not clearly evident (Yin, 2009). The researcher used a case study which looked at Muhimbili University of Health and Allied Sciences to understand the real life situation on the availability and use of e-resources. A case study approach allows the researcher to use more than one research method like questionnaires, interview, focus group discussions and observation, depending on the situation.

3.3 Area of Study and Justification

The study was conducted at Muhimbili University of Health and Allied Sciences (MUHAS) which is situated in Ilala Municipality, in Upanga ward along United Nations Road. MUHAS was chosen because it subscribes to electronic resources under COTUL arrangements. Besides, the resources used by Medical students are specialized in nature. This development makes the library to become a state of the art centre for knowledge management serving the needs of increasing numbers of Medical students and academic staff. Therefore, it was ideal to choose this Library among others in Dar es Salaam to see whether students and academic staff in the medical profession make use of the available e-resources for meeting their academic requirements, especially in this technological era when the medical field is among the fastest growing sectors worldwide and requires up to date information.

3.4 Population of the Study

Rwegoshora (2006) defines population as people or things with similar characteristics which a researcher intends to study within the context of a particular research problem. The target population for this study was postgraduate students and academic staff. It was drawn from 762 people whereby 456 were postgraduate

students, 288 were academic staff and 18 were library staff. The university has five schools namely the School of Medicine, School of Pharmacy, School of Dentist, School of Nursing and School of Public Health.

Postgraduate students and academic staff were selected because for purposes of this study they are important in that they have adequate knowledge on the use of e-resources and they need current information to support their learning, teaching and research endeavors. Library staff were also involved because they are the ones who provide electronic resources to library users and, because, by virtue of their professional qualifications, they are regarded as reliable sources of primary data such as interviews, on issues of availability and usage of electronic resources. The population of the study and sample size was made up as shown in the Table 3.1

Table 3.1: Population of the Study and Sample Size (N=100)

POPULATION OF THE STUDY				SAMPLE SIZE
Categories	Female	Male	Total	
Postgraduate students	179	277	456	50
Academic staff	114	174	288	48
Library staff	13	5	18	2
Total	306	456	762	100

Source: Field Data (2017)

3.5 Sample Size

According to Rwegoshora (2006), (2014) a sample is part of the population which is being studied to make inference on the whole population. The researcher formulates the category of respondents who were information rich about the problem under investigation. The sample size for this study included 100 respondents drawn from 762 of the total population from Postgraduate students, Academic staff and library

staff. 50 out of 456 postgraduate students was used as a sample and 48 out of 288 academic staff was used as a sample and two out of 18 library staff were included whereby one was Head of Reader Services and the other was Head of Information Literacy Training.

3.6 Sampling Techniques

Best and Khan (2006) define sampling techniques as the process of selecting a subgroup from a larger population with elements necessary for the study. There are basically two types of sampling procedures; probability or random sampling and purposive or non-probability sampling. In this study both probability and non-probability sampling were used to select the required sample for the study. The use of both techniques ensured equal representation of respondents and assisted the researcher to select the respondents basing on the objective of the study.

3.6.1 Simple Random Sampling

Probability sampling is the procedure in which every item of the universe has an equal chance of inclusion in the sample (Kothari, 2004). It is considered to be the best method which represents all characteristics of population. For this study, simple random sampling was used to select postgraduate students and academic staff. The technique helped the researcher to reduce biases in selecting the sample.

3.6.2 Purposive Sampling

Purposive sampling refers to a judgment as to who can provide the best information to achieve the objectives of the study. A researcher only goes to those people who in his/her opinion are likely to have the required information and be willing to share it

with him/her. This type of sampling is extremely useful when a researcher wants to construct a historical reality, describe a phenomenon or develop something about which only a little is known. This sampling strategy is more common in qualitative research (Kumar, 2011). Purposive sampling was used in this study to select the Head of Reader Services and Head of Information Literacy Training. They were purposively selected because of their knowledge and experience in handling information literacy training for both academic and postgraduate students.

3.7 Data Collection Methods and Instruments

Kumar (2011) describes data collection methods as the process of obtaining information from either primary or secondary sources. The study applied multiple data collection methods for triangulation purposes that helped in acquiring complementary information when one method was insufficient. Both primary and secondary data sources were employed. The following sections discuss the methods used in the collection of data and explain the instruments that guided the researcher.

3.7.1 Secondary Data

Walliman (2010) defines secondary data as sources of information that have been subject to interpretation by others, usually in the form of publications. This study used secondary data through documentary evidence such as published and unpublished materials like books, journal articles as well as electronic sources of information such as internet. Secondary data was used because published material provides significant documented information. Also it helps to broaden the base from which scientific conclusions can be drawn (Ghauri, 2002).

3.7.2 Primary Data

Kumar (2011) defines primary data as information collected for the specific purpose of a study either by the researcher or by someone else. Primary data in this study was collected using interviews, questionnaires and observation, and focus group discussions.

3.7.2.1 Questionnaires

A questionnaire consists of a set of questions or statements to which individuals are asked to respond. The questions frequently ask for facts, opinions, attitudes or preferences of respondents (Kumar, 2006). The method involved two categories of respondents who answered open and closed questions. The questionnaire was the main instrument administered to postgraduate students and academic staff and the researcher collected dully filled forms. This instrument helped the researcher to reach larger number of respondents and obtain information relatively quickly for the study.

3.7.2.2 Interviews

According to Kumar (1996) an interview is a method of data collection involving presentation of oral-verbal stimuli and reply in terms of oral verbal responses. It provides in-depth information, opinions, and views by respondents. The interviews were guided by questions which were asked through verbal conversation between the researcher and the respondents and the answers were recorded, respectively. This study used face-to-face interview in which the Head of Reader Services and the Head of Information Literacy Training were interviewed to get accurate information. Through interviews the researcher managed to probe further and thereby know the

inner perspective of the respondents.

3.7.2.3 Observation

According to Doyle and Griffin (2009) observation is a technique which systematically records the behavioral patterns of people, objects and occurrences as they happen. In the observation method information is sought by way of an investigator's own direct observation without asking the respondents. The researcher directly observed the availability of electronic library resources in MUHAS Library in supporting learning, teaching and research activities. This method helped the researcher to verify some of the answers provided by respondents and to obtain actual information from the field of study. An observation checklist was used to collect data. The observation method was used to supplement information from other methods in order to reduce biasness.

3.7.2.4 Focus Group Discussions

Table 3.2: The Distribution of Respondents for FGDs (N=6)

Types of Respondents	Male	Female	Total
School of Medicine	1	1	2
School of Dentist	1	0	1
School of Public Health	1	0	1
School of Pharmacy	1	0	1
School of Nursing	0	1	1
Total	4	2	6

Source: Field Data (August, 2017)

Shamdasan and Stewart (1990) define focus group discussions as a group of people assembled to discuss a particular subject of the research in order to reveal their opinions and beliefs. The respondents chosen to participate in FGDs were

purposively selected on the basis of their experience on the use of available e-resources. Also the moderator was chosen from the research site to facilitate the discussion and the proceedings of discussions were recorded by the researcher herself. The distribution of respondents are summarized in Table 3.2

The researcher conducted FGDs with only one group of 2 female and 4 male postgraduate students who were available during the study after finishing their University Exams on 8th September 2017, which helped the researcher to obtain enough information concerning the study. The situation was different with academic staff as they were busy preparing, monitoring and marking papers even after opening the University. Therefore, due to the nature of their work, it was difficult for the researcher to organize the group of academic staff for focus group discussion.

3.8 Instruments for Data Collection

According to Kombo and Tromp (2006) data collection is the process of gathering specific information aimed at proving or refuting some facts. In data collection the researcher must have a clear understanding of what and how he/she hopes to obtain the required data. Also the researcher must have a clear vision of the instruments to be used, the respondents and the selected area. The research instruments for this study included questionnaires, interviews, focus group discussions guide and observation checklists.

3.8.1 Questionnaires

Questionnaire was a major instrument in the collection of information for this study. It was distributed to 98 respondents for feedback. It included both open and closed

questions which were administered by the researcher to postgraduate students and academic staff to give their opinion; this helped the researcher to collect large amounts of data in a short time. The researcher distributed and collected questionnaire forms for almost three weeks consecutively from 14th August to 8th September, 2017 that involved 50 of postgraduate students, and 48 academic staff as seen in Appendix I and II. Overall, questionnaires were filled by the respondents though there were very few questions that were left empty. However, this discrepancy was insignificant to affect the main themes of the study.

3.8.2 Interview Guide

According to Kumar (2011) an interview guide is a list of issues, topics or discussion points that a researcher wants to cover in an in-depth interview. This study conducted face-to face interviews that included structured and unstructured questions with the two purposively selected Head of Readers Services and the Head of Information Literacy Training because they have knowledge and experiences in handling information literacy training to both academic postgraduate students. This helped the researcher to come up with relevant information as the guide reminds the researcher of the areas to be covered in an interview and to have a clear understanding about the issues under research. The interview guide is attached as Appendix IV and V.

3.8.3 Observation Guide

An observation guide serves to keep the researcher on track towards research objectives and facilitates the ethnographic data gathering process (Roller and Lavrakas, 2015). The study used direct observation to improve the validity and

reliability of data obtained from questionnaires and interviews. The observation guide reminds the researcher of key points of observation as well as the topics of interest associated with each, for example, the availability of e-resources in MUHAS Library. It also helped the researcher to verify the validity of information obtained through other methods. See appendix VI

3.8.4 Focus Group Discussion

Focus group discussion took place in the Postgraduate Computer Room and the discussion lasted for 45 minutes. The discussion helped the researcher to improve the validity and reliability of data obtained from questionnaires, interviews and observation. The method helped the researcher to obtain relevant information on the availability and use of electronic resources at MUHAS Library. The discussions were guided by focused topics listed in the discussion guide, See appendix III.

