

MAKERERE



UNIVERSITY

**UTILIZATION OF LIBRARY RESOURCES AND SERVICES AT BUSITEMA
UNIVERSITY**

BY

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**A DISSERTATION SUBMITTED TO THE COLLEGE OF COMPUTING AND
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May, 2022

DECLARATION

I, NTAGA Eriya, Reg. N^o: 2008/HD05/12056U, do hereby declare that this dissertation entitled, 'Utilization of library resources and services at Busitema University' is my original work and to the best of my knowledge, it has never been submitted for any degree in any university or Institution of Higher Learning.

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STATEMENT OF ORIGINALITY

The conception, research, organization and writing of this dissertation, ' **UTILIZATION OF LIBRARY RESOURCES AND SERVICES AT BUSITEMA UNIVERSITY** ' are entirely the work of the candidate, Eriya Ntaga. All citations have duly been acknowledged.

This study has been conducted at Busitema University Main Library, along with its five campuses of Nagongera, Arapai, Pallisa, Namasagali and Mbale. This research was carried out under the supervision of Dr. Joyce Muwanguzi BUKIRWA.

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APPROVAL

This is to certify that this dissertation entitled: “Utilisation of Library Resources and Services at Busitema University Library” by Mr. Eriya Ntaga was conducted under my supervision and is ready for submission for examination for the award of a Master of Science in Information Science of Makerere University.



6th May 2022

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Date

Dr. Joyce Muwanguzi BUKIRWA (PhD)

DEDICATION

This dissertation is dedicated to my parents, Mr. and Mrs. Tibita Joseph, my family; wife, Ayona Damali and children; Mbakire Catherine, Ntaga Cephus and Conrad Luleba.

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ACRONYMS

BL	British Library
BU	Busitema University
CAS	Current Awareness Services
CD-ROM	Compact Disc Read Only Memory
CDs	Compact Disc
CUUL	Consortium of Uganda University Libraries
FHS	Faculty of Health Sciences (FHS)
FMS	Faculty of management sciences
FOE	Faculty of Science and Education
ICT	Information and Communication Technology
ICT	Information communication technology
IFLA	International Federation of Library Associations
IHL	Institutions of Higher Learning
IT	Information Technology
ITOCA	Information Training and Outreach Centre for Africa
JNEC	Jawaharlal Nehru Engineering College
NCHE	National Council for Higher Education
PCs	Personal Computers
PDF	Portable Document Format
PEOU	Perceived Ease of Use
PESITM	PES Institute of Technology and Management
PU	Perceived Usefulness
SCANUL	Standing Conference of African National and University Libraries
SDA	Statistical Data Analysis
SDI	Selective Dissemination of Information
TAM	Technology Adoption Model
TRA	Theory of Reasoned Action
UK	United Kingdom
ULIA	Uganda Library and Information Association
UVPA	University of the Visual and Performing Arts

MoES Ministry of Education and Sports
VSAT Very Small Aperture Terminal
WiFi Wireless Fidelity

ABSTRACT

The study examined utilization of library resources and services among staff and students at Busitema University. The objectives of the study were to: to find the relationship between perceived usefulness and utilization of library resources and services at Busitema University; to find the relationship between perceived ease of use and utilization of library resources and services at Busitema University; to establish the challenges encountered by students and academic staff in the process of utilization of library resources and services at Busitema University library and to propose strategies necessary to enhance utilization of library resources and services at Busitema University were framed to resolve the research question or general research objective. The study adopted a mixed research approach. I used the questionnaire and interview methods to collect data on access and usage of library resources and services among students and staff of Busitema University respectively. The population of the study comprised of the students and staff of Busitema University staff. The sample size of 351 respondents clustered as (staff-35 and students316) was used in the study, with a response rate of 63.8% which was judged useful for data analysis. Quantitative data were analyzed using SPSS v.20 software, while, content analysis was used for analysis of qualitative data. The finding of the study revealed under-utilization of library resources and services at Busitema University and as well established a positive and significant correlation between perceived usefulness and perceived ease of use with access and usage of library resources. The study concluded that there is a positive effect due to perceived usefulness and perceived ease of use with library utilization of resources and services. Further, findings of the study revealed low levels of information literacy, lack of motivation, limited training of library users, insufficient ICT infrastructure, poor internet facilities, information overload and inadequate funding as inhibitors to successful access and usage of library resources and services at Busitema University. The study recommends the following: the university leadership need to identify and appreciate the diverse inhibitors of access and utilization of library resources and map out strategies to deal with this problem; the designers of the library information access systems should enhance perceived usefulness either by adding additional functional capabilities to the system, or by making it easier to invoke the functions that are already in existence; that those in charge of developing access packages and systems should try to make the navigation and design layout easily understandable and less

challenging to use; and lastly, universities should put in place policies and legislations to encourage usage of these strategies.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The library is conceptualized as a knowledge repository as well as a dynamic social establishment tasked with the preservation of recorded knowledge for man use (Bossaller & Atiso, 2015; Gann, 2019). University libraries are fundamentally associated with provision of a supportive climate for teaching, learning and research activities aimed at offering support to their parent institution besides dissemination of knowledge for social-economic development (Onifade, Ogbuiyi, & Omeluzor, 2013; Olajide & Gboyega, 2017; Anyaoku, 2015; Mehra & Singh, 2020). This mandate requires that Institutions of Higher Learning (IHL) embark on adequate usage of library resources for employees and learners' educational development (Onifade, Ogbuiyi, & Omeluzor, 2013; Rani, 2018). Specifically, information access and utilization are fundamental for research success in universities (Moon, Hossain, Kang, & Shin, 2012; Hoq, 2012; Aina, 2012; Onye, 2016; Alcober, 2020).

Access and utilization of library resources enhances both university student and academic staffs' capacity to take efficient and resourceful research decisions and as well informs problem solving process (Moon, Hossain, Kang, & Shin, 2012; Hoq, 2012; Aina, 2012; Onye, 2016; Alcober, 2020). Mason (2010) and Amuchie (2015) argue that providing access to and utilization of library resources has the potential to develop and sustain an assortment that promotes and boosts the teaching requirements of institutions. However, despite the benefits correlated with better library resources' usage, available evidence world over suggests low usage/utilization of library resources (Frankor & Akussah, 2012; Geetha, Mamatha, & Farhana, 2013; Adeji, 2021; Newmon & Sengar, 2016; Liu, Liu, & Zhang, 2022). For example, in Greece, a study conducted in academic libraries on users' behavior patterns revealed low library resource utilization, a scenario attributed to lack of system's potential during the process of information search (Malliari & Kyriaki-Manessi, 2007). In the United Kingdom (UK), the situation is not different with majority of studies indicating unsatisfactory library resource utilization (Guajardo, Brett, & Young, 2017). In Africa, studies by Olajide and Adio (2017), Moahi (2019) and Lynch, Young, Jowaisas, Rothschild, Garrido, Sam,

Boakye-Achampong (2020) established limited access and utilization of library resources, a practice that has led to low research output by academic staff and students. It has been noted that most academics in African universities registered limited access to and utilization of significant and steadfast information while making decisions regarding their research activities (Frankor & Akussah, 2012). In West Africa, evidence of low library resource utilization is rife (Owan, Agurokpon, & Owan, 2022). For instance, in Nigeria, Olajide and Gboyega (2017) investigated effective university library resource utilization by first degree learners at the Federal University of Oye-Ekiti. Findings revealed unsatisfactory resource utilization as resources such as indexes, abstract, atlas and year books were neither satisfactory nor immediately available for reference. Similarly, in the same setting, Shaibu and Mohammed (2017) investigated the role of computer self-efficacy in electronic resource utilization in Nigerian libraries and established limited resource use. In South-Central Africa, a recent study in Malawi on digital information literacy among university students established low usage of library resources (Malanga, Jorosi, & Chigona, 2022). East Africa presents a similar picture. For example, a study by Salubi, Ondari-Okemwa, and Nekhwevha (2018); Merande, Mwai, and Ogalo , (2021) and Wangeci and Njoroge (2021) among Kenyan university students found limited usage of library resources. As well, a study among students in a Tanzanian Institute of Finance Management, established that access and level of usage of library resources was poor which inhibited effective learning (Mubofu, 2019).

1.1.1 Contextual Background

Established by an Act of Parliament on 10th of May 2007, Busitema University's functioning was operationalized under the Universities and Other Tertiary Institutions Act (2001), as amended and firmly grounded in Instrument No. 22 of 2007. Located in Eastern Uganda at Busitema Sub County, Busia District, the university was established as a multi-campus model. Whilst the University's main administrative unit offices are located at Busitema campus, along Jinja-Malaba Highway about 26 kms south west of Tororo town and 18 kms west of Busia town, the university runs 5 campuses namely: Faculty of Management Sciences (FMS), Pallisa; Faculty of Health Sciences (FHS); Mbale, Faculty of Science and Education (FoE), Nagongera; Faculty of Agriculture and Animal Health, Arapai; and Faculty of Natural Resources and Environmental Sciences, Namasagali. The University Campus Libraries (Busitema University), a member of the Uganda Library and Information Association (ULIA) and the Consortium of Uganda University

Libraries (CUUL) of Uganda, is an average-size research library in the Republic of Uganda. It is also one of the 27 members of the Standing Conference of African National and University Libraries (SCANUL) and Information Training and Outreach Centre for Africa (ITOCA). Besides the University Library is a member of the International Federation of Library Associations (IFLA). This relationships with the external bodies help in promotion of library service delivery. For instance, e-resources are made easily available by the association members where they are either unavailable or insufficient to Busitema University. Most importantly, these external bodies have been instrumental in the continuous professional development of the library staff across all the above-mentioned study campuses. For the 2018 and 2019 academic years, the University Library made substantial investment of its budget of approximately half a billion (in Uganda shillings) in resources and services (University Budget Estimates, 2018-2019). The University Library's Web portal serves as an avenue for retrieval of e-resources, and services and provides information on University's print resources through the Online Public Access Catalog. Besides, it delivers e-services notably research support, book renewals, and services including user education, up-to-date information, reference services, student orientation and provision of reading space.

Despite the above interventions, access and usage remains a challenge in Uganda. For example, a study by Gakibayo et al. (2013), found that usage of online resources among universities in general and Mbarara University in particular was poor, a situation they attributed to inadequate computer skills, limited number of computers and slow internet connectivity among others. According to Busitema University Annual Library Report (2018), despite huge investment in library resources, low library resource usage still poses a daunting challenge to the university library management leading to low research output among staff and suspect student academic credentials due to their limited interaction with these crucial library resources (NCHE, 2010). According to Webometric (2018), Busitema University was nowhere close to the best 10 listed universities in Uganda in terms of research output. In explaining this phenomenon, this research is grounded on the Technology Adoption Model (TAM) (Davis, 1985).