3.9 Data Quality Control

According to Encyclopedia of Survey Research Methods (2008) data quality control refers to efforts and procedures that survey researcher put in place to ensure the quality and accuracy of data being collected using the methodologies chosen for particular study. In this study data reliability and validity were assured by data quality control techniques. Generally, reliability is the consistency with which a measuring instrument yields a certain result when the entity being measured has not changed. The validity of measuring instruments, on another hand, is the extent to which the instrument measures what it is supposed to measure (Leedy and Ormrod, 2005). The researcher used this technique in order to avoid bias and ensure the accuracy of data. The following data quality control methods were used in the study:

3.9.1 Pre-Testing of Research Instruments

According to Kumar (2011) pre-testing is a practice of testing something developed before its actual use to ascertain the likely problems with it. The purpose of pre-testing is not to collect data but to identify problems that the potential respondents might have in either understanding or interpreting the question. The pre-test of a research instrument entails a critical examination of each question as to its clarity, understanding, wording and meaning as understood by potential respondents with a view to removing possible problems with the question.

A pretest was conducted to Masters of Library and Information Management (MLIM) students whereby 10 questionnaires were distributed initially the questions were found not to be clear but with the help of the Supervisor they were made clear. For the interview guide the questions were distributed to the Senior Librarian at St. John's University/St. Mark's Centre for her views on the clarity of the questions. Pretesting helps to ensure the validity and reliability of data to be collected for the study and the result was used to review the instruments.

3.9.2 Triangulation

According to O'Donoghue and Punch (2003) triangulation is a method of cross-checking data from multiple sources to search for irregularities in the research data. It is the act of combining several research methods to study one thing in order to check the validity of the findings. In this study the researcher used questionnaires, interviews, focus group discussions (FGDs) and observation methods. One of the reasons for using triangulation is to reduce biasness and ensure quality of data.

3.10 Ethical Issues

Ethical procedures for conducting research were observed during the process of preparation and conducting field study. One of the ethical issues that was considered in conducting research is seeking a research permit from relevant Authorities. This involved writing a letter that identified the objectives, time length and outcomes of the research and potential effect to the University (Cresswell, 2009). Also the respondents were assured beforehand of the confidentiality and privacy of the information they provided and that the findings were to be used for academic purposes only, and not otherwise. The anonymity of respondents was respected when sorting and processing data. The researcher also accordingly acknowledged all sources.

3.11 Data Analysis

Data analysis involves editing, coding, classifying and tabulating the collected data (Kothari, 2004). This study obtained data from qualitative and quantitative instruments whereby quantitative data from closed questions in the questionnaire was analyzed by Statistical Package for Social Sciences (SPSS) version 20 and the Microsoft Word Excel (windows 10) programs while qualitative data from interviews, documentary reviews and observation was coded, arranged according to their themes as they emerge and analyzed by using content analysis method.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 General Introduction

This chapter presents analyses and discusses the research findings according to the research objectives. The chapter covers the demographic characteristics of the respondents, the availability of electronic resources in MUHAS Library, how awareness is created for MUHAS Library users on the available electronic resources, the extent to which postgraduate students and academic staff use the available electronic resources at MUHAS Library.

Moreover, the challenges encountered by postgraduate students and academic staff when using electronic resources at MUHAS Library and how to solve them. A total number of 100 respondents participated in this study, including 50 postgraduate students, 48 academic staff and 2 library staff. Results and discussion of the study are presented in different figures, charts, tables with frequencies, percentages and narration.

4.2 General Demographic Characteristics of Respondents

This section presents the demographic characteristics of the respondents including age, gender and academic qualifications and School to which respondents belong and teach. Demographic characteristics of the respondents are important because they provide information on background setting of the population where the study took place.

Table 4.1: Demographic Characteristics of Respondents (N=98)

POSTGRADUATE STUDENTS		ACADEMIC STAFF	
AGE			
30-39	33 (66%)	<30	1 (2%)
40-49	15 (30%)	30-39	24 (50%)
50-59	2 (4%)	40-49	13 (27%)
		50-59	8 (17%)
		60+	2 (4.1%)
	50 (100%)		48 (100%)
GENDER			
Male	27 (54%)	Male	32 (66.7%)
Female	23 (46%)	Female	16 (33.3%)
	50 (100%)		48 (100%)
ACADEMIC QUALIFICATIONS			
Master's Degree	46 (92%)	Bachelor Degree	5 (10.4%)
Doctorate Degree	4 (8%)	Master's Degree	29 (60.4%)
		Doctorate Degree	14 (29%)
	50 (100%)		48 (100%)
SCHOOLS			
School of Medicine	17(34%)	School of Medicine	11 (22.9%)
School of Pharmacy	8 (16%)	School of Pharmacy	10 (20.8%)
School of Dentistry	6 (12%)	School of Dentistry	5 (10.4%)
School of Nursing	11 (22%)	School of Nursing	9 (18.8%)
School of Public Health	8 (16%)	School of Public Health	13 (27.1%)
	50 (100%)		48 (100%)

Source: Field Data (August, 2017)

4.2.1 Age of Respondents

This study included respondents from various age groups due to the nature of the study population. It was necessary to know the age of respondents in this study so as to help in determining the relationship between usage of electronic resources and age. The age categories for postgraduate students were ranged from lowest age to the highest age. The lowest age was 30 years, while the most senior was 59 years. Majority of postgraduate students (66%) were between 30 to 39 years (see Table 4.1) The finding shows that most of the respondents fall under 30 to 39 years age categories followed by 40 to 49 years. This reveals that most of the respondents are young adults as observed by Bar-Ilan, et al. (2003) that age plays an important role in

the use of electronic resources, and the younger the student and faculty members are, the more they use electronic resources.

4.2.2 Gender of Respondents

This study involved both female and male respondents. It was necessary to consider gender due to the fact that MUHAS has male and female students and academic staff who make use of e-resources. Also considering the category of gender helped the researcher in obtaining equal representation of views, ideas, suggestions and opinions for reliable and valid information concerning the study. Also to capture views from both males and female users.

Out of 50 postgraduate students 27 (54%) were male and 23 (46%) were female students making a total of 50 (100%). Also out of 48 academic staff 32 (66.7%) were male and 16 (33.3%) were female. The finding shows that there were more male respondents compared to female respondents. Wasanga (1997) observes that the majority of woman, have negative attitudes towards science subjects where they found science subjects difficult and they perceived these subjects to be more useful to male students as it results into a few number of female students opting science subjects compared to male students. However with an affirmative action taken by the Government to promote science subjects among girls the gap has started to narrow down. This myth is changing rapidly.

4.2.3 Academic Qualifications of Respondents

Respondents were asked about their academic qualifications, this was very important because understanding the availability and use of electronic resources depends on the level of academic qualification one has. Out of 50 postgraduate students 46 (92%)

had qualification of Bachelor Degree and they were pursuing Masters Degree and 4 (8%) had qualification of Masterø Degree and they were pursuing Doctorate. Also out of 48 academic staff 5 (10.4%) had Bachelor Degree, 29 (60.4%) had Masterø Degree and 14 (29.2%) had Doctorate Degrees making a total of 48 (100%) as is indicated in Table 4.1. The results of the study reveal that, the majority of respondents had Masterø Degree in that they have adequate knowledge on the availability and use of electronic resources as they require e-resource to support their learning and research endeavors. This gave assurance that the data collected would bring to light the related issues in relation to the topic of the study.

4.2.4 School of the Respondents

Respondents were asked to which school they belong and teach. It was necessary to know the School of respondents to determine the relationship between the use of electronic resources and the school being attended. Out of 50 postgraduate students 17(34%) were from the School of Medicine, 8(16%) were from the School of Pharmacy, 6(12%) were from the School of Dentistry, 11(22%) were from the School of Nursing and 8(16%) were from the School of Public Health.

While out of 48 academic staff 11(22.9%) academic staff were teaching in the School of Medicine, 10(20.8%) were teaching in the School of Pharmacy, 5(10.4%) were teaching in the School of Dentistry, 9(18.8%) were teaching in the School of Nursing and 13(27.1%) were teaching in the School of Public Health s shown on Table 4.1. The results show that all the respondents from the five Schools were ready to provide the required information about the study. However, a greater number of respondents fall under the School of Medicine whereby 17(34%) were postgraduate

students and 11(22.9%) were academic staff and the figure from the Directorate of Postgraduate Studies (20013/2014) shows that there are more students enrolled in the School of Medicine compared to other Schools. The following section presents the findings of the study according to the specific objectives:

4.3 Availability of Electronic Resources at MUHAS Library

To answer the first specific objective of this study, various questions were asked to postgraduate students and academic staff, including whether or not the Library has electronic resources. The findings reveal that all respondents acknowledged knowledge of availability of electronic resources at the library. Also during the focus group discussion the participants confirmed that the library has subscribed to electronic resources.

The result indicates that the majority of respondents are aware of the available electronic resources and they understand the importance of the library in their academic endeavors. Also during the observation made by the researcher it was noted that the library has electronic resources acquired through COTUL which are accessed through library websites (<http://library.muhas.ac.tz>). The results of the study indicate that MUHAS has subscribed to e-resources which are key in providing up-to-date information to support teaching, learning and research which are key functions of any University in the World.

4.3.1 Types of Electronic Resources Available at MUHAS Library

Another question was asked to postgraduate students and academic staff to indicate the types of electronic resources available in the Library. The findings are presented in Table 4.2

Table 4.2: Multiple Responses by Postgraduate Students and Academic Staff on the type of Available E- Resources (N=98)

E-Resources	Postgraduate Students	Academic Staff	Total	%
E-Journals	50 (100%)	48 (100%)	98	100
Websites	50 (100%)	48 (100%)	98	100
Databases	47 (94%)	48 (100%)	95	97
E-Thesis	36 (72%)	48 (100%)	84	85.7
CD-ROMs	37 (74%)	33 (69%)	69	71.4
E-Books	27 (54%)	30 (63%)	57	58.1
E-Reports	15 (30%)	28 (58%)	43	43.9

Source: Field Data (August, 2007)

The findings from Table 4.2 above show multiple answers on the types of the available electronic resources whereby all postgraduate students (50) mentioned the available e-resources were E-journals and Websites, 47(94%) Databases, 37(74%) CD-ROMs, 36(72%) E-thesis, 27(54%), E-books and 15(30%) E-reports. While All academic staff (48) mentioned the available e-resources were E-journals, Websites, Databases, E-thesis, 33(69%) CD-ROMs, 30(63%) E-books and 28(58%) E-reports. The results show that the majority of postgraduate students are aware of the available electronic resources despite the fact that not all resources in the library are known to all respondents.

The findings also show that 55 (56.1%) of the respondents were not aware of the availability of E-Reports. Also 41(42%) were not aware of E-Books even though these two resources are very important in the fast growing medical field. During the Focus Group Discussion the researcher was told that postgraduate students were not well informed on the available electronic resources because they ignore to read the advertisements which could make them aware of some of the electronic resources.

But the findings show that the differences in awareness between postgraduate students and academic staff are not big.

The researcher had to observe the available electronic resources in the Library website and found that the Library subscribed to Databases such as Emerald, Sage Journals, Jstor and others. And there were Open Access Databases such as free online journals and free online books like the Directory of Open Access Journals (DOAJ), Google Scholar, Cochrane, PubMed and others. Also the library had Institutional Repository which contained journal articles, conference presentations, proceedings, thesis and dissertations, CD-ROMs and other materials. The findings were in line with that of Habiba and Chowdhury (2012) that the academic libraries acquire a large number of e-resources and make them available to their library users in order to satisfy their information needs. This indicates that the library understands the importance of electronic resources as part of academic collections in supporting the roles of teaching, learning and research activities.

However, the researcher noted that though the Library had e-resources there were fee based databases which require users to subscribe in order to have access. For example, PubMed; a need for subscription hinders postgraduate students and academic staff to make use of those e-resources. Also there were databases that were not subscribed by the Library though they appear in the Library websites like Evidence based databases or up-to-date databases. It is necessary for the library to subscribe to more freely accessible databases to maximize the use of electronic resources.

4.3.2 Adequacy of E-Resources to Postgraduate Students for Learning, Teaching and Research Activities

In the first place, the researcher asked respondents to indicate 'YES' if the available electronic resources were adequate for academic purposes and 'NO' if they were inadequate. The findings were presented in figures 4.1 and 4.2, respectively.

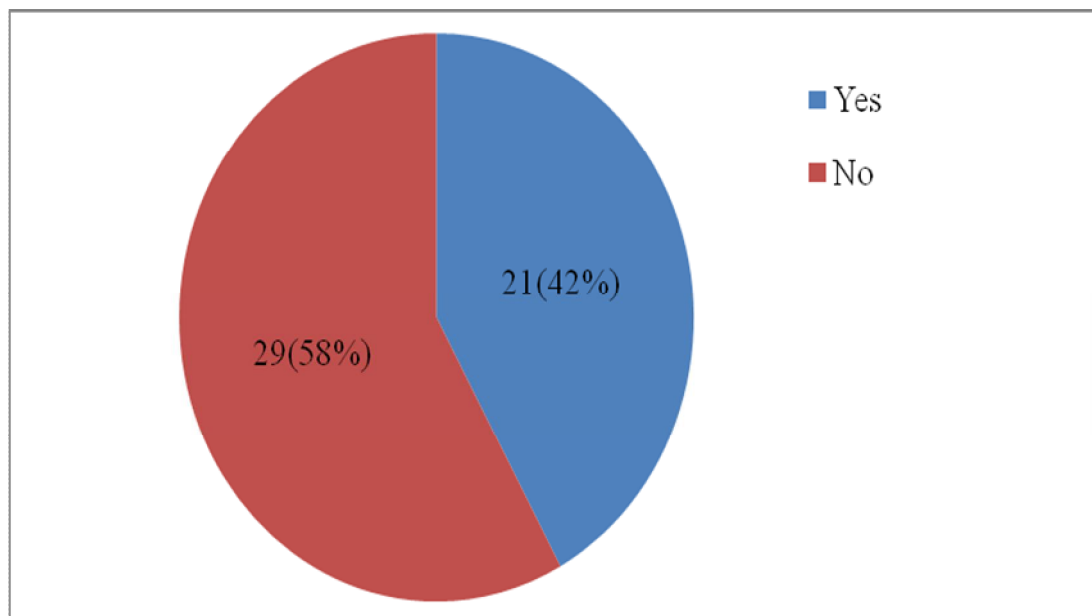


Figure 4.1: Adequacy of E-Resources to Postgraduate Students (N=50)
Source: Data Field (August, 2017)

Out of 50 postgraduate students 21(42%) were of the opinion that the available electronic resources were enough to support learning, teaching and research activities and the majority that is, 29(58%) thought that the available electronic resources were not enough to support learning and research endeavors. The results in figure 4.1 show that 22(42%) postgraduate students said the adequate electronic resources were CD-ROMs, Databases, E-books, E-journals, Websites, E-thesis while in figure 4.2 show that 14(29%) academic staff said the adequate electronic resources were E-journals, Databases, Websites, E-books and E-thesis.

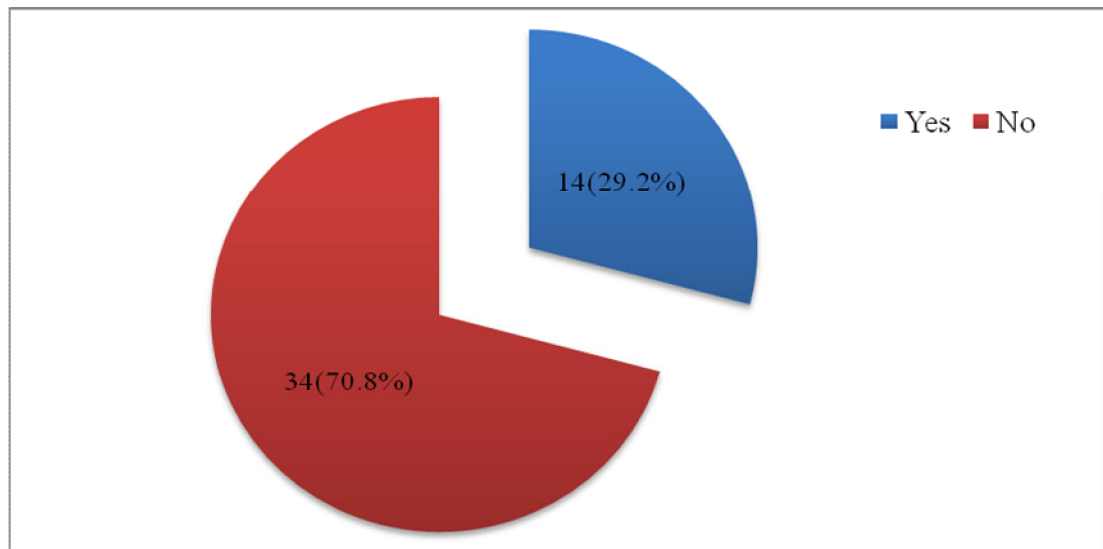


Figure 4.2: Adequacy of E-Resources by Academic Staff Respondents (N=48)

Source: Data Field (August, 2017)

Out of 48 academic staff 14(29%) were of the opinion that the available electronic resources were enough for supporting academic purposes and the majority that is 34 (70.8%) thought that the available electronic resources were not enough for academic purposes. The majority of 34(70.8%) academic staff followed by 29(58%) postgraduate students said the electronic resources were not adequate and the respondents indicated that the Libraries are required to pay a subscription fee to allow users to access PubMed, Elsevier Publishers and Evidence Based Resources like Up-to-date databases, acquisition of current E-books and accessible E-journals, Video Conference Area, E-reports and Postgraduate E-thesis.

The researcher was told by the Head of Reader Services on behalf of the Library Director that:

“the e-resources in the Library are not adequate because a lot of material acquired were in print format such as books. On the other hand, the library acquires journal through COTUL subscription so far has concentrated to e-journals, databases and to a less the extent e-books. Besides, some materials require users to subscribe for their accessibility which makes the

majority of users to fail to make use of those resources.” (Head of Reader Services MUHAS, 2017).

Academic Librarians and Information Scientists need to recommend the purchases of more up-to-date and accessible e-resources as the best way to facilitate easy information dissemination of these resources, so as to meet the information needs of its users. This recommendation is in line with that made by Chimah and Nwokocha (2015) in literature review.

4.4 User Awareness Creation Methods

The second specific objective of this study was to investigate how awareness is created for MUHAS library users on the available electronic resources. In order to get information related to the research question, the researcher asked postgraduate students and academic staff how they became aware of the available electronic resources. Also, the researcher wanted the respondents to mention the most effective awareness creation methods. The question was supplemented by observation to see if the library provides user awareness. Table 4.3 represents the findings.

Table 4.3: Multiple Responses on User Awareness Creation Methods (N=98)

User Awareness Creation Methods	Postgraduate Students	Academic Staff	Total	%
Information Literacy Training	50 (100%)	48 (100%)	98	100.0
Library Bulletins	45 (90%)	47 (98%)	92	94.0
Email Messages	31 (62%)	48 (100%)	79	81.0
Posters	30 (60%)	37 (77%)	67	68.0
Electronic News Group	15 (30%)	7 (15%)	22	22.4
Photocopy of Table of Content	0	20 (42%)	20	20.4
Telephones	0	0	0	0.0

Source: Data Field (August, 2017)

As shown in Table 4.3 out of 50 postgraduate students who participated in answering this question 45(90%) said that they became aware of the available electronic resources through Library Bulletins, 31(62%) Email Messages, 15(30%) Electronic News Group, 50(100%) Information Literacy Training and 30(60%) Posters while out of 48 academic staff 7(15%) said that they become aware of the available electronic resources through Electronic News Group, 20(42%) photocopy of Table of Content, 48(100%) Email Messages, 37(77%) Posters, 47(98%) Library Bulletins and 48(100%) Information Literacy Training.

The finding shows that the majority of respondents 98(100%) mentioned Information Literacy Training as the main method through which they become aware of the available electronic resources, the next method was library bulletins, that is 92(94%), followed by e-mail messages 79(81%), then posters 67(68%). The methods mentioned by a few respondents were Photocopy of Table of Content 20(20.4%), Electronic News Group 22(22.4%). Finally, none of the respondents mentioned the use of telephones as an awareness creation method.