This model suggests that perceived ease of use (PEOU) and perceived usefulness (PU) when presented with new technology (ICT) is an essential enabler in access and utilization of information resources. The theory models how information consumers come to recognize or accept and use a given technology in search for, access and utilization of information. TAM proposes

that as users are faced with a recent technology, multiple aspects determine their acceptance choice relating to how and when to use it. These factors include: attitude, PU of the system, PEOU of the technology, behavioral intentions, individual intention and facilitating circumstances (Davis, 1985). TAM is relevant to this particular investigation because, consistent with Davis' suggestions, PU aspect as highlighted above can aid both university students and staff through a computer system to be linked adequately well to local database or internet thereby facilitating library resource utilization and consequently improving academic actions such as information search to facilitate assignment completion. PEOU, another fundamental facet of this model enhances users' capacity to accept and use technology for purposes of retrieval and utilization of resources. The decision to use the TAM in the face of other theories like Theory of Reasoned Action is accounted for by two reasons: first, from its inception, it has been used extensively in the technology adoption related studies and with robust validity and reliability results. Secondly, TAM provides a structure for probing external influences on the use of the system, yet these are paramount for resource access and utilization. Finally, this theory was adopted due to its association with the problem under study that is library resource utilization.

Studies have demonstrated the enormous role of perceived usefulness (Tezer & Soykan, 2017; Izuagbe & Popoola, 2017; Strassheim, 2018; Phan, Nguyen, & Bui, 2019; Wang, et al., 2022) and perceived ease of use (Nwachukwu & Onyenankeya, 2017; Gan & Li, 2018; Nketiah-Amponsah, Asamoah, Allassani, & Aziale, 2017; Afolabi, 2015; Briz-Ponce, Pereira, Carvalho, Juanes-Mendez, & GarcíaPe~nalvo, 2017; Fabian, Topping, & Barron, 2018) in library resource and service usage. Drawing from the TAM (Davis, 1985), usefulness explains library users' decisions and their interactions with systems which subsequently enhances access and utilization of library resources. As well, it has been argued that the simplicity in usage of technological gadgets like portable phones and the internet enhances students' behavioral intention to embrace learning which in turn may improve library resource and services utilization. Studies have consistently established that the ease at which the user interfaces with a system, the likelihood that access and usage of resources and services will be enhanced.

1.2 Problem Statement

Whilst access to library resources offers a range of prospects and opportunities relating to acquisition of accurate and timely information necessary for learning purposes and successful research in Institutions of Higher Learning (Moon, Hossain, Kang, & Shin, 2012; Adeji, 2021), evidence suggests low library resources utilization in Busitema University Library (Library Statistics, 2015; Busitema University Annual Library Report, 2018; Library Register, 2018) with 62 percent having difficulty to access and utilize library resources and services (Busitema-University, 2021). According to Busitema University Annual Library Report (2021), low library resource utilization was cited as a critical library management challenge leading to low research output among staff and doubtful student academic credentials. This challenge persists despite a raft of interventions by both government and the university management including huge investment in library activities, organization of regular workshops, seminars and continuous student refresher trainings aimed at easing access and utilization of available library resources (Busitema University Management Report, 2018). Yet accessibility and usage of existing library resources remains a challenge to both students and lecturers (Annual Library Report, 2018).

Efforts by university library management involving regular training workshops, subscription to over 20 electronic information resource packages including: electronic journals, current publicity services and other source records have not been able to reverse the challenge of low utilization of library resources and services (Busitema University Library Statistical Report, 2016). Moreover, the existing studies on utilization of library resources and services (Briz-Ponce, Pereira, Carvalho, Juanes-Mendez, & GarcíaPe-nalvo, 2017; Fabian, Topping, & Barron, 2018; Izuagbe & Popoola, 2017) are industry and country specific to the extent that they cannot be relied on to explain access and usage of library resources in Uganda, and specifically Busitema University. As well, empirical evidence on the role of PU and PEOU in enhancing access and usage of library resources in the setting of Busitema University is lacking, which amounts to a knowledge gap to which this study aspires to fill. Also, the reviewed literature is limited in providing a robust library resource and service utilization model to guide improvement in the area of information access and usage.

1.3 Aim of the Study

The study aimed at examining the utilization of library/information resources as well as services at Busitema University with a view of developing a robust library resource and service utilization model to guide improvement in the area of information access and usage.

1.4 Specific Objectives

- i. To establish how library resources and services are utilized at Busitema University
- ii. To examine the relationship between perceived usefulness and utilization of library resources and services at Busitema University
- iii. To determine the relationship between PEOU and utilization of library resources and services at Busitema University
- iv. To establish the challenges encountered by learners and academic staff in the process of utilization of library resources and services at Busitema University library.
- v. To propose strategies necessary to enhance utilization of library resources and services at Busitema University.

1.5 Research Hypotheses

H₁: PU and utilization of library resources and services are positively and significantly correlated in Busitema University

H₂: PEOU and utilization of library resources and services are positively and significantly associated in Busitema University

1.6 Research Hypotheses

- 1) How are the library resources and services are utilized at Busitema University?
- 2) What are the challenges encountered by students and academic staff in the process of utilization of library resources and services at Busitema University library?
- 3) What strategies can be implemented to improve on the utilization of library resources and services at Busitema University?

1.7 Scope of the Study

1.7.1 Geographical Scope

This research was undertaken at Busitema University. Besides the main campus, the participants were drawn from all the five university campuses (Faculty of Science and Education-Nagongera; Faculty of Management Sciences-Pallisa; Faculty of Health Sciences-Mbale; Faculty of Agriculture and Animal Health-Arapai, and Faculty of Natural Resources and Environmental Sciences-Namasagali).

1.7.2 Content Scope

This research was confined to the utilization of the resources and services provided by Busitema University library. Specifically, the study considered PEOU and PU of information technologies as enablers to increased access and usage of library resources and services at Busitema university library.

1.8 Significance of the Study

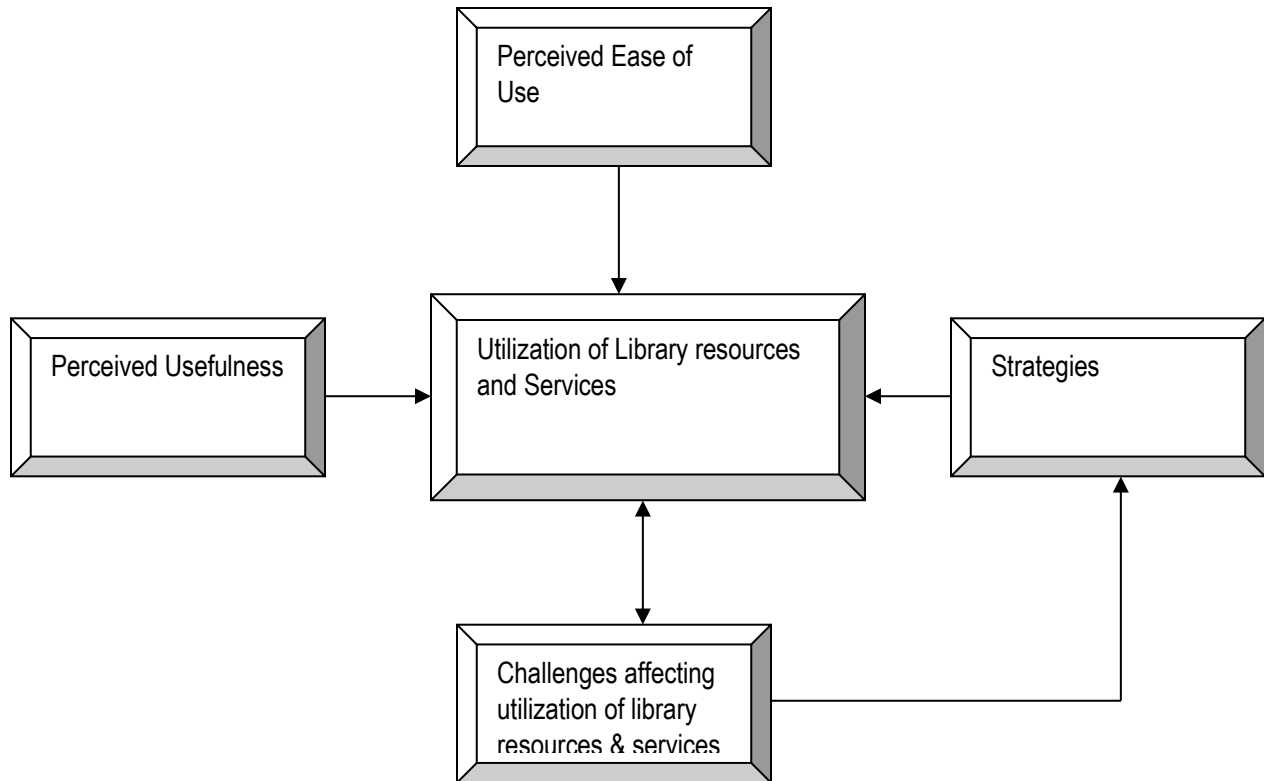
First, findings from this research might enhance the development of utilization of library resources and services model for Busitema University to enable their staff and students make effective utilization of existing library resources and services.

Secondly, the findings might be important to researchers and academicians in broadening the general understanding of the association between ICT, PEOU and PU on utilization of library resources and services in order to contribute to the current knowledge base, thereby deriving an effective model to inform decisions by key managers within university setting.

Finally, for policy makers such as the MoES and the university leadership, the findings and recommendations of this study, might be valuable in the development and strengthening of existing library policies and regulations in the education sector.