During the focus group discussion, one participant noted that all postgraduate students have group emails used to create awareness of available resources. The leader of the group distributes information related to academic issues but the majority of them were not well informed of these groups. This was because they seem to be too busy and ignore to read the advertisements. The results indicates that the library provides user awareness to its users but the problem was that not all library users pay attention to this information, as a result there was a low level of existing awareness creation methods among users.

Also the results of the study show that none of the postgraduate students mentioned they become aware of the available electronic resources through telephone because it was not easy to make telephone calls to students and staff. Also none of postgraduate students indicated they become aware through photocopy of Table of Content. This indicates the low level of awareness by postgraduate students on these user awareness creations method provided by Library. The majority of the respondents mentioned that the most effective awareness creation methods was that 98(100%) were Information Literacy Training, 92(94%) Library Bulletins, 79(81%) Email Messages and 67(68%) Posters.

The same questions were asked by the researcher during the focus group discussion and the answers were Information literacy training, Websites, Regular Email Messages, WhatsApp Messages and Library Bulletins. These responses affirm the earlier findings by Deng (2010) who said that factors that influence the use of available electronic resources were the level of awareness on the available resources and the provision of accessible electronic resources. The researcher was informed by the Head of Reader Services on behalf of the Library Director that:

“The response on user awareness creation methods especially for academic staff was good. The reason behind this good response is based on the fact that the Library provides awareness through Email messages, library bulletins, blogs, websites and Information Literacy Training to influence the use of available electronic resources”
(Head of Reader Services MUHAS, 2017).

The results of the study indicate that user awareness creation methods provided by the Library help to create user knowledge on the available electronic resources and maximize the use of electronic resources. Therefore, the Library should continue

creating awareness to its library users so as to increase the level of awareness of all resources provided by the Library in supporting academic activities. The importance of creating user awareness was also identified by Aina (2014) and Mwantimwa (2017) as observed in Literature review.

4.5 Extent of Use of Electronic Resources

In addressing the third specific objective of the study, which was to find out the extent to which postgraduate students and academic staff use the available electronic resources, various questions were asked to respondents: including the use of available electronic resources, kinds of electronic resources they prefer most in meeting their information needs, frequency of use of those electronic resources and reasons which make them use the available electronic resources, if they get training in accessing those electronic resources and how adequate was that training.

4.5.1 Use of the Available Electronic Resources

Respondents were asked if they make use of available electronic resources. It was very important since it helps the researcher to answer the third objective by determining the extent of use of the available electronic resources in supporting their learning and research activities. The question was also important because it helps to show that users were not only aware of the resources but they also use or do not use them sufficiently. Figures 4.3 represent the findings.

As shown in figure 4.3, the findings reveal that the majority of postgraduate students 48(96%) indicated that they make use of the available electronic resources while only 2(4%) were not using those resources. While all academic staff 48 (100%)

indicated that they were making use of the available electronic resources. Ndubusi and Udo (2013) in the reviewed literature identified a number of factors that influence the use of electronic resources. These include; the variety of information sources available, the intended use of a particular information, the background, motivation, professional orientation and individual characteristics of the users. And these were the factors that were identified by the study respondents who use the available resources.

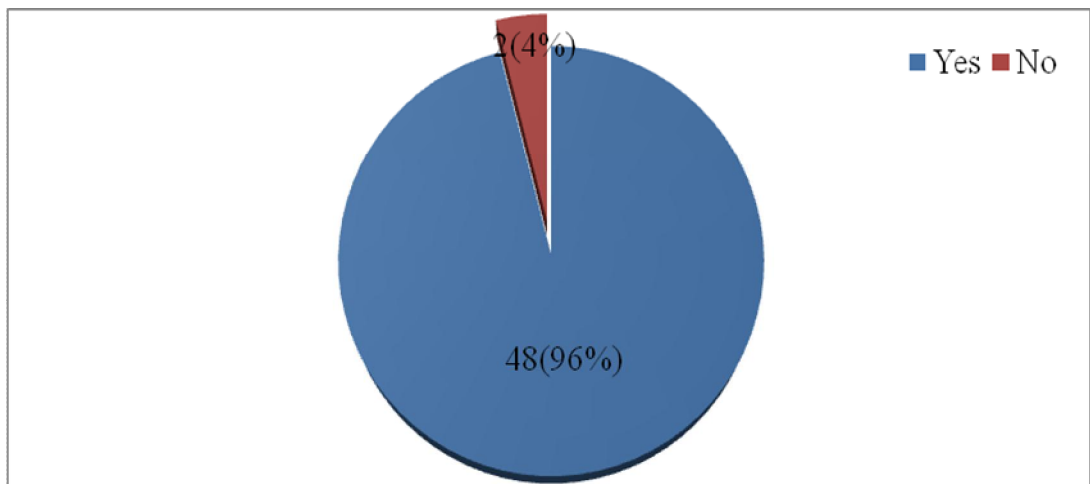


Figure 4.3: Use of Electronic Resources by Postgraduate Students (N=50)
Source: Data Field (August, 2017)

But the few 2(4%) postgraduate students who did not use the available electronic resources said they lack searching skills and are also discouraged by slow internet connectivity which leads to time wastage during the use of those resources. These may be good reasons but the researcher observations revealed that in Library Computer Room there were more than 200 Local Area Network Internet Ports which were distributed to facilitate the use of electronic resources. During the study period there was an addition of 20 computers out of which 14 were distributed to the Library Computer Room thus making a total number of 40 computers and 6 other

computers were allocated to Library Staff. Moreover, there were installations of three wireless connections in the library to maximize the use of available electronic resources. All these were efforts to improve access and use of e-resources in the Library. The few respondents who did not use the available e-resources may just be in need of training in searching skills. The Library could train them without additional costs.

Also the researcher observed that postgraduate students were making use of the available electronic resources in their computer laboratory during examination preparation time. The participants in the focus group discussion revealed that they were not using the e-resources to a larger extent due to the challenges like lack of awareness, inadequate training, inadequate bandwidth, lack of power supply and others. These findings support well the earlier findings by Manda (2005), Mtega et al. (2014), Nkebukwa (2016) and Samzugui (2016).



Figure 4.1: Postgraduate Computer Laboratory at MUHAS
Source: Field Data (August, 2017)

4.5.2 Kinds of Electronic Resources Preferred Most by the Respondents

Respondents were asked to identify the kind of electronic resources they prefer most in meeting their information needs. Table 4.4 represents the findings:

Table 4.4: Multiple Responses on Kinds of Preferred E-Resources (N=98)

Kinds of E-Resources	Postgraduate Students	Academic Staff	Total	%
E-Journals	47(94%)	48(100%)	95	96.9
Websites	41(82%)	48(100%)	89	90.8
Databases	30(60%)	35(73%)	65	66.3
E-Thesis	34(68%)	29(60.4%)	63	64.3
E-Reports	7(14%)	30(63%)	37	37.8
E-Books	19(38%)	15(31.3%)	34	34.7
CD-ROMs	18(36%)	8(17%)	26	26.5
E-Magazines	0	0	0	0

Source: Data Field (August, 2017)

Table 4.4 shows that almost all postgraduate students preferred to use E-journals, Websites, E-thesis and Databases in meeting their information needs; few of them preferred to use E-books, CD-ROMs and E-reports. While all academic staff preferred to use E-journals and Websites, almost all academic staff preferred to use Databases, and E-reports. And few of academic staff preferred to use E-thesis and CD-ROMs.

The findings show that the majority of the respondents 95(96.9%) preferred to use E-Journals while 89(90.8%) preferred to use Websites. The findings on E-journals were in line with that of Ramana (2006) that the majority of respondents in respect of their field of study prefer the use of electronic journals in writing project reports in their learning and research activities because they normally contain up to date information. The researcher was also informed by the Head of Reader Services on behalf of the Library Director that;

“Library users such as postgraduate students and academic staff use materials from INASP as they receive training during orientation and the course is Compulsory in their undergraduate programme. In fact, this helps

to influence the use of electronic resources. Also the majority of library users do not know how to make use of Free databases because not all respondents attend the training to the end despite this being compulsory”.(Head of Reader Services MUHAS, 2017).

This indicates that it was necessary for the library to continue providing awareness and more training so as to encourage postgraduate and academic staff to make use of those resources. Providing library users with adequate skills were one of the solutions to challenges, as noted by Adekinya and Adeyemo (2006). Users may be aware of existing e-resources in the library but if they have no searching skills they cannot use them.

4.5.3 Frequency of Use of Electronic Resources

Respondents were asked how often they make use of electronic resources for their academic needs and their answers are presented in Figures 4.4 and 4.6.

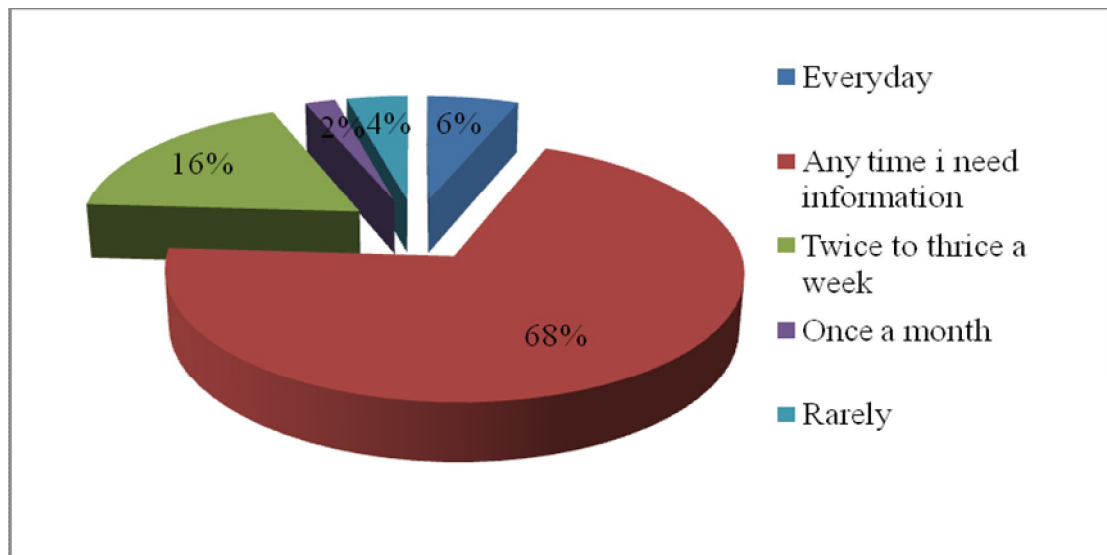


Figure 4.4: Frequency of Use of E-Resources by Postgraduate Students (N=50)
Source: Field Data (August, 2017)

As shown in Figure 4.4 the findings show that majority of postgraduate students (68%) were using e-resources any time they need information and few of them (6%) they were using every day, (16%) twice to thrice a week, (2%) one a month and

(4%) rarely. While figure 4.5 almost all academic staff (56%) were using e-resources anytime they need information and few of them (25%) they were using twice to thrice a week. This is a very encouraging trend on part of academic staff because they need to be up to date and accommodate new development in the field. That's why the majority were using e-resources anytime.