1.9 The Conceptual Framework

Fig 1: Conceptual Framework



Source: (Davis, 1989; Tezer & Soykan, 2017; Izuagbe & Popoola, 2017; Joo & Choi, 2016; Graham & Hosburgh, 2014; Headlee & Lahtinen, 2014; Mann, 2015; Stuart et al., 2015; Okebukola 2012; Taylor & Francis, 2013)

1.10 Explanation of the Conceptual Framework

According to Kuhlthau (1991), library resources and services utilization in scholarly libraries denotes a process consisting of initiation, selection, formulation, collection and preservation. Throughout this process, library users, that is the students and academic staff are confronted with diverse feelings and attitude oscillating from hopefulness and satisfaction to mystification, uncertainty and dissatisfaction. Most library users regularly experience high levels of frustration. It has been observed that students enrolled in universities and academic staff recruited in these very universities come from diverse backgrounds and different levels of understanding regarding library resources, services and information sources. Drawing on the TAM (Davis, 1985), it is assumed that PU and PEOU as predictor variables have a significant role on information seeking and subsequent utilization of library resources (the dependent variable). Specifically, information

consumers might recognize, accept and use a given technology in search for and utilization of information, hence increasing access and use of such resources. The model also suggests that in the face of multiple challenges limiting access and usage of library resources and services, strategies such as provision of internet facilities, parents' involvement, provision of ICT Policy, training of library staff and creation of awareness, may surmount such difficulties and enhance library resource and service access. Figure 1 above depicts the role of PU, PEOU and strategies that contribute to increased utilization of library resources and services by information seekers.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this section, pertinent literature linked to utilization of library services and resources is reviewed. The review is envisioned under the study objectives and concentrates essentially on the library users' features while searching for information. Preliminary evidence suggests that, since 1970's, information explosion and the influence of PU and PEOU of information technologies in the library services has increased the intricacy and complexity of libraries, thereby making it apparently problematic for both learners and academic staff to locate the required information to support and sustain their education needs (Nkechi, Enwaeni, & Eke, 2018). Soltani and Nikou (2020), Nkechi, Enwaeni and Eke (2018) have argued that, the challenge that information seekers face, spin around users' characteristics of limited awareness of information sources, knowledge of their organization, and the tools and techniques necessary for information access. Central to the foregoing arguments, is the necessity on part of library management to be eager and enthusiastic in teaching information seekers on how to assess information sources on their own, so as to make meaningful utilization of library resources and services.

2.2 How are library resources and services utilized in Higher Institutions of Learning?

Library resources and services form an essential component of research, teaching and education resources and when appropriately utilized, they have the potential to enhance an individual's proficiency and personality development (Odu, 2017). In an academic setting, where growth and development hinges on availability, access and usage of up to date and appropriate information, researchers and learners enormously depend on appropriate library resources and services to realize significant advance in research and academic growth (Odu, 2017). Library resources symbolize government publications, theses, reports, books, newspapers, journals, magazines, among others. These manifest both in print or in e-format. Ekere, Omekwu and Nwoha (2016) and Lazareva, Olinder and Perekrestov (2019), hold the view that e-resources consist of VSAT based internet connectivity, online indexes, world wide web, video CDs search engines, *WiFi*

online library catalog; online databases; portals; e-journals and e-books among others. Non electronic resources include: textbooks in print, newspapers, magazines among others.

On the other hand, library services comprise the distinctive conventional library and information services, as well as other worldwide information services accessed through the computer besides other telecommunication architecture (Soltani & Nikou, 2020; Ekere, Omekwu, & Nwoha, 2016). Winata, Fadelina, & Basuki (2021) noted a diversity of services provided at e-library embrace: bibliographies and online cataloguing and classification services, customer care services, online internet search services, online reference services, e-mail services, subscription services, management of online databases, online inter-library services, interoperability services, e-document delivery services, among others. Winata, Fadelina, and Basuki (2021) and Popoola (2008) have identified a range of services to comprise: microfilming, CD-ROM databases searching, dissemination of information, facsimile, current awareness services, document delivery/loan, word processing, selective statistical data analysis, photocopying, internet/e-mail services, bindery, abstracting and indexing, translation, and referral among others.

Akande (2003), Odu (2017), Mehta and Wang (2020), have it that the usage of library resources and services takes a center stage on the agenda of university's top management. This is because of the need to understand how libraries can best serve their users. Users' study is therefore considered an absolute tool for assessment of libraries and their services. Nonetheless, world over, how such resources and services are utilized remain an extricate challenge worth investigating. For example, Achonna and Yaya (2008) investigated access, learners' awareness, usage and challenges faced in use of electronic resources at the Yaba College of Technology library in Nigeria. E-resources usage was discovered to be dismal because of inadequate provision of computers, intermittent power outages, and lack of skills among others. In support of Achonna and Yaya (2008), Onyekweodiri and Agbo (2015) examined the level of library utilization by veterinary medicine students of two federal Nigerian universities. The findings indicated that access and usage of a range of library resources such as periodicals, e-resources, current awareness services, linked to veterinary medicine was inadequate, a finding attributed to the learners' apathy. As well, research done by Lateef, Omotoso and Fagbola (2016) on students' use and evaluation of college libraries established limited library usage on learners' part, and where attempts have been made, usage is limited to leisure purposes rather than academics.

In India, Newmon and Sengar (2016) found low access and usage of library resources and services, among majority of academic staff. This was attributed to lack of time, and limited training. Geetha et al. (2013) found many learners from the two Indian colleges of PESITM College and JNEC did not adequately use library resources and services, and this was attributed to limited awareness about library resources and services. More recently, Soltani and Nikou (2020) have found low library usage among both domestic and international students of Finnish universities. The problem was associated with low information literacy, among other factors.

On the contrary, numerous studies equally reveal better access and usage of library resources and services in institutions of higher learning. For example, an assessment of access and usage levels at University of Limpopo, South Africa indicated relatively adequate levels of utilization and satisfaction mainly with a range of services including duration of loan services and available resources, library registration, library opening hours, and access to books and journals, among others was generally high (Motiang, Wallis & Karodia, 2014). Ikenwe and Adegbilero-Iwari (2014) examined utilization of public libraries and user satisfaction in Nigeria, and found that usage and satisfaction of these resources as services like lending services, current awareness services, user's education, to mention but a few, was adequate.

These findings are further mirrored by the investigation outcome of Ijiekhuamhen, Aghojare and Ferdinand (2015) on access and usage of library resources and services. The study revealed that users easily accessed and utilized information services such as access to current books on shelves, photocopying and scanning services, friendly users' card catalogue to locate resources, and access to electronic information resources such as books and journals. Moreover, Onuoha and Subair (2013) examined library usage among undergraduates of Nigerian Federal Universities, and established that usage was on a regular basis. A recent study by Alcober (2020) focusing on subject area assessment, library borrower - *vis à vis* academic programs, peer reviewed journals and magazines, and databases, internet connectivity, and electronic books, revealed that the most commonly borrowed resources were the books determined the program that a borrower was registered for in the university.

Despite the availability of studies on access and usage of library resources in university libraries, no study was found to have been conducted on access and usage of library resources and services in Busitema University. Further, from the foregoing review, it is apparent that the findings in literature on access and usage of library resources and services in still mixed and inconclusive. In view of this, this study attempts to bridge this knowledge gap. Hence, the study proposes the following research question:

RQ1. How are library resources and services utilized at Busitema University?

2.3 Perceived Usefulness (PU) and Utilization of Library Resources and Services in Higher Education Institutions

It has been hypothesized (that is, Technology Acceptance Model) in accordance with Davis (1985) that the perceived usefulness, also referred to as perceived utility is the major justification for the technological devices' acceptance. PU is defined as the degree to which an individual perceives that using a specific technological tool will enhance job performance, in this context library resources and service utilization (Tezer & Soykan, 2017; Arghashi & Yuksel, 2022). Literature located within the systems perspective and references to TAM is replete with studies that highlight the fundamental utility and relevance of perceived usefulness in improving access and usage of library resources and services, particularly the digital resources and services (Izuagbe & Popoola, 2017; Joo & Choi, 2016; Phan, Nguyen, & Bui, 2019).

Drawing from the TAM (Davis, 1985), usefulness has relationship with most commonly recognized library and information science concepts-relevance. Needless to say, as Strassheim (2018) suggests, constructs like utility and usefulness have been fundamental in abundant library frameworks suggested by information science scholars. PU complements topical relevance on part of the library users (Saracevic, 2016) explaining library users' decisions and their interactions with systems (Belkin, 2015), thereby leading to enhanced access and library usage. While there is a broad consensus that perceived usefulness influences access and library usage (Izuagbe & Popoola, 2017; Joo & Choi, 2016; Yoon, 2016; Phan, Nguyen, & Bui, 2019), some scholars such as Zhang, Yan and Zha (2014); Joo and Choi (2016) have argued that the effect of perceived usefulness on access and usability of resources and services, may be industry and country specific. In view of this, it is not clear whether the findings of Izuagbe and Popoola (2017); Joo and Choi (2016);

Williams, Rana, & Dwivedi (2015); Joo and Choi (2016) and Phan, Nguyen and Bui (2019), that were mainly done in Europe and Asia can be relied on to explain access and utilization of library resources, generally in Uganda and specifically in Busitema University. Given these empirical links, it can be proposed that:

H₁: PU is positively and significantly associated with Library resources and service utilization

2.4 Perceived Ease of Use (PEOU) and Utilization of Library Resources and Services

PEOU is described as the degree to which an individual feels that using a specific technological tool to access and use any resource or service might need less effort, or the extent to which that technological tool can hasten work without essentially exerting considerable effort (Tezer & Soykan, 2017). The easier the interface with the system, the more likely the user will find such a system easy to use (Thong, Hong, & Tam, 2004; Nikou & Aavakare, 2021). In this digital era, Hong, Thong, Wong, and Tam (2002); Nwachukwu and Onyenankeya (2017); and Fu, Shang, Jeyaraj, Sun, and Hu (2019) have argued that ability to learn and use digital tools, enhances usage of library resources/services. The outcome of the study by Yusoff et al (2009) on individual differences, PEOU, and PU in the digital library usage show that PEOU is significantly correlated with digital library usage. This demonstrates that if library users find the digital resources easy to use, they might be willing to use it for information access so as to improve assignment and research quality.

In the recent decades, empirical evidence suggests that the advances in IT and the development of computers have greatly affected library users' methods to research and learning in the modern higher education context. Literature suggest that technology is one of the critical modifiers of human behavior (Gan & Li, 2018; Gan, Li, & Liu, 2017; Greitemeyer & Osswald, 2011), and lately, this appears a cardinal standard for social networks (Fu, Shang, Jeyaraj, Sun, & Hu, 2019). Viewed from this perspective, PEOU has been pointed out to be associated with human behavior (Roudbaraki & Esfidvajani, 2011; Gan & Li, 2018; Gan, Li, & Liu, 2017), and this in turn, has positively and significantly affected access and usage of library resources and services thereby leading to improved learners' scholarly works.

More recent research has established that PEOU of information technologies such as smart phones, internet among library users enhances access and utilization of library resources and services for not only for academic, but also for non-academic activities (Fu, Shang, Jeyaraj, Sun, & Hu, 2019; Nwachukwu & Onyenankeya, 2017). This finding is further mirrored by the findings of Mojaye (2015) and Shonola, Joy, Oyelere and Suhonen (2016) who while studying learners in Nigeria, found significant influences of technology use for education related matters. They argue that ease of use of portable devices by library users for academic matters including online quizzes and tests and holding discussions with classmates among others has significantly improved access, search and usage of library resources and services instantaneously. Additionally, empirical evidence by Nketiah-Amponsah et al. (2017) has demonstrated that limited access and usage of library collections for improving academic performance is attributable to limited perceived ease of access of enabling technologies such as e-mail, internet, and computers among others.

The perceived ease of usage of information technologies among library users goes beyond African context to embrace European countries where most abundant studies on information technologies and library usage do exist. For instance, a recent study among medical students of Coimbra University experienced a positive perception regarding usage of technological tools for mobile learning and applications. Though, it was established that promotion of the utilization of technology was driven by learning purposes, there was an average eagerness for technological adoption for social influence and behavioral intentions (PEOU and the liableness of this technology for learning) (Briz-Ponce, Pereira, Carvalho, Juanes-Mendez, & GarcíaPe-nalvo, 2017).

A meta-analytic study on the effect of IT on learners' attitudes, engagement, and achievement, established user-interface design (perceive ease of use) among others as the primary antecedents of information access and usage through e-learning acceptance among learners (Fabian, Topping, & Barron, 2018). Previous study Gikas and Grant (2013) on learners from selected universities in the United States of America (the US), found that PEOU of mobile computing tools eased interaction, collaboration and as well promoted engagement in content creation and communication leading to easy access and usage of library resources or collections.

While there is overwhelming evidence alluding to the important influence of PEOU of new technologies to enhanced access and usage of library collections, majority of these has been done

in Europe (Briz-Ponce, Pereira, Carvalho, Juanes-Mendez, & GarcíaPe-nalvo, 2017; Fabian, Topping, & Barron, 2018); Asia (Phan, Nguyen, & Bui, 2019) and limited in Africa (Nwachukwu & Onyenankeya, 2017), yet lacking in the setting of Busitema University, which amounts to a knowledge gap to which this study aspires to fill. Given these arguments, it is proposed that:

H₂: PEOU is positively and significantly associated with Library resources and service utilization at Busitema University.

2.5 Challenges encountered in the Process of Utilization of Library Resources and Services in universities

Resources and services' access and utilization challenges, a recurrent concern for library scholars world over, continue to attract much interest in the library science discourse (Cobblah, et al., 2021; Ternenge & Kashimana, 2019). According to Amuchie (2015), and Cobblah, et al. (2021), limited funds for acquisition of ICT facilities pose a daunting challenge to access and utilization of library resources and services. As a result of inadequate funding, universities have been constrained in training library users (students and academic staff) to meet their educational needs (Amuchie, 2015; Cobblah, et al., 2021). As well, several of African universities have limited learning resources, yet those that are accessible are too expensive to be acquired by learners and/ or their respective institutions. Furthermore, access and utilization of library resources and services as provided by the internet is not smooth due to insufficient ICT infrastructure (Amuchie, 2015; Cobblah, et al., 2021). It has been argued that, in most African universities, the modest funding of library activities falls far short of the standard costs of ICT facilities (Amuchie, 2015; Cobblah, et al., 2021).

Lack of relevant ICT knowledge has been widely cited in literature as another encumbrance to library resource and services' utilization (Cobblah, et al., 2021; Gakibayo, Ikoja-Odongo, & Okello-Obura, 2013). The transformations arising from the utilization of ICT infrastructure in the library services, such as retrieving and distribution of information, storing resources among others, has posed challenges to students in accessing library resources and services. ICT usage in library services demands exposure of ICT knowledge to both learners and academic staff, to enable them successfully use the ICT infrastructure to retrieve the required resources and services. Consistent with this argument, Gakibayo et al (2013) have restated the apparent lack of necessary computer

literacy and retrieval methods as a major challenge inhibiting information search and retrieval among students. Araba and Michelle (2009); Cobblah, et al., (2021) and Shastri and Chudasma (2021) have noted that utilization inadequacy of digital libraries broadens from infrastructural limitations to user competence to translate access to ICT into visible advantages in the face of other prevailing environmental limits.

Library education is yet another widely reported challenge to library resources and service utilization among universities. Ukonu, Wogu and Obayi (2012) have noted that in order to effectively harness the power of the latest ICT to enhance library education for improved library resource and service utilization, universities need to provide learners and academic staff with adequate access to e-technologies and the internet in their lecture rooms, workshops and laboratories; deliver superior quality, meaningful, and culturally responsive e-content; as well, teachers should be equipped with adequate knowledge and skills to ease usage of latest digital tools and resources

Also, lack of information literacy skills has been cited to be related to low utilization of library resources and services (Nikou & Aavakare, 2021; Ekong & Ekong, 2018; Ramamurthy, Siridevi, & Ramu, 2015). Ramamurthy, Siridevi and Ramu (2015), define information literacy as the skill in finding the required information such as an understanding of how libraries are ordered, knowledge of the resources and services they provide like information formats and computerized search tools and knowledge of regularly used research techniques. The concept in addition, comprises of the skills deemed necessary to significantly assess information content and utilize it effectually, and an understanding of the technological architecture upon which information transmission is based, and, its social, political, and cultural context and impact. Therefore, information literacy defines a practice of enabling and mentoring information users to enhance their knowledge base regarding information.

It facilitates individuals to make use this acquired knowledge for information assessment and derive informed decisions. Mounting evidence suggests that information illiterate persons are more likely to have problems with learning with access and utilization of library resources and services (Nikou & Aavakare, 2021; Ekong & Ekong, 2018; Ramamurthy, Siridevi, & Ramu, 2015). The above authors assert that information illiteracy dis-empowers information seekers in

as far as controlling their information needs is concerned, thereby limiting effective use of information services and resources. As well, it increases one's vulnerability to overzealous information providers and deceitful information services. Information seekers thus, regularly, require a considerable level of understanding of information sources, so as to be able to assess and contrast information resources such as reference materials, texts, databases, and web sites.

Bruce (1999) and Yevelson-Shorsher and Bronstein (2018), argued that information illiterate individuals are unable to recognize information needs, ascertain the magnitude of the information required a task at hand, classify, store, incorporate selected information in their knowledge base manipulate and redraft information collected or generated, access information efficiently and decisively assess information and its sources. Also, they demonstrate inability to use information effectively for purposes of learning, creating new knowledge, as well as solving problems and derive decisions. In learning environment such as that presented by the institutions, learners experience information literacy as an integral component of an autonomous and lifelong learning. In sum, reviewed studies seem to allude to the fact that information illiterates are unable to efficiently and effectively identify, locate, evaluate and make use of such information for their lifelong learning process (Ramamurthy, Siridevi, & Ramu, 2015; Yevelson-Shorsher & Bronstein, 2018; Nikou & Aavakare, 2021).

In addition, awareness of ICT facilities has consistently been reported in literature as a constraint to utilization of library resources and services (Cobblah, et al., 2021; Ukonu, Wogu, & Obayi, 2012). Lately, majorities of the academic libraries have automated almost all their services, and have gained a total index of ICT infrastructure that can effectively promote utilization of information services. Nonetheless, the novel technologies are associated with multiple challenges such as acquisition, preservation, maintenance and safety issues, customers' trainings and stakeholder commitment. This consequently leads to limited awareness of the ICT facilities that can effectively support library users in the utilization of library resources and services. Poor marketing of the library resources and services to the users as well as the academic staff has directly delinked them from the information, they dearly need to perform their tasks and thus constitute a significant challenge facing users in resource and service access and utilization within the library setting (Cobblah, et al., 2021; Berk, Olsen, Atkinson, & Comerford, 2007; Mubofu, 2019). Ukonu, Wogu and Obayi (2012), and Cobblah, et al. (2021) accentuate absence of learners'

' awareness of the facilities on offer as the major challenge affecting utilization of library resources and services, yet the library staff do little to let them aware of critical technology issues such as exposure, access, awareness, and actual use (Ukonu, Wogu, & Obayi, 2012).

Cobblah, et al. (2021), Berk, Olsen, Atkinson and Comerford (2007) and Mubofu (2019) have highlighted the significance of resources and services' marketing to inform library users of the availability of the facilities in the library stock necessary for their effective usage. For instance, the use of *podcasts* is vital in promotion of learning processes and research collections. These aid learners, academic staff, and researchers to be aware of the services, and immediately be linked to resources required to meet their information needs. Marketing as well includes news and happenings prevailing within the University campus broadly and the library in particular. Effective marketing of the academic library can be achieved through library orientation programs and tours can be run through video clips, and as a result reaching a vast majority of students along with distant learners.

Overall, it has been argued that challenges affecting library resources and services' utilization may be country specific. For example, a study by Obidike and Mole (2015) in Nigeria revealed inadequate human capacity, inadequate infrastructure, and inadequate computerization as part of the major challenges affecting ICT usage in education setting and subsequently utilization of library resources and services. Mubofu (2019) established marketing of electronic resources as major challenge constraining access and usage of library resources, whilst, Cobblah, et al. (2021) has observed financial constraint, IT skill manpower, lack of user training, technological upgrading, website changes, as some of the main challenges affecting library resource and service utilization, Dhanavandra and Tamizhchelvan (2012), and Emery, Stone and McCracken (2020) stressed insufficient bandwidth that frequently leads to network fluctuation and slows down the connectivity speed from time to time in the process of information access. In the same vein, Chisenga (2006) reported that erratic power supply often leads to non-availability and under-use of ICT facilities, lack of qualified ICT personnel, lack of funds, results in low utilization of library resources and services. Finally, quite many of the library e-resources are licensed for a limited time as noted by Yu and Breivold (2008), Emery, Stone, and McCracken (2020). As a result, at the end of the license period, subscription is cancelled by the selector resulting in a loss of access to the content. The desire to ascertain specific challenges affecting utilization of library resources

and services in Uganda generally and particularly the setting of Busitema University is what partly informs this study.

2.6 Strategies to Improve Utilization of Library Resources and Services

Amidst abundant problems facing the utilization of library resources and services, studies have suggested a range of strategies that can be relied on to enhance access and usage of library resources and services (King, 2018; Islam, Agarwal, & Ikeda, 2017). Central to these studies, provision of internet facilities, training of library staff and users, provision of ICT policy, parent involvement, creation of awareness and increase in government funding stand out evidently. Hence, creation of awareness among library users on the availability of resources and services is of paramount importance. According to Yevelson-Shorsher and Bronstein (2018), and Nikou and Aavakare (2021), the dilemma of inadequate awareness could be tackled through a systematic and planned public relations programs, study tours, library week, organized education programs for users, increased relationships between university librarian and faculty students/staff and improvement in communication links with the latter, and organization of regular library seminars, workshops, and symposia, library exhibitions, library awards night. Research by Mamman (2017); and Saleem, Tabusum and Batcha (2013) suggest that the university library ought to continuously update and eliminate obsolete and non-useful collections. This is likely to make the library more relevant through provision of most current information, thereby enhancing their information base. Based on the need for appropriate orientation on library usage, Cobblah, et al. (2021) and Mubofu (2019) remarked that librarians can facilitate to motivate library usage through marketing the library as user friendly institution. Libraries therefore are expected to appeal to the clients' needs by positioning themselves to be more diverse and distinctive (Okebukola, 2012). This shall demand that library staff appreciate one's diversity in the library usage and consequently endeavor to tolerant other users.