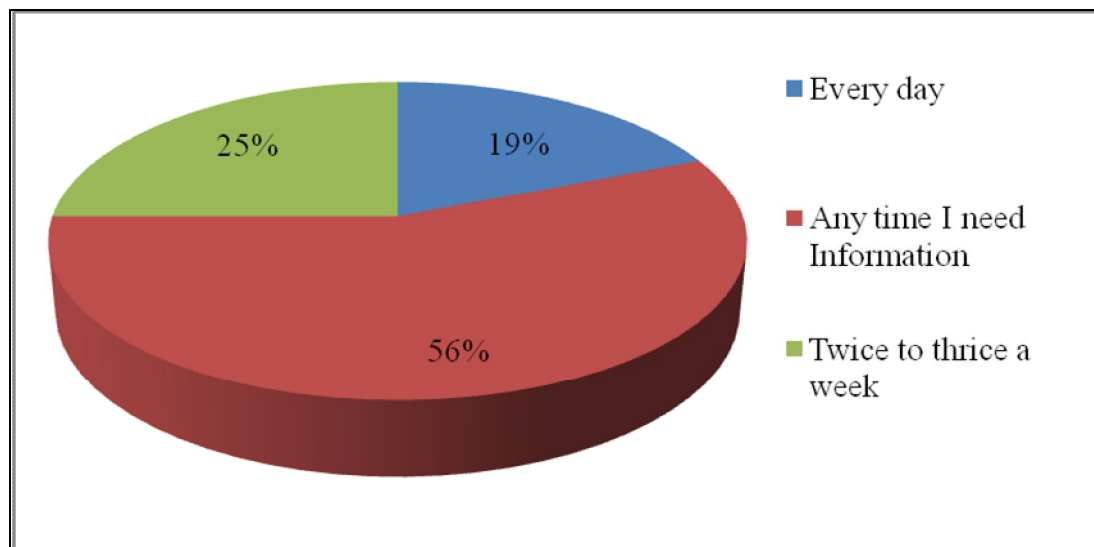


Figure 4.5: Frequency of Use of E-Resources by Academic Staff (N=48)
Source: Field Data (August, 2017)

The results reveal that the majority of postgraduate students, (68%) use electronic resources any time they need information and few of them (16%) use electronic resources twice to thrice a week while majority of academic staff (56%) use the available electronic resources anytime they need information, while few of them (25%) use electronic resources twice to thrice a week. The responses support that of Egberongbe (2011) who reported that lecturers preferred to use electronic resources compared to print resources because they find it less time consuming, even though they believed that electronic resources can never diminish the significance and importance of the print resources. The library needs to create more strategies to attract its users to frequently use the available electronic resources.

4.5.4 Reasons to Make Use of those Electronic Resources

The researcher was interested in getting information about the reasons that made them choose to use electronic resources. Figure 4.6 and 4.7 represent the findings.

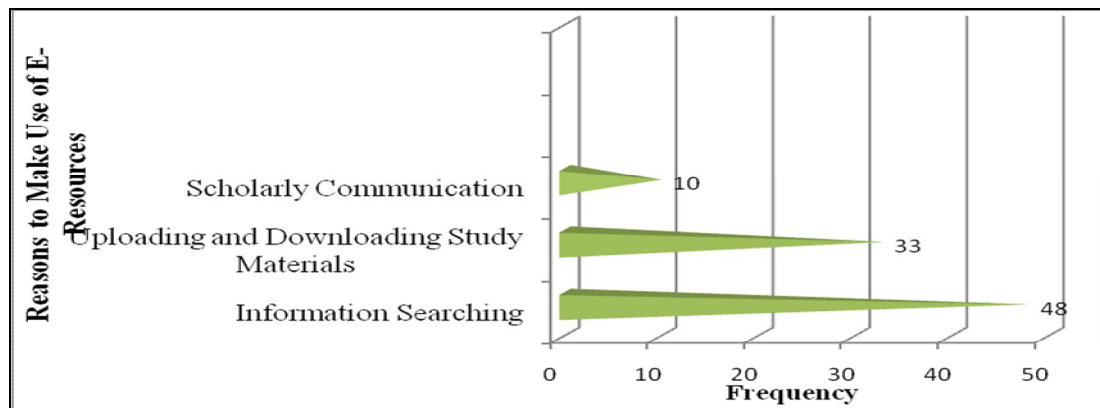


Figure 4.6: Multiple Responses on Reasons to Use E-Resources by Postgraduate Students (N=50)

Source: Data Field (August, 2017)

Figure 4.6 Shows that out of 50 postgraduate students, 48 (96%) said they make use of those resources for information searching, 33 (66%) uploading and downloading study materials and 10 (20%) scholarly communication. Figure 4.7 shows that all 48(100%) academic staff gave information searching as the reason for use, 35(72.9%) use them for uploading and downloading study materials and 29(60.4%) use them for scholarly communication.

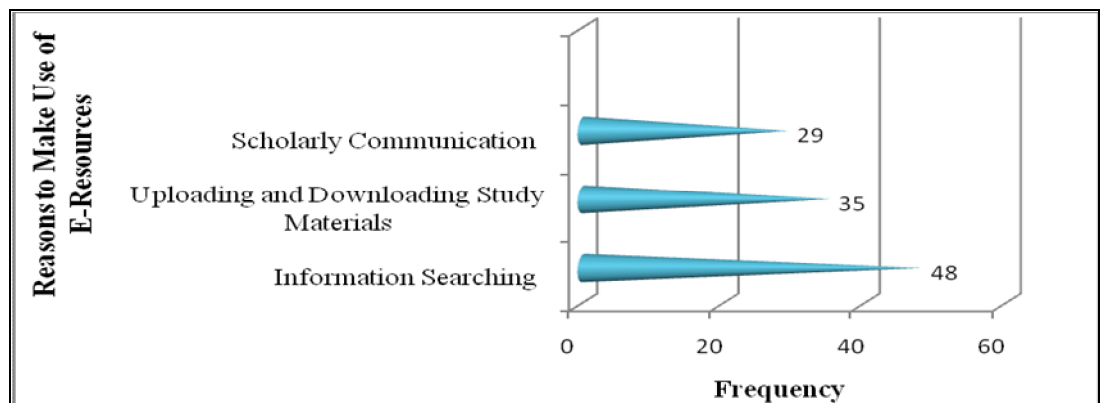


Figure 4.7: Multiple Responses on Reasons to Use E-Resources by Academic Staff (N=48)

Source: Data Field (August, 2017)

The results show that the available electronic resources were used for different purposes such as information searching, uploading and downloading study materials, scholarly communication and others. It was observed by Rehman and Ramzy (2004) that the respondents make use of electronic resources for different aspects of their work as the purpose of using electronic resources were multi-dimensional. The researcher was of the opinion that respondents need to have more search techniques and skills to evaluate online materials as they depend on the availability of electronic resources to meet their academic needs.

4.5.5 Training in Accessing the Available E- Resources

The respondents were asked whether or not they received any training in accessing the available electronic resources. All 98 respondents that were 50(100%) postgraduate students and 48(100%) academic staff said they received training. During the focus group discussion the researcher learned that the majority of respondents received training and some of them said they have received training in the use of e-resources outside the University. The researcher noted that all respondents knew the importance of electronic resources in their academic endeavors. Also the results of the study indicate that the majority of respondents that were, 50(100%) postgraduate students and 48(100%) academic staff mentioned they receive training such as information literacy training on how to conduct literature search, how to make citation using reference management (Mendeley), skills in writing scientific papers and others. The researcher was informed by the Head of Information Literacy that:

“The library provides training to library users on how to use electronic resources such as literacy search, training on how to write citations using

reference management (Mendeley), how to use library web 2.0 technology such as Blogs, Drop Box, Google Drive, Wikis, Information literacy training and skills for scientific writing and others. At the beginning, the response on attendance for the training was not more than 10 library users for both groups of respondents as academic staffs were busy teaching and treating patient. At the time they are required to attend information literacy training, also the time set for orientation was inadequate and training was usually organized on voluntary basis at the beginning of each academic year. In order to address the issue of low turnout, the library conducted a survey, circulated information to Department Heads instead of giving it to Deans of Faculties. In addition, a survey was conducted among postgraduate students to find means of improving the attendance in the training; the Office of the Directorate of Postgraduate studies was involved in the survey. The alternatives made by the library based on the survey had a great impact because the number of library users who attended the training increased up to 100 and above which made the library to conduct training in sessions by taking 40 library users per session. This improved search skills by the users.ö (Head of Information Literacy MUHAS, 2017).

These findings support the conclusions made by Watt and Ibegbulam (2005) that the use of electronic resources largely depends on the library user skills to locate, access and evaluate the electronic resources available through technology-based terminals.

4.5.6 Adequacy of the Training

The researcher was interested in getting information about the adequacy of the training they received in accessing the available electronic resources. Figures 4.8 and 4.9 represent the findings.