Secondly, there is need to increase government funding for university libraries. Chisenga (2006) and Cobblah, et al. (2021) have called for provision of adequate funding to the universities to ease access to library resources and services. Libraries should sufficiently be financed to facilitate them acquire and sustain ICT devices and library management can seek for funding support from philanthropists and friends of the library, corporate bodies and government (Cobblah, et al., 2021).

Academic libraries noticeably require adequate funding to make their impact in society through ICT driven library service.

Also, training of library staff has consistently been highlighted in literature as an important enabler for improved access and library usage (Thanuskodi, 2019). Studies reveal that staff training and re-training improves their competence levels and equips them with modern ICT skill (Ashcroft & Watts, 2005; Thanuskodi, 2019). ACRL (2018) has noted that a literate person has the capacity to identify, locate, retrieve, evaluate, synthesize and use the newly acquired knowledge. As well, librarians are encouraged to go for enhancement training programs to enable them update their skills regarding handling of contemporary library infrastructure and resources (Mamman, 2017). This is particularly essential in these contemporary times where latest information technologies are being designed on a daily basis for provision of robust solutions to the challenges affecting the users of library resources and services (Mamman, 2017; Oyedokun et al., 2018). Agaba (2004), Oyedokun et al. (2018) have argued that increased marketing guidelines, provision of adequate ICT, training of library staff in information and communication, and decentralization of service provision, among others drive increased utilization of library resources and services.

In addition, provision of ICT Policy has been well documented in literature as a critical strategy for improved usage of library resources and services. ICT policies and guidelines refer to the methods of providing satisfactory guidance for libraries regarding implementation of an ICT-driven library system (Okebukola, 2012). According to Mamman (2017) and Oyedokun, Oyewumi, Akanbi and Laaro (2018), provision of ICT policy and strategy represents an effective planning strategy that can improve the utilization of ICT in libraries, leading to increased access to library resources and services. There is therefore urgent need to support university library services with the development of formal ICT guidelines to guide the process of library usage (Chisenga, 2006; Oyedokun, Oyewumi, Akanbi, & Laaro, 2018). With the absence of well documented ICT policy and guidelines, most university libraries continue using ICT in unplanned manner, which in the long run, may turn out to be cost ineffective (Oyedokun, Oyewumi, Akanbi, & Laaro, 2018). Consistent with this argument, (Mamman, 2017) has recommended a well-defined ICT policy guide for university library in their computerization efforts.

According to Maliki and Uche (2007); and Nia, Lub, and Tan (2021), parent's involvement is yet another fundamental strategy that can create increased access and usage of library resources and

services. The above scholars argue that besides the learners, their parents along with their living conditions place a considerable influence on the students' capacity to use most especially ICT-based library resources and services. In view of this, this research emphasized to the parents the need to provide appropriate foundation for their children's school learning, the prevailing socio-economic category albeit. Maliki and Uche (2007) and Nia, Lub, and Tan (2021), broadened the argument by arguing that provision of satisfactory level of mental inspiration required by the student at diverse phases of growth, speeds up the development of a learner's reading culture early stages in one's life. The desire and 'appetite' for materials in print is shaped and utilization of the library and its abundant resources and services follows suit in a natural path (Mamman, 2017; Oyedokun, Oyewumi, Akanbi, & Laaro, 2018).

The provision of internet facilities has equally been reported in literature as a strategy for enhanced utilization of library resources and services (Mamman, 2017; Oyedokun, Oyewumi, Akanbi, & Laaro, 2018). Lately, the focus is to develop hybrid libraries that integrate existing book lending and information services with extensive ICT access (Mamman, 2017; Oyedokun, Oyewumi, Akanbi, & Laaro, 2018). The new technology has roles in information, reader development, and learning support (Mamman, 2017; Oyedokun, Oyewumi, Akanbi, & Laaro, 2018). Hayden (2008) has indicated that, the management of IHL ought to provide well equipped computer laboratories, mainly in libraries with Internet facilities for learners and lecturers use. The scope of library coverage demands that they are well fitted with Internet facilities in order to reach a wider audience (Mamman, 2017; Oyedokun, Oyewumi, Akanbi, & Laaro, 2018).

2.7 The Research Gap

Despite the importance of Library in academic IHL (Onifade, Ogbuiyi, & Omeluzor, 2013; Olajide & Gboyega, 2017), evidence of reviewed studies indicate that low usage of library resources and services is a global problem (Frankor & Akussah, 2012; Adeji, 2021; Lynch, et al., 2020). The review further revealed persistence of the problem (low usage) despite several interventions to reverse the phenomenon.

Central to these interventions, has featured prominently the role of PU and PEOU as a strategy to reverse this low resource and service utilization trend. However, while there is broad consensus that PU and PEOU influence utilization of library resources and services (Briz-Ponce et al. 2017;

Fabian, Topping, & Barron, 2018; Izuagbe & Popoola, 2017), studies in Africa are limited and some scholars such as Nwachukwu and Onyenankeya (2017) have argued that the influence of PU and PEOU on utilization of library resources and services may be industry and country specific. As well, empirical evidence on the role of PU and PEOU in enhancing access and usage of library resources in the setting of Busitema University is lacking, which amounts to a knowledge gap to which this study aspires to fill. Moreover, the reviewed literature is limited in providing a robust library resource and service utilization model to guide improvement in the area of information access and usage. Consequently, this study aspires to deal with this knowledge gap by providing strategies for enhanced utilization of library resources and services at Busitema University Main Library.

Finally, whilst, there are several library resources and services available to the users, Tommy (2009) noted that libraries have regularly received low support and thus ill-equipped to provide a range of resources and services assigned to them. Even where such resources and services are provided by the university library, the users rarely access them due to multiple challenges, and this as well forms crux of this research.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This part describes the proposed methods to deliver this study. It elucidates the different techniques and processes that were utilized to gather and analyze data and also explains the population and sampling procedures used for this study. Particularly, the chapter outlines the research design, research approach, study population, sampling procedure, data collection procedure and research instruments, data analysis, validity and reliability and research ethics.

3.2 Research Design

This research used a survey design to examine the status of library resource and services' utilization at Busitema University. This design presents a quantitative description of attitudes, behavior and/or feelings of a population under investigation by studying a defined population sample. The main driver for this design was the need to determine the status of a given phenomenon, in this case library resource and services utilization. As well, it is concerned with naturally occurring variables such as library resource and services' utilization in natural settings (Connaway & Powell, 2010). The survey design relies on a representative sample and seeks to collect and analyze information by inquiring from study respondents and using the results to generalize on the entire study population (Guthrie, 2010). In this research, this design focused on information acquisition concerning the attitudes of academics, students, and librarians, their beliefs, activities, and preferences at Busitema University. Besides, this design was relied to collect data for purposes of providing a description of prevailing conditions for library resource and services' utilization in Busitema University. Denzin (1989) has argued that surveys can be done from both quantitative and qualitative lenses, in circumstances that results are anticipated to be generalized. Likewise, this design is deemed suitable for the present study as it is in line with the mixed methods approach that this study will adopt.

3.3 Research Approach

Three main approaches to research exist, and these include: qualitative, quantitative, and mixed methods. This research adopts mixed study approach that integrates qualitative and quantitative methods (Johnson & Christensen, 2012).

3.3.1 The Quantitative Approach

According to Tracy and Schutt (2012), this approach to research relies on measurement and statistics to convert empirical data into numbers and as well to develop mathematical models that quantify human behavior. Quantitative methods were used to quantify the research problem (low access and usage of library resources and services) by way of generating quantitative data, that is, data that can be converted into usable statistics. Therefore, these data were used to quantify behaviors, opinions, attitudes, as well as other defined variables. The findings were later generalized to a wider population sample.

3.3.2 The Qualitative Approach

Qualitative research approach deals with exploring and understanding the meaning individuals attribute to a human problem (Creswell, 2012). This approach was used to generate answers to the broad research question (low access and utilization of library resources and services) about the library users' experiences, meaning and viewpoints or perspective to the problem under investigation. These highlighted research aspects like experiences, perspective and meaning are not subject to counting or measuring.

3.3.3 Mixed Research Approach

This approach entails mixing of qualitative and quantitative methods (Creswell, 2012). The research was based on a mixed study approach. In this approach, semi-structured, in-depth interviews with library staff, academic staff and students formed a core information source. These qualitative data were as well complemented with quantitative data enlisted through large scale structured survey undertaken among participants drawn from academic staff and the students of Busitema University. This approach is considered important for this study because it offers an all-inclusive basis for studying the research problem (low access and usage of library resources). This was achieved through triangulation which seeks convergence of results from the different

perspectives (qualitative and quantitative) on the same theme (low library resource and services utilization) (Creswell, 2012).

3.4 Study Population

Study Population is defined as total group from which definite evidence is required to be determined (Banerjee & Chaudhury, 2010). Babbie (2011) argues that the population comprises of similar features from which the researcher aspires to draw conclusions. The study population for this study comprised of 4000 participants clustered as: 242 academics and 3758 students and drawn from the six university campuses of: Faculty of Management in *Pallisa*, Faculty of Education in *Nagongera*, Faculty of Health Sciences in *Mbale*, Faculty of Agriculture in *Arapai*, Faculty of Natural Resources in *Namasagali* and the *main campus* (Faculty of Engineering). The study sub- population of 242 academic staff was drawn from the staff list derived from the directorate of Human Resource, while the student population of 3758 was got from the Academic Registrars’ office as at 1st January 2020, making the total study population of 4000.

Table 3.1: Distribution of the Population in Busitema University

University Campus	University Academic staff	Students
Faculty of Management Sciences, <i>Pallisa</i>	10	176
Faculty of Health Sciences, <i>Mbale</i>	30	500
Faculty of Science & Education, <i>Nagongera</i>	50	680
Faculty of Agriculture, <i>Arapai</i>	47	1640
Faculty of Natural Resources, <i>Namasagali</i>	10	108
Faculty of Engineering (<i>Main Campus</i>)	95	654
Sub-Total	242	3758
Total Population		4000

3.5 Sample Size Determination

Sampling denotes a procedure that involves selection of a subset of people (sample size) or social phenomena to be investigated from a larger universe (population) to which they belong (Kothari, 2004). A sample is that representative part of the population (Johnson & Christensen, 2012). The sample is generally smaller; time saving and cost effective throughout the process of data collection. It has been emphasized that sampling is a fundamental strategy to effective description of the features of a population under study (Ngulube, 2010). This study relied on the table

guidelines suggested by Krejcie and Morgan (1970) as seen in *Appendix 1*. With a total population of 4000, the sample size derived was 351 respondents.

3.6 Sampling Strategy

In order to draw a sample of 351 respondents from the total population of 4000, this study used proportionate stratified random sampling technique to draw representative sample due to population heterogeneity (staff and students). A random sample was drawn from each population category (Academic staff and students) using the following procedure. After which I drew random samples from each stratum as seen in Table 3.2 below:

1. name the target population;
2. name the population categories (stratum);
3. generate a particular sample size that you require;
4. list all of the cases within each category or stratum;
5. assign a random number to each case;
6. select from each category until you realized the desired sample or study participants.

Table 3.2 Determination of Sample Size from Each Category

Population Category	Population Total	Proportion	Sample size	No. of selected participants	Selection criteria
Academic staff	242	0.1	351	35	Simple random
Students	3758	0.9	351	316	Simple random
Total	4000	1.0		351	

3.7 Data Collection Methods

In mixed methods design, data collection is realized through complementary data collection methods that independently enlist quantitative and qualitative data sequentially or concurrently (Halcomb, Andrew, & Brannen, 2009). In this study, data were collected using both the interview and questionnaire method.

3.7.1 Interviews

Before the interviews, participants comprising of University Librarian, University Secretary, Deans of Faculties and Deputy Vice Chancellor in charge Academic Affairs were thoroughly prepared by explaining the study's purpose and this made the whole process expansive, objective and a conversation rather than an interrogation. Through interviews, the researcher asked questions to the participants in order to gather qualitative data (Johnson & Christensen, 2012; Johnson, Scheitle, & Ecklund, 2019). This technique lasting between 45 minutes to one hour per participant was guided by an interview guide and generated qualitative data on thoughts, interests, attitudes, beliefs, experiences, knowledge and motivations regarding access and usage of library resources and services. Face to face interviews were also relied on in the data collection process, and this technique enabled the investigator to clarify questions and probe further, as need arose.

3.7.2 Survey Questionnaire

This was used to enlist quantitative data, that is numerical in nature from the study participants comprising of the staff and the students of Busitema University on access and utilization of library resources and services. The survey tool represented a systematic and standardized approach to asking questions relating to the role of PEOU and PU on access and utilization of library resources and services in Busitema University. Using this approach, the tool consisting of close ended questions was given to both staff and students to which they indicated the degree to which they agreed with the issues presented in the tool. This enabled us to determine and measure the effect size, for example, pertaining to the amount of variance in access and usage of library resources and services that is attributable to PU or PEOU.

3.8 Data Collection Instruments

A survey instrument (Questionnaire, see *Appendix 1*) was developed exclusively for this study based on existing literature pertaining library resource and services utilization. Drawing on the TAM Model, two factors PU and PEOU of information technologies were enunciated to ascertain how they facilitate access and usage of library resources and services. The questionnaire mirrored the crucial criteria construct illustrated in Figure 1. The questionnaire items were derived from previous studies and modified to fit the study's objective and conceptual framework. The items are reliable as prior studies validated them for internal measure of consistency. The tool was divided into two parts. The first section dealt with the biographic profile of the study participants

whilst the second part of the instrument consisted of statements that tapped the dimensions such as PEOU and PU among others included in the study as outlined in the conceptual model in Figure 1. Five-point Likert scale anchored to one (Strongly Disagree) and five (Strongly Agree) was employed especially when collecting quantitative data. An interview guide was also developed to facilitate collection of qualitative data, *see Appendix II*.

3.9 Data Analysis and Presentation

In a mixed study approach, data analysis involves integration of quantitative and qualitative analytical procedures in a study (Creswell, 2012). In this particular research, I sequentially analyzed the data where quantitative and qualitative data were analyzed independently and mixing was done at the stage of presentation and discussion of findings. At this stage each complemented each other. Qualitative analysis involved tracking the linkages between categories and emerging data themes using pattern matching and explanation building so as to enhance the understanding of the phenomenon under investigation, in this context low utilization of library resources and services (Babbie, 2011; Hilal & Alabri, 2013). In doing so, I relied on thematic analysis technique. The analysis commenced with sorting and arranging, categorizing, classifying each data and organizing in themes that revealed main concerns of the participants. Nieuwenhuis (2016) argues that qualitative data analysis is usually based on an interpretative philosophy.

The recorded interviews were transcribed, analyzed and coded into categories. The process of transcription was completed for only those parts or sections deemed important for this research. The transcription complemented the field hand-written notes during the interview sessions. Incidents and concepts were broken down, sorted and compared to identify or recognize similarities and differences in a process referred to as “open coding”. I compared the recorded data with the researcher’s field notes generated throughout the interviews to examine for possible oversights or additions. Data were later combined using the thematic content analytical strategy. Using this thematic content analytical approach, the researcher carefully read through all the transcripts to determine emerging themes. This process entailed repeatedly revisiting the data and examining data categorization until the researcher was certain that the emerging themes and categories used to summarize and describe the results represent a true and accurate reflection of data. I assessed patterns to identify common features, which largely aided in the process of making

meaning out of data. Transcribed data were entered into a database consistent with the recommendation of Anderson (1998). Data cleaning followed suit, a process that facilitated the investigator to spot possible errors and address them consequently. Qualitative data were presented by using illustrative quotes from the interviews.

Social Package for Social Scientists (SPSS) a statistical program was used to describe and analyze quantitative data (Grotenhuis & Matthijssen, 2015). This software helped generate statistics (descriptive, correlation and regression statistics). Through this analytical technique, correlation analysis was used to determine the degree and direction of association or relationships among study variables, while regression analysis aided in ascertaining how much variance in a dependent variable (*utilization of library resources and services*) is explained by independent factors highlighted in the study model. I used frequency tables to illustrate the demographic profile of the study respondents. Also, using Pearson's (*r*) matrix or coefficient, the study was able to show the direction and the degree of association between PU and PEOU on access and usage of library resources and services.

3.10 Validity and Reliability of Research Instruments

These are two important features for data control and quality management in research. Reliability refers to the consistency of scores, whilst validity denotes the extent of accuracy and precision determined by the researcher from all the data in the study (Bryman, 2008). First, the research instruments were pre-tested for item appropriateness on a small number of participants so as to ensure reliability and validity of data collected. For qualitative inquiry, reliability was secured through adoption of a raft data sources and numerous measurement methods (Neuman, 2006). In this context, reliability was secured through two ways: First, attempts were made to use standardized methods in writing field notes and preparation of transcripts. Secondly, analysis of the same data was compared with other researches involving interviews and textual studies (Silverman, 2006). As validity reflects truthfulness; truthfulness was secured by the researcher's increasing familiarity with the environment where research was conducted. Consistent with this requirement, in this study, the researcher is an employee of Busitema University where data was collected and working with the library department, a practice that enhanced data validity. Lincoln and Guba as cited in Marshall and Rossman (2011) argue that truthfulness in qualitative studies

can be secured through prolonged engagement, persistent observation, data sharing, interpretations with study participants (member checks), reliance on multiple theoretical lenses and peer debriefing. In line with these suggestions, this study relied on document analysis and semi-structured interviews to study the problem deeply and also data and interpretations thereto were shared with the study participants.

In order to ensure validity for quantitative tool, I relied on the content validity index (CVI). An instrument is considered valid when its CVI is 0.7 and above (Nunnally & Bernstein, 1994). Reliability decision for the quantitative tool was determined through use on Cronbach Alpha coefficient, which should be above .70. Accordingly, as indicated in Table 3.3 below, the scale used in this study exhibit satisfactory reliability and validity results gauged against the benchmark set by Nunnally and Bernstein (1994).

Table: 3.3 Reliability and Validity Results

Variable	Cronbach's Alpha Coefficient	No of items	CVI
Library Access and Usage	.885	05	.876
Perceived Ease of Use	.829	05	.857
Perceived Usefulness	.892	15	.883

Source: Primary Data

3.11 Limitations of the Study

The findings of our study explain how students and academic staff regard the utilization of the existing library resources and services for their academic research and learning, with particular focus to Busitema University. It generates valuable data to shape a more complete appreciation and insight into the utilization of the library collections among the University's academic staff and students. However, this study focuses on only one Ugandan University-Busitema University, that seems to place limits to the broader transferability and generalizability of the study's findings.

3.12 Ethical Considerations

Reflection on ethical issues in any research undertaking is vital throughout the research process as it eliminates potential collisions likely to occur between the researcher and the study participants (Gravetter & Forzano, 2006). Consistent with this, this study complied with the University

research ethics procedures. In line with Miller and Bell (2012)'s guidelines, I as well sought participants' informed consent prior to carrying out the research. In line with this, participants were totally informed about the aim of the research before they agree to voluntarily take part in the study. Therefore, efforts were taken by the researcher to provide prospective participants with information, specifically about the study purpose and possible resulting outcomes before asking for their responses to the posed questions and interview. In addition, participants were guaranteed maximum confidentiality of all information they provided and this was purposely used for academic motives. As well, participant's individual names were neither written on the questionnaire nor revealed in the reporting phase of the study. The purpose of non-disclosure mainly to third parties was enforced and helped guarantee that no harm would be caused to the participants. Anonymity of the participants was secured through limiting identifying marks by their name. Also, information was included on the cover letter advising participants to retrieve copies of the answered questionnaires whenever they so wished at a later time.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents and discusses key findings of the study based on the collected data. The results and ensuing discussions are presented in relation to the themes and study objectives as spelt out in the background chapter. The findings are presented under the following themes: a) profile of respondents from Busitema University, b) utilization of library resources and services at Busitema University, c) relationship between perceived usefulness and utilization of library resources and services, d) relationship between perceived ease of use and utilization of library resources and services, e) challenges encountered by students and academic staff in the process of utilization of library resources and services at Busitema University library, and f) strategies to enhance utilization of library resources and services.

4.2 Presentation of Findings

4.2.1 Profile of Respondents

The demographic profile of the participants such as age, gender, level of education, position held, among others have a significant effect on the level of understanding in appreciation of the importance of access and utilization of library resources and services in a university setting. Accordingly, it is important that the demographic structure of the respondents is discussed and its implications on access and utilization of library resources and services mapped out. Table 4.1 below presents the demographic profile of the respondents.