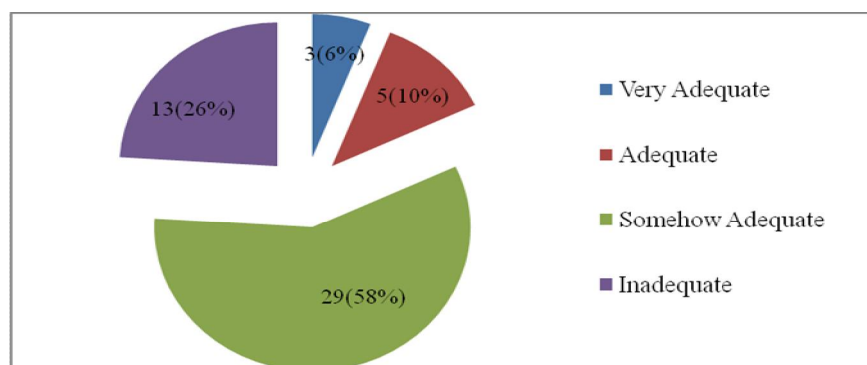


Figure 4.8: Adequacy of Training by Postgraduate Student Respondents (N=50)
Source: Field Data (August, 2017)

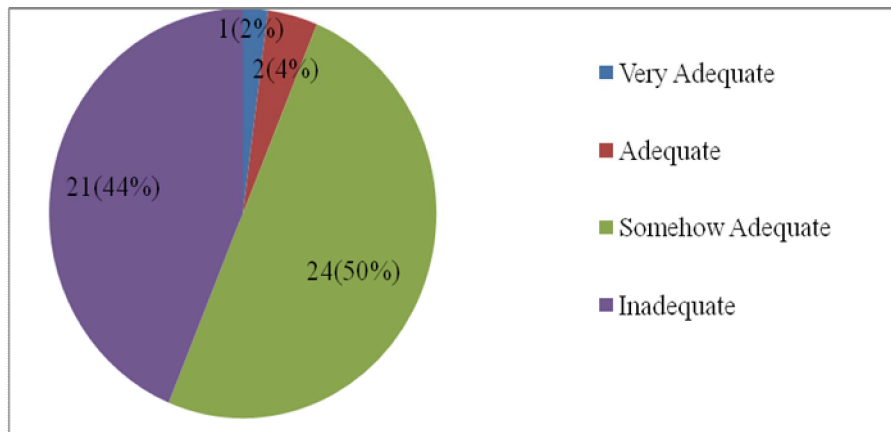


Figure 4.9: Adequacy of the Training by Academic Staff Respondents (N=48)
Source: Field Data (August, 2017)

Figure 4.8 shows that out of 50 postgraduate students 3(6%) said the training was very adequate, 5(10%) said it was adequate, 29(58%) said it was somehow adequate, 13(26%) said it was inadequate. Figure 4.9 shows that out of 48 academic staff only 1(2.1%) said the training was very adequate, 2(4%) said it was adequate, 24(50%) said it was somehow adequate, 21(44%) said it was inadequate. The results above indicate that the majority of postgraduate students and academic staff reported that the training provided by library in accessing the electronic resources were somehow adequate while few of academic staff and postgraduate students said the training provided by the Library was inadequate. During an interview, the researcher was told by the Head of Information Literacy Training that:

“The library conducted 10 training sessions for postgraduate students and 5 for academic staff as well as 4 for library staff so that they can help to maximize the use of e-resources. Also, the library plans to integrate all electronic resources in one single system the (federate search system) in order for all library users to see all databases in one system”. (Head of Information Literacy Training MUHAS, 2017).

On the other hand, the researcher noted that the library provides one to one consultation when the library users did not comprehend well the lesson during the training session or when the reference management system (Mendeley) was not

working properly. Furthermore, the researcher was told that:

“The number of library staff who participated in the provision of training was very low especially those who qualify in teaching and those who are in the teaching field, because most of the qualified library staff teach research methodology, communication skills and information technology while the training is in progress.”(Head of Information Literacy Training MUHAS, 2017)

The Library need to hire more qualified and senior library staff that can assists in the provision of the training. Also it was necessary to prepare a separate timetable for Information Literacy Training so that all qualified library staff can attend in the provision of the training

4.6 Challenges hindering the use of Electronic Resources

In addressing specific study objective No.4, the researcher wanted to find out the challenges facing postgraduate students and academic staff in making use of electronic resources. It was important to find out those challenges because; through understanding the challenges it would be easy for MUHAS management to reach an informed decision on how to improve services. Findings from the study reveal that factors inhibiting the use of electronic resources were economic and social in nature. The responses are presented in Tables 4.5 respectively.

Table 4.5: Multiple Responses on the Challenges hindering the use of E-Resources by Postgraduate Student and Academic Staff (N=98)

Challenges	Postgraduate Students		Academic Staff		Total	
	Frequency (F)	Percent (%)	Frequency (F)	Percent (%)	Frequency (F)	Percent (%)
Inadequate Infrastructure	50	100.0	17	35.4	67	68.0
Inadequate Bandwidth	50	100.0	48	100.0	98	100.0
Unreliable Power supply	50	100.0	48	100.0	98	100.0
Lack of Awareness	45	90.0	48	100.0	93	94.0
Inadequate E-resources	36	72.0	48	100.0	84	85.7
Inadequate Funds	21	42	44	91.7	65	66.3
Lack of Training	28	56.0	32	66.7	60	61.2

Source: Field Data (August, 2017)

The results in Table 4.5 indicate that all 98(100%) respondents asserted that inadequate bandwidth and unreliable power supply were the main challenges hindering effective utilization of e-resources. Furthermore, about 60-90% of respondents mentioned lack of awareness, inadequate funds, infrastructure and electronic resources, and lack of training as challenges of e-resources utilization in their institution. It was also revealed during focus group discussion that there was inadequate bandwidth which made postgraduate students to use their personal WIFI. The researcher was told during these discussions that there was no internet access to the School of Dentistry which made students to use their own WIFI, otherwise they had to access the internet in the Postgraduate Computer Laboratory.

The researcher was also told by the Head of Information Literacy Training that there was slowness of internet. Velmurugan (2013), Samzughi (2016) and Mwantimwa et al. (2017) observe that one common problem faced by the users of electronic resources were a slow internet access. The slow speed results in the wastage of time required to retrieve relevant information. The researcher also noted that inadequate bandwidth was one of the major challenges on the availability and use of electronic resources as was also observed by Velmurugan (2013) and Omosekejimi et al. (2015) in the reviewed literature. In order to solve the challenge Samzughi (2016) suggested that the Government needs to increase investment in infrastructure which supports higher bandwidth and also subsidize the costs for use of the bandwidth for educational and research institutions.

Another challenge mentioned by all 98 (100%) respondents was unreliable power supply. It was indicated that the main cause of this problem was reliance on one

source of power that was Tanzania Electricity Supply Company (TANESCO) to run all library activities, although there was solar power installed in the Library Computer Room to support lighting and few personal computers while the majority of computers were not connected. During the focus group discussion, the researcher was informed that most of the electric switches were not functioning well and thus hindered the majority of postgraduate students from accessing the resources in their Computer Laboratory. The researcher ascertained through observation and focus group discussion that power supply was one of the major challenges that hinders the availability and use of available electronic resources.

Besides, lack of awareness also affects the use of the available electronic resources. This was identified by 93(94%) of the respondents. During the focus group discussion the researcher noted that lack of awareness on available electronic resources made postgraduate students not to benefit from the use of the available electronic resources. Also the researcher was informed by the Head of Information Literacy training that:

“Lack of awareness by postgraduate students and academic staff on available databases was caused by the fact that not all attended the training and some of those who attended did not attend all training sessions”. (Head of Information Literacy Training MUHAS, 2017)

The researcher noted that lack of awareness was a challenging issue that hinders the use of available electronic resources in supporting learning, teaching and research activities. During the focus group discussion the researcher also noted that postgraduate students received training during the commencement of the academic year but this was not enough for them to acquire enough search skills to enable them to use the available electronic resources. A fourth challenges mentioned by

84(85.7%) respondents were inadequate e-resources in supporting academic activities which confirmed by the Head of Reader Services. Also the researcher learned the same problem during focus group discussion and most of e-resources such PubMed, Elsevier Publishers and others cannot be accessed. As noted by Mwantimwa et al. (2017) the use of IP address was also another factor for low usage of e-resources because the e-resources can only be accessed through an IP address.

The fifth challenges mentioned by 67(68%) of the respondents were inadequate infrastructure. The available Postgraduate Computer Laboratory was too small to accommodate larger number of postgraduate students drawn from all five Schools. Also during the focus group discussion the researcher was told that the environment for searching materials in the postgraduate computer laboratory was not conducive, the room was very hot and the air conditioner was not functioning properly. Concerning inadequate infrastructure academic staff did not see this as a major challenge because they had their own well equipped offices while students share inadequate facilities. The findings were in line with that of Ndubusi and Udo (2014) who pointed out that inadequate infrastructure hinders the use of available electronic resources.

The sixth challenge identified by 65(66.3%) of the study respondents were lack of funds. In their study Muller and Chan (2006) found that lack of fund was a challenge in facilitating the availability and use of available electronic resources. However, this was revealed to be a more serious challenge by the 44(91.7%) academic staff while only 21(42.0%) postgraduate students identify this challenge because many academic staff also holds positions such as Heads of Departments and Units so they

encounter the funding challenge more directly than the students. The researcher was also told during interview with the Head of Information Literacy Training that:

“The Library faces challenges of shortage of funds to pay library staff/teaching staff during training”. (Head of Information Literacy Training MUHAS, 2017).

The researcher also noted the same problem during an interview with the Head of Reader Services on behalf of the Library Director that:

“Shortage of funds lead to failure in subscribing to expensive databases like Elsevier Lancet, Evidence Based databases and others”. (Head of Reader Services MUHAS, 2017)

A final challenge was lack of training. This was identified by 60(61.2%) of all the respondents, this challenge leads to the inability of library users to make use of Fee databases. It was learnt by the researcher during an interview with the Head of Information Literacy Training on behalf of the Library Director that the majority of library users do not know how to make use of fee electronic resources such as databases.

4.7 Suggestions Made by the Respondents to Overcome the Identified Challenges

A number of suggestions were made by respondents to address the challenges as identified in Tables 4.5. One of the suggestions mentioned by the majority of respondents 65(66.3%) were MUHAS management should apply for more funds from stakeholders and students fee to increase the budget for acquiring strong and good bandwidth to support the information needs of postgraduate students and academic staff in the use of the available electronic resources.