Table 4.1: Demographic Profile of Respondents

Profiles	Classification	Students' (Freq.)	(%ge)	Staff (Freq.)	Staff (%)
Gender	Male	82	42.2	18	60
	Female	112	57.7	12	40
		194	100	30	100
Age	20-29	53	27.3	3	10
	30-34	32	16.4	9	30
	35-39	48	24.7	12	40
	40-44	40	20.6	4	13.3
	45+	21	10.8	2	6.6
		194	100	30	100

Education background	Certificate	24	12.3	0	00
	Diploma	63	32.4	2	6.6
	Degree	84	43.2	3	10
	Postgraduate	23	11.8	25	83.3
		194	100	30	100
Position held	Teaching Asst.	-	-	4	13.3
	Asst Lecturer	-	-	2	6.6
	Lecturer	-	-	12	40
	S/ Lecturer	-	-	8	26.6
	Ass. Prof	-	-	1	3.3
	Prof	-	-	3	10
				30	100
Campus	Pallisa	12	6.2	1	3.3
	Arapai	24	12.3	2	6.6
	Nagongera	43	22.1	9	30
	Namasagali	24	12.3	2	6.6
	Mbale	16	8.4	3	10
	Main Campus	75	38.6	13	43.3
		194	100	30	100
Study Program	Certificate	10	5.1	-	-
	Diploma	34	17.5	-	-
	Bachelors	98	50.5	-	-
	Post Graduate	52	26.8	-	-
		194	100	-	-
Year of study	Year 1	34	17.5	-	-
	Year 2	55	28.3	-	-
	Year 3	52	26.8	-	-
	Year 4	48	24.7	-	-
	Year 5	5	2.6	-	-
		194	100		

Table 4.1 above represents the demographic profile of the study participants (respondents) and is based on computed percentages and classified as gender, age, education background, position held at university, and campus for staff and gender, age, year of study, program of study and campus for the students. Respondents are clustered into the six campuses of: *Pallisa, Arapai, Nagongera, Namasagali, Mbale* and *Main Campus*. Regarding student gender grouping, the female respondents had the largest number of respondents comprising of 57.7% female compared to males 42.2% which is a demonstration of female dominance in Busitema University in particular and the higher education sector in general. Majority of the student respondents were within the age bracket of 20-29 (27.3%) and the least age category was 45⁺ (10.8%) implying that the majority of the student respondents are still young and on undergraduate programs. As Busitema University operates on a multi-campus model, a question was posed to determine the distribution of

respondents across the different campuses. Majority of the responding students were from main campus (38.6%), followed by Nagongera (22.1) and least was Pallisa (6.2%) and the bulk are on degree program constituting (43%) followed by diploma (32.4%) and the least are on postgraduate programs (11.8%) implying that not many students embrace upgrading on graduate programs

Regarding age groupings, most of the respondents from university staff are in the range of 35-39 years of age (40.0 per cent), followed by 30-34 (30.0 per cent) and the least is 20-29 (10.0%) implying that majority of respondents in this cluster are mature enough to internalize the importance of access and usage of library resources. Also, the majority of the participating staff are male (60 per cent) compared to female (40 per cent) which represents gender imbalance in university recruitment policies. Regarding the level of academic qualification for staff, majority comprising 83% hold postgraduate qualification, certificate (00%), diploma (6.6%), and bachelors (10%) respectively. This is expected considering the tight regulation issued by National council for Higher Education (NCHE) pertaining to the competence and quality of required staff in institutions of higher learning. Majority of responding staff are from *main campus* (43.3%), followed by *Nagongera* (30%) and the least from *Pallisa* (3.3%) and are at the level of Lecturer (40%), followed by Senior Lecturer (26.6%), Teaching Assistant (13.3%), professor (10%), Assistant Lecturer (6.6) and Associate Professor (3.3%) respectively. This means the university has to do more to build staff capacity so as to get majority promoted to higher positions such as Senior Lecturer, Associate Professor and Professor on the university structure. The details of demographic features of the respondents are provided in Table 4.I above.

4.2.2 How the Library Resources and Services are utilized at Busitema University

This objective sought to investigate the level of access and usage of library resources and services at Busitema University. To ascertain the level of usage of library resources by the participants, different options/statement were provided which required the participants to indicate the extent to which such statements were agreeable to them. The average mean score and standard deviations are indicated in Table 4.2 below.

Table 4.2: Level of usage of Library resources among Busitema university staff and students

	Purpose of use	SD	D	N	A	SA	Total	Mean	SDV
		Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)		
1.	I use information resources in the library often	44 (19.6)	104 (46.4)	27 (12.1)	26 (11.6)	23 (10.3)	224 (100)	2.46	1.22
2.	I use information resources in the library occasionally	26 (11.6)	42 (18.8)	19 (8.5)	69 (30.8)	68 (30.4)	224 (100)	3.49	1.39
3.	I rarely use information resources in the library	21 (9.4)	46 (20.5)	22 (9.8)	71 (31.7)	64 (28.6)	224 (100)	3.49	1.34
4.	I have never used information resources in the library because I have all the books I need for my study or I have a laptop which provides me with all the information I need	23 (10.3)	49 (21.9)	21 (9.4)	70 (31.3)	61 (27.2)	224 (100)	3.43	1.36
Key: SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly Disagree; SD-Standard Deviation									

As seen from Table 4.2 above regarding the frequency of access and usage of library resources, it can be seen that majority of sampled staff and students from Busitema university, Strongly Disagreed (19.6%) and Disagreed (46.4%) to using information resources often in the library with the lowest (Mean=2.46, SD=1.22). As well, majority of sampled staff and students strongly agreed (30.8%) and Agreed (30.4%) to occasional use information resources in the library with (Mean=3.49, SD=1.39) followed by staff and students who rarely use the information in the library (Strongly Agreed (31.7%) and Agreed (28.6%) positing a higher mean (Mean=3.49, SD=1.36). Finally, were the university staff and students who never used information resources in the library with (Mean=3.43, SD=1.36). From the foregoing, it is evident that the level of access and usage of information resources from Busitema university library among staff and students is low or rather not impressive.

4.2.3 Relationship between Perceived Usefulness and Utilization of Library Resources and Services at Busitema University

In order to determine the extent and direction of the relationship between independent variables (perceived ease of use and perceived usefulness) and dependent variable (library usage), I used Pearson correlation coefficient (*r*). The analysis strategy involved aggregating participants' scores on each item measuring perceived useful to arrive at an index score: the same procedure was used for the construct of access and utilization of library resources and services. Thereafter, a

relationship test was undertaken by correlating both perceived usefulness and access and usage of library resources. Results of this test are displayed in Table 4.2 below:

Table 4.3: Correlation Analysis

Variable	(1)	(2)	(3)
Library Usage (1)	1		
Perceived Ease of Use (2)	.454**	1	
Perceived Usefulness (3)	.298**	.266**	1

** Correlation is significant at the 0.01 level (1-tailed); n = 224

Source: Primary data, 2020

4.2.4 Perceived Ease of Use and Library Utilization

Results in Table 4.2 indicate a significant positive relationship between Perceived Ease of Use and utilization of library resources ($r = 0.454, p < 0.01$). These results imply that the more library users perceive technology such as KOHA ease to use, the more there will be increased access to and usage of the library resources.

4.2.5 Perceived Usefulness and Library Utilization

Results in Table 4.2 indicate a significant positive relationship between Perceived Usefulness and utilization of library resources ($r = 0.298, p < 0.01$). These results imply that the more library users perceive technology such as KOHA as useful, the more there will be increased access to and usage of the library resources.

4.2.6 Challenges Encountered by Students and Academic Staff in the Process of Utilization of Library Resources and Services at Busitema University Library

Challenges pose threats and constrain institutional capacity to enhance access and utilization of library resources and services in universities. As such, there is need for stakeholders to take immediate action to deal with these challenges. Accordingly, in order to identify these challenges, participants were provided with a list of challenges as discerned from literature and required to rate the extent to which these challenges are in existence within Busitema University. The respondents (both staff and university students) provided information about challenges encountered during the process of access and utilization of library resources at Busitema University as follows: limited learning resources and services, inadequate funding, Insufficient ICT infrastructure, lack of necessary ICT knowledge, limited computer literacy, limited information literacy, poor marketing of library resources and services, limited training of library

users, poor internet facilities, information overload, limited qualified it personnel, e-resources are licensed for a limited time, and limited library education - see Table 4.4 below:

Table 4.4: Limiting Factors for The Effective Utilization of Library Resources in Busitema University

	Factors	SD	D	Neutral	A	SA	Total	Mean	SDV	Decision
1.	Limited learning resources& services	26	22	26	57	93	224	3.44	1.51	Agree
2.	Inadequate funding	15	26	15	68	100	224	3.94	1.25	Agree
3.	Insufficient ICT Infrastructure	16	35	12	71	90	224	3.82	1.30	Agree
4.	Lack of necessary ICT Knowledge	31	39	23	65	66	224	3.42	1.42	Agree
5.	Limited computer Literacy	59	67	27	41	30	224	2.62	1.39	Disagree
6.	Limited Information Literacy	18	41	9	65	91	224	3.75	1.36	Agree
7.	Poor marketing of library resources & services	18	45	25	80	56	224	3.49	1.28	Agree
8.	Limited training of library users	2	19	16	129	58	224	3.99	.867	Agree
9.	Poor internet facilities	4	22	14	91	93	224	4.10	1.01	Agree
10.	Information overload	12	24	30	85	73	224	3.81	1.15	Agree
11.	Limited qualified IT personnel	33	38	16	75	62	224	3.42	1.42	Agree
12.	E-resources are licensed for a limited time	9	47	19	107	47	224	3.60	1.15	Agree
13.	Limited library education	13	28	26	79	78	224	3.80	1.20	Agree
14.	Limited motivation	15	25	10	90	84	224	3.85	1.29	Agree
Key: SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly Disagree; SDV-Standard Deviation										

Table 4.4 above shows that there are several factors that encumber effective utilization of library resources in Busitema University. Table 4.4 above however demonstrates that, save for limited computer literacy, a mean score on all the items (that is, 1-14) are above the cut of mean of 3.0. This shows that: limited learning resources and services, inadequate funding, Insufficient ICT infrastructure, lack of necessary ICT knowledge, limited information literacy, poor marketing of library resources and services, limited training of library users, poor internet facilities, information

overload, limited qualified IT personnel, licensing of e-resources for a limited time, limited library education and lack of motivation limit the effective utilization of library resources in Busitema University. Some of these factors are expounded below and supported by vignettes from key informants.