4.7.1 Increase Source of Power Supply

The majority of the respondents 98(100%) suggested that the library should have multiple sources of power supply to the whole library building including Postgraduate Computer Laboratory to enhance the use of electronic resources of postgraduate students and academic staff.

4.7.2 Increase Awareness

The majority of the respondents 93(95%) recommended that the library should use seminars, posters and other advertisement approaches to increase awareness on the available electronic resources. The researcher was told during the interview with the Head of Information Literacy Training that:

“Lack of awareness by the majority of library users on available electronic resources made the Library under SIDA project to plan to integrate all the electronic resources in one single system “federated search system” where library user can see all the databases in one system”(Head of Information Literacy Training MUHAS,2017)

4.7.3 Increase Training

60(61.2%) of all the respondents mentioned that the library should continue with provision of regular training to make postgraduate students and academic staff become more accurate in the use of the available electronic resources. Furthermore, the researcher was told by the Head of Information Literacy Training that:

“The Library under SIDA project plans to increase training for postgraduate students to maximize the use of the available electronic resources, and the plan is underway to add more qualified Library staff to help during the training”.(Head of Information Literacy Training MUHAS, 2017).

4.7.4 Improve Infrastructure

Some respondents 67(68.0%) mentioned that the library should improve

infrastructure like expansion of Postgraduate Computer Laboratory to accommodate a larger number of postgraduate students, provision of adequate computers and regular inspection of all electricity switches to ensure they are all functioning. Also the researcher was told by the Head of Information Literacy Training that:

“The Library has a project with SIDA which helps to provide wireless access points, projectors and laptops”.(Head of Information Literacy Training,2017).

4.7.5 Library Policy Reform

The researcher was told by the Head of Reader Services that:

“There should be Library policy reforms to support the library. This will help to have full support in terms of adequate funds to support the provision of adequate electronic resources”. (Head of reader Services MUHAS, 2017)

4.7.6 Increase Subscriptions to E-Resources through the Local Budget

The researcher was told by the Head of Information Literacy Training that:

“The Library should continue talking with the management that, besides the electronic resources obtained under COTUL, the Library should also subscribe to other relevant electronic resources like Elsevier publishers, Evidence databases like Up-to-Date databases through the allocated budget”.(Head of Information Literacy Training MUHAS, 2017)

4.8 Summary of Chapter Four

The chapter has discussed the availability and use of electronic resources in MUHAS, how awareness is created for library users, the extent to which postgraduate students and academic staff make use of e-resources. Other sections covered the challenges faced by postgraduate students and academic staff in the use of e-resources and suggestions of how to overcome the identified challenges. The findings revealed that the e-resources available were not adequate. On other hand, the findings showed that respondents become aware of the available resources

through library bulletins, information literacy training, posters, email messages, websites and others. The most effective awareness methods were information literacy training, library bulletins, posters and regular email messages.

The findings also revealed that the majority of respondents make use of the available e-resources, and the most preferred e-resources were e-journals and websites. The majority of the respondents also made frequent use of those resources any time they need information, followed by those who use them twice to thrice a week. The use was for information searching, uploading and downloading study materials and others. The findings showed that all respondents received training in accessing the available resources. However, it was also found that some of those received e-learning training outside the University, and that some of those who attended the training did not attend the full training sessions because they were tied up with other work. This led to lack of awareness of the available e-resources and their use.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 General Introduction

This Chapter presents the summary of the research findings, conclusion and recommendations of the study which was carried out to examine the availability and use of e-resources by postgraduate students and academic staff in academic libraries in Tanzania. The study was guided by four specific objectives these were to find out the availability of electronic resources at MUHAS library, to investigate how awareness is created for MUHAS library users on the available electronic resources, to find out the extent to which postgraduate students and academic staff use the available electronic resources in MUHAS library and to identify the challenges postgraduate and academic staff face when using electronic resources at MUHAS library, and seek suggestions on how to solve the identified challenges. This Chapter is divided into five sections; introduction, summary of the study (research findings), conclusion of the study, recommendation and possible areas for further study.

5.2 Summary of the Findings

The study limited to find the availability and accessibility of e-resources at MUHAS library. It investigated how awareness is created for MUHAS library users, the extent to which postgraduate students and academic staff use the available electronic resources, challenges associated with the availability and use and suggestions to solve the identified challenges. A case study research design was employed in this study where both qualitative and quantitative data research approaches were integrated to obtain better responses from the respondents. Data were collected from

both secondary source (documentary sources) and primary sources through the use of face to face interviews, researcher administered questionnaires, observations and Focus Group Discussions. Qualitative data were analyzed through content analysis while quantitative data were analyzed with the help of Statistical Product for the Social Sciences (SPSS) version 20 and the Microsoft Word Excel (Windows 10).

5.2.1 Availability of E-Resources at MUHAS Library

The findings revealed that all 98(100%) respondents indicated that the library has electronic resources which include E-journals, E-books, Websites, CD-ROMs, Databases, E-thesis and E-reports. However, the findings show that only 21(42%) postgraduate students and 14(29%) academic staff said the available electronic resources like websites, CD-ROMs, Databases and E-books were adequate while the majority of 29(58%) of postgraduate students and 34(70.8%) academic staff said the available electronic resources were not adequate to support their information needs.

5.2.2 User Awareness Creation Methods

As far as user awareness creation methods is concerned the findings of the study revealed that all respondents 98 (100%) were aware of the available e-resources. The awareness was created through Information Literacy Training, (94%) library bulletins, (81%) email messages, (68%) posters, (20.4%) photocopy of Tables of Contents and (22.4%) electronic news group. However, none of the postgraduate students became aware of the available electronic resources through telephone and Photocopy of Table of Content also none of the academic staff became aware of available e-resources through telephones. The findings revealed that the majority of the respondents mentioned the most effective awareness creation methods to be

information literacy training, library bulletins, posters and email messages.

5.2.3 The Extent to which Respondents Made Use of the Available E-Resources

The question on the extent to which respondents made use of the available resources findings revealed that the majority of respondents used available electronic resources to support their learning, teaching and research activities; however, few 2(4%) postgraduate students indicated that they do not make use of the available e-resources, which is unexpected because e-resources save time and are easy to use. The findings of the study further reveal that the most preferred e-resources were E-journals followed by Websites. It was also noted that the majority of respondents said they used the available electronic resources any time they need information as well as twice to thrice a week for information searching and uploading and downloading study materials and others.

It was also informed that the majority of respondents received training on how to use the available e-resources and some of them mentioned that they have received e-learning resources training outside the University. However, there were few respondents who did not attend the training because they were unaware of the training program and others said they were tied up with other work. The findings revealed that the kind of training received by respondents in accessing the available electronic resources were information literacy training on how to conduct literature search, how to make citation using reference management (Mendeley), how to use library web 2.0 technology such as Blogs, Drop Box, Google Drive, Wikis and skills for scientific writing and others. The findings further revealed that the majority of

respondents indicated that the training they have received was somehow adequate because it helps them to search for materials in databases, journals, Websites and other sources.

5.2.4 Challenges Hindering the Availability and Use of E- Resources

The study identified challenges hindering the availability and use of e-resources which include inadequate bandwidth, problem of power supply, lack of awareness, inadequate training, inadequate infrastructure, lack of funds as well as inadequate electronic resources.

5.2.5 Suggested Solutions to Overcome the Identified Challenges

After identifying challenges faced, the study respondents proposed measures to be taken to enhance effective use of e-resources. The findings suggested that MUHAS management should apply for more funds from stakeholders to increase the budget for acquiring strong and good bandwidth to support the information needs of postgraduate students and academic staff; that the Library should have multiple sources of power that will be connected to all computers to enhance the use of electronic resources by postgraduate students and academic staff.

Further, respondents recommended regular training to increase awareness. Also respondents suggested that there should be an expansion of the Postgraduate Computer Laboratory to accommodate larger numbers of postgraduate students so that they can make use of electronic resources. There should be library policy reforms to support the library and this will help it to have full support in terms of adequate funds to support the provision of adequate electronic resources. The library

should continue negotiating with the management that other than electronic resources under COTUL the library should also subscribe to other useful electronic resources like Elsevier publishers, evidence databases like Up to Date databases through the allocated budget.

5.3 Conclusion

This study concluded that MUHAS library has e-resources such as e-journals, e-books, websites, CD-ROMs, databases, e-thesis, and e-reports. Both academic staff and postgraduate students make use of these e-resources. Apparently, the mostly preferred e-resources were e-journals and websites. However, lack of awareness, inadequate training, bandwidth and materials, just to mention a few, were some of the key challenges of using the e-resources. Almost all academic staff and postgraduate students asserted that; the available e-resources were not adequate to support user information needs.

Also they pointed that their favorite journals were PubMed which requires subscription fees to be accessible. The recommendation made was the provision of adequate, relevant and accessible e-resources, training and retraining of library users and library staff, the provision of seminars, posters and other advertisement approaches are very important in maximizing the use of the available e-resources which has enormous practical implications for both commercial and academic endeavors.

5.4 Recommendations

Based on the findings of the study, the researcher made the recommendations on user services and policy issues by addressing three levels like the library level, the

university level and the government level to provide a road map on the effective use of e-resources at MUHAS and Tanzania in general.

- i. Upgrading library services and provision of continuing educational and professional development training to maximize the use of e-resources.
- ii. The library should provide user awareness through the most effective methods as the best way to overcome the challenge of lack of awareness for postgraduate students and academic staff.
- iii. Search for more funds to subscribe to more databases and strong wireless connection in all Schools so that users can have access to e-resources without any restrictions.
- iv. Library policy reforms so that the policy can be implemented fully to help the library to have fully support in terms of adequate funds to support the provision of e-resources.
- v. Changes in the University Strategic Plan should be made to prioritize the acquisition and use of electronic resources.
- vi. The Government should consider higher learning institution as nonprofit organization and therefore come up with a policy to charge bandwidth at concessional rates as opposed to the current practice of charging the institution as if they are business entities.

5.5 Areas for Further Studies

This study was conducted at MUHAS in Dar es Salaam which is situated in an urban area and funded by the government. It is important that a similar study be conducted in other areas especially in private health universities to investigate the availability and

use of e-resources. Another area of interest to examine the challenges encountered by postgraduate students in making use of e-resources for example at Kilimanjaro Christian Medical College (KCMC) in Moshi which is a private University.

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APPENDICES

Appendix I : Questionnaire for Postgraduate Students

I am Agnes Modestus Mkolo, a student at the Open University of Tanzania pursuing a Masters of Arts degree in Library and Information Management (MLIM). I am conducting a study on the Availability and Use of Electronic Resources by Postgraduate Students and Academic Staff in Tanzania: A Case Study of Muhimbili University of Health and Allied Sciences, Dar es salaam. The purpose of this study is to investigate the availability, and usage of electronic resources by postgraduate students and academic staff at MUHAS. Information to be gathered will be treated in strict confidentiality and will be used for academic purposes only. Therefore kindly feel free to express your views in this study. Thank you for your cooperation.

A: Background Information of Respondents (Please tick all which apply)

1. What is your age category?

- | | |
|-----------------|------------|
| A) 30 - 39 | [] |
| B) 40 - 49 | [] |
| C) 50 - 59 | [] |
| D) 60 and above | [] |

2. What is your Gender?

- | | |
|-----------|------------|
| A) Male | [] |
| B) Female | [] |

3 To which school do you belong at MUHAS?

- | | |
|------------------------|------------|
| A) School of Medicine | [] |
| B) School of Pharmacy | [] |
| C) School of Dentistry | [] |

D) School of Nursing []

E) School of Public Health []

4. What are your academic qualifications?

A) Master's Degree []

B) Doctorate Degree []

B: Availability of Electronic Resources at MUHAS Library

5. Does your library have electronic resources?

A) Yes []

B) No []

5.1 If your answer above is "Yes" indicate which of the following electronic resources are available at the MUHAS (Multiple answers are allowed)

A) E-books []

B) E-journals []

C) Websites []

D) CD-ROMS []

E) Databases []

F) E-thesis []

G) E-Reports []

H) Any other, please specify: _____

6. Are the electronic resources available in your library enough for learning and research activities?

A) Yes []

B) No []

6.1 If the answer is ☐ Yes, which of the above resources are enough in your library?

A) í í í í í í í í í í í í í í í í í í í
.....

B) í

C) í

D)í í

E)í í í í í í í í í í í í í í í í í í í .í í í í í í í í í

6.2 If the answer is "No" please suggest other electronic resources to be added in your library

C: User Awareness Creation Methods

7. How did you become aware of the available electronic resources at

MUHAS?(Multiple answers are allowed)

A) Through Library Bulletins []

B) Telephones []

C) Email Messages []

D) Photocopy of Table of Content []

E) Electronic News group []

F) Information Literacy training []

G) Posters []

F) Any other, please specify: í í í í í í í í í í í í í í í í í í ..

7.1 Which of the above awareness creation methods do you find to be most effective?

D: Extent of Use of Electronic Resources

8. Do you make use of the available electronic resources at MUHAS?

A) Yes []

B) No []

8.1 If the answer is "Yes" what kind of electronic resources do you prefer most in meeting your information needs? (Multiple answers are allowed)

A) E-books []

B) E-journals []

C) Websites []

D) Databases []

E) E-reports []

F) E-magazine []

G) E-thesis []

F) CD-ROMs []

H) Any other, please

specifyí í í í í í í í í ..í í ..í í

9. How frequently do you make use of those electronic resources?

A) Every day []

B) Any time I need information []

C) Once a week []

D) Twice to thrice a week []

E) Once a month []

F) Any others, please specify:

10. For what reasons do you choose to make use of those electronic resources?

(Multiple answers are allowed)

A) Information searching []

B) Uploading and downloading study materials []

F) Power Supply []

G) Any other, please specify: .1 í í í í í í í í í í í í í í í í ...

F: Suggested Solutions to Overcome the Identified Challenges

13. In your opinion, what should be done to solve the identified challenges?

A) í ..í

B)í ..

C) í .

D)í ..í í í í

E)í í

Thanks for your Time and Co-operation!

APPENDIX II: Questionnaire for Academic Staff

I am Agnes Modestus Mkolo, a student at the Open University of Tanzania pursuing a Masters of Arts degree in Library and Information Management (MLIM). I am conducting a study on the Availability and Use of Electronic Resources by Postgraduate Students and Academic Staff in Tanzania: A Case Study of Muhimbili University of Health and Allied Sciences, Dar es salaam. The purpose of this study is to investigate the availability and usage of electronic resources by postgraduate students and academic staff at MUHAS. Information to be gathered will be treated in strict confidentiality and will be used for academic purposes only. Therefore kindly feel free to express your views in this study. Thank you for your cooperation.

A: Background Information of Respondents (Please tick all which apply)

1. What is your age category?

- | | |
|-----------------|-----------|
| A) < 30 | [] |
| B) 30 - 39 | [] |
| C) 40 - 49 | [] |
| D) 50 - 59 | [] |
| E) 60 and above | [] |

2. What is your Gender?

- | | |
|-----------|-----------|
| A) Male | [] |
| B) Female | [] |

3. What are your academic qualifications?

- | | |
|--------------------|-----------|
| A) Bachelor Degree | [] |
| B) Master's Degree | [] |

C) Doctorate Degree []

4. In which school do you teach at MUHAS?

A) School of Medicine []

B) School of Pharmacy []

C) School of Dentistry []

D) School of Nursing []

E) School of Public Health []

B: Availability of Electronic Resources at MUHAS Library

5. Does your library have electronic resources?

A) Yes []

B) No []

5.1 If your answer above is "Yes" indicate which of the following electronic resources are available at the MUHAS (Multiple answers are allowed)

A) E-books []

B) E-journals []

C) Websites []

D) CD-ROMS []

E) Databases []

F) E-thesis []

G) E-Reports []

H) Any other, please specify: _____

6. Are the electronic resources available in your library enough for teaching and research activities?

A) Yes []

B) No []

6.1 If the answer is ☒ Yes, which of the above resources are enough in your library?

A) í
 B) í
 C) í
 D) í
 E) í

B) í

C) í

D)í í

E) í

6.2 If the answer is "No" please suggest other electronic resources to be added in your

libraryí í í ..í .

í í

C: User Awareness Creation Methods

7. How did you become aware of the available electronic resources at MUHAS?(Multiple answers are allowed)

A) Information Literacy Training []

B) Through Library Bulletins []

C) Posters []

D) Telephones []

E) Email Messages []

F) Photocopy of Table of Content []

G) Electronic News group []

H) Any other, please specify:

7.1 Which of the above awareness creation methods do you find to be most effective?

í .í
 í .í

D: Extent of Use of Electronic Resources

8. Do you make use of the available electronic resources at MUHAS?

A) Yes []

B) No []

8.1 If the answer is "Yes" what kind of electronic resources do you prefer most in meeting your information needs? (Multiple answers are allowed)

A) E-books []

B) E-journals []

C) Websites []

D) Databases []

E) E-reports []

F) E-magazine []

G) E-thesis []

H) CD-ROMs []

I) Any other, please specify í .

9. How frequently do you use those electronic resources?

A) Every day []

B) Any time I need information []

C) Once a week []

D) Twice to thrice a week []

E) Once a month []

F) Any others, please

specify í ..

10. For what reasons do you choose to make use of those electronic resources?

(Multiple answers are allowed)

A) Information searching []

B) Uploading and downloading study materials []

C) Scholarly communication []

D) Any other, please specify í í í í í í ..í í í í í í í í í í í í í

11. Do you get training in accessing the available electronic resources?

A) Yes []

B) No []

11.1 If the answer is "Yes" what kind of training do you get in accessing electronic

resourcesí í í í í ..í í

A) Very adequate []

B) Adequate []

C) Somehow adequate []

D) Inadequate []

E) I don't know []

E: Challenges that Hinders the Use of Electronic Resources

12. Which of the following challenges do you think hinders the availability and use of electronic resources? (Multiple answers are allowed)

A) Inadequate bandwidth []

B) Inadequate infrastructure []

C) Inadequate funds []

D) Lack of awareness []

E) Power Supply []

F) Lack of training []

G) Any other, please

specifyí í .í í

í ..

.

F: Suggested Solutions to Overcome the Identified Challenges

13. In your opinion, what should be done to solve the identified challenges?

A)í ..í

B)í ..

C)í í

D)í ..í í í í

E)í í

Thanks for your Time and Co-operation!

APPENDIX III: Focus Group Discussion Guide

1. Does your library have any electronic resources
2. What kinds of electronic resources are available at the MUHAS library?
3. How did you become aware of the available electronic resources?
4. Which of the awareness creation methods do you think are most effective?
5. Do you get training in accessing the available electronic resources?
6. What kind of training do you get?
7. How adequate is the training you receive?
8. What challenges do you think hinder the availability and use of electronic resources?
9. What should be done to solve the identified challenges?

APPENDIX IV: Interview Guide for Head of Information Literacy Training

1. Do you provide any training to library users?
2. What kind of information training do you provide?
3. Do library users such as postgraduate students and academic staff attend the training?
4. How do you provide space for training? Is it one-to one training?
5. How do library staff participate in provision of literacy training?
6. What challenges do you face in providing information training to library users?
7. What suggestions do have in solving the identified challenges?

APPENDIX V: Interview Guide for Library Director

1. Are the electronic resources in your library adequate in supporting users' information needs?
2. How is the response of the library users on awareness creation methods?
3. What do you do if the response is low?
4. What kind of electronic resources do you think is mostly used by postgraduate students and academic staff?
5. What challenges do you face in providing electronic resources to library users?
6. Kindly suggest any solutions to overcome the identified challenges?

APPENDIX VI: Observation Guide

TYPE	P	A
Availability of electronic resources: E-books E-journals E-thesis E-reports CD-ROMs E-magazine Websites E-repository		
Availability of internet services: WIFI connections LAN Ports		
Availability of computers facilities.		
Availability of multiple power supply. E.g. Solar power, TANESCO		
The use of the electronic resources.		
Provision of training to library users.		
Provisional of username and password in accessing electronic resources.		