Inadequate Infrastructure

Both staff and students reported inadequate infrastructure to support access and usage of library resources. They reported that while the library has some desktop computers that are internet connected, besides being few to match the growing number of users, such computers are not functioning well and internet connectivity is constantly poor. This has limited access and usage of library resources.

Lack of a Clear Library Policy

It was a universal consensus among both the staff and students that the university lacked a clearly articulated policy to support and guide access and utilization of library resources. Without this policy, usage has persistently been a challenge and this has been compounded by the University's multi-campus model of governance. In line with this challenge, one respondent noted:

'... it is very cumbersome to monitor and control access and usage of both print and e-resources due to lack of explicit policy that can clearly define library resource usage. For instance, due to absence of the policy, some users resort to downloading pornography thereby increasing traffic, yet, no action can be taken against this vice due to lack of library usage policy...'

This was collaborated by a university library staff when he mentioned:

'... the lack of clear policy and procedures manual to guide library users on usage of library resources has inadvertently lowered usage levels of fundamental resources as found in this academic unit- library...'

Limited Motivation

Both staff and students reported limited motivation to make staff and university students, access and use library resources. The respondents revealed limited effort by the university to encourage

and support both its employees and students to access and use the existing library resources.

Consistent with this, two respondents stated:

'... this university needs to motivate its staff and student population to enhance access and usage of library resources through practices such as workshops on library resource usage, training besides recognition and rewards... (Library staff).'

Another respondent said:

'..... we are never inspired or motivated to use the library resources especially the electronic resources. Their relevancy to our academic purpose seems not to be very clear... (Student).'

The above revelations highlight the impact of motivation in enhancing access to and utilization of library stock/ resources.

Lack of Skilled and Experienced Personnel

Both library staff and the students reported lack of skilled and experienced staff especially within the library which has encumbered access and usage of resources. In regard to this, one library staff reported that:

'... we in the library, we are understaffed and we have inadequate skilled staff with limited competence and experience to handle the demands of this library and the users. This practice has negatively affected the level of utilization of library resources... (Library staff).'

Lack of Resources

Both university staff and the students reported lack of resources, most particularly mobile resources like laptops, mobile smart phones and tablets that they can use while in their offices and lecture rooms to access and utilize the library resources. As well, they also reported that most devices in use have social media tools such as *Google Drive* and *Drop Box* which can be downloaded and used to enhance access and usage of library resources.

Technological/Technical Challenges

Both university staff and the students reported technological/technical challenges as institutional challenges affecting the utilization of social media tools such as face book, *Google-Drive* among others to enhance access and utilization of library resources. Specifically, there was reported lack of technical skills to guide them fix and configure some of the technical issues that may arise. In regard to this, one library staff reported that:

'... we have regularly encountered technical challenges that have constrained our ability to enhance library resource utilization, especially retrieval of electronic resources yet no staff has been handy in resolving these challenges ...(Student).'

4.2.7 Strategies to enhance Utilization of Library Resources and Services at Busitema University

Strategies enable access and usage of library resources and services to take place easily in academic institutions as they create robust understanding of the access and usage of library resources and services. Besides, they articulate the value of library resources and services to diverse university community. Therefore, in determining the plausible interventions necessary to deal with the low utilization levels, respondents including the University Librarian, University Secretary, Deans of Faculties and Deputy Vice Chancellor in charge Academic Affairs were asked about this. Their responses are provided below.

Organizational Support

There is need for the university to support the whole range of processes of access tools in order to enhance access and utilization of library resources. This can be done through a number of initiatives. For instance, this support can be in terms of provision of resources and financial resources to support diverse library activities as well as recruitment of experienced staff and provision of professional training to existing library staff in order to ease the process of access and usage of library resources.

Technical Support

Both respondents, that is, the students and the staff suggest that the university should provide good technical support on the use of a range of information access devices and system in order to enhance utilization of library resources. They also suggest training of especially library staff on how to integrate and use information access tools to increase access and usage of library resources.

Policy Framework to Support Resource Access and Usage

Both respondents, that is, the students and the staff recommend establishment of resource utilization culture including policy and procedures manual (guidelines) to help specify in detail process for appropriate library resource utilization in Busitema University. With the policy and procedures manual in place, all major decisions, actions and doctrines or principles of the university relating to library resource utilization will be regulated, as these documents provide necessary authority and guidance on organizational practices relating to hiring practices and other information access and usage related practices.

4.3 Discussion of Findings

4.3.1 Level of Utilization of Library Resources

The study sought to establish the level of access and utilization of library resources and services among the staff and students of Busitema University. Findings of the study revealed underutilization of library resources (both print and e-resources) and services of Busitema University. The study findings indicate that KOHA and its associated links, the e-books, e-journals as well as the mass resources in print- remain mostly underutilized which is consistent with the findings of Geetha et al. (2016) and Soltani and Nikou (2020). This trend represents a fundamental concern for university management in general and the library managers in particular. The university has invested massively in a range of resources, including: equipment, infrastructure, human, and financial resources aimed at developing an integrated library and information services to match international standards. In this respect, persistent and sustained underutilization of library resources and services leads to increased wastage of institutional effort.

The main reasons attributed to this library resource and services' underutilization trend include: limited learning resources and services, inadequate funding, Insufficient ICT infrastructure, lack of necessary ICT knowledge, limited information literacy, poor marketing of library resources & services, limited training of library users, poor internet facilities, information overload, limited qualified IT personnel, licensing of e-resources for a limited time, limited library education and lack of motivation and limited library and information skills. These are mirror what has consistently revealed in literature (Armah & Cobblah, 2021; Soltani & Nikou, 2020; Shastri &

Chudasma, 2021; Mawere and Koi, 2018). Optimum utilization of library information resources and services will therefore require a sustained culture in which library users, that is, both staff and students are equipped with information and vitally examine information together with its associated sources and integrate preferred information in individuals' knowledge for a variety of purposes. Also, university management will have to provide organizational support in regard to offering a conducive environment for access and usage to thrive besides putting in place an enabling policy framework to support resource and services' access and usage.

The thirteen factors recognized by the study as being significant in enhancing access and usage of library resources and information services and resources *inter alia*: sufficient learning resources and services, adequate funding, sufficient ICT infrastructure, availability of necessary ICT knowledge, development information literacy, appropriate marketing of library resources & services, training of library users, provision of internet facilities, reduction on information overload, qualified IT personnel, timely licensing of e-resources, library education, provision of sufficient library and information skills, and motivation provide an operational lens for management of institutions of higher learning to improve library functionality in respect to facilitation of access and usage.

As well, the revealed factors mirror those factors that have consistently been referred to as enablers for access and utilization of library resources and services (Ifijeh, 2013; Mamman, 2015; Saleem, Tabusum & Batcha, 2014; Armah & Cobblah, 2021; Soltani & Nikou, 2020; Shastri & Chudasma, 2021; Mawere & Koi, 2018). Thus, improvement in utilization of library resources will demand a culture in which management tackles the bottlenecks to access and usage as this study has established. Competency has to be developed among the library information users through training, a considerable level of motivation has to be provided to inspire all stakeholders pursue the most fundamental goal of enhancing access and usage of these resources and services. Information literacy has to be developed as users with this attribute are able to use library information (resources and services) effectively and efficiently in learning, generating new knowledge, solving pertinent challenges as well as navigating crucial decisions. Considering the relevancy of information skills, university management should take steps to ensure that library users are empowered with a range of information literacy skills to ease access through diverse

sources of integrated library services. Also, designing of a library user education program that integrates all the stakeholders, can assure optimal utilization of overarching information resources available through the library and information services framework.

4.3.2 Perceived Usefulness and Utilization of Library Resources and Services

This objective sought to establish whether a relationship exists between perceived usefulness and level of access and usage of library resources and services. The findings revealed that perceived usefulness is positively and significantly related to access and usage of library resources and services, thereby confirming hypothesis one. These findings are consistent with earlier studies by Tezer and Soykan (2017), Izuagbe and Popoola (2017); Joo and Choi (2016); Nasser Al-Suqri (2014); Williams et al. (2015); Yoon (2016) and Zhang et al. (2014); Phan, Nguyen and Bui (2019); Nguyen and Luu (2020). This is because perceived usefulness complements topical relevance on part of the user of library resources and services in explaining library users' decisions and their interactions with systems (Belkin, 2015), thereby leading to enhanced access and usage of library resources and services.

These findings suggest that when library users perceive existing library technologies and system as useful and able to increase efficiency and effectiveness in resource usage, with the potential to aid the users track all the required resources and services from the library, the access and usage of this resources and services will drastically improve. In light of this, efforts to enhance library resource and services' usage will demand a culture where management brings on board access systems and technologies perceived by the users as useful.

4.3.3 Perceived Ease of Use and Utilization of Library Resources and Services

This objective intended to find out if a relationship exists between perceived ease of use and level of access and usage of library resources and services. The findings revealed that perceived ease of use is positively and significantly associated with access and usage of library resources and services thereby confirming hypothesis two. These findings provide support for earlier studies of Briz-Ponce et al. (2017); Fabian et al. (2018); Gikas and Grant (2013); Nwachukwu and Onyenakeya (2017); Tezer and Soykan (2017); Nguyen and Luu (2020); Le, Ngo, Trinh and Nguyen (2020) and Fu, Shang, Jeyaraj, Sun, and Hu (2019). This is because the easier it is, for the users to interact with a system, the more likely they will find such a system useful and easy to

use (Thong *et al.*, 2004), thereby facilitating easy and enhanced access to and usage of the library resources and services.

The findings as well support the TAM (Davis, 1985) that argues that when users are presented with a recent technology, multiple factors determine their acceptance decision relating to how and when to use it. One of such factors include: PU of the system and PEOU of the technology. Therefore, drawing from the TAM model, library users in institutions of higher learning can through a computer system be linked adequately well to local database or Internet thereby facilitating library resource utilization and consequently improving academic actions such as information search to facilitate assignment completion.

These findings suggest that when library users perceive existing library technologies and system as ease to use, there will be increased efficiency and effectiveness in resource usage. Therefore, ease of use of portable devices by library users to exchange education-related messages and academic files with classmates, search the internet and library databases for academic materials, practice online quizzes or tests and holding discussions with classmates among others, has the potential to significantly improve access, search and usage of library resources and services instantaneously. In view of this, efforts to enhance library resource and services' usage will demand a sustained culture where university management in general and library management in particular embraces library access systems and technologies that are friendly and are as well perceived as easy to use, if enhance library resource and services utilization is to be achieved. A user- interface system and technology that is intuitive and clear enables library users to easily locate information using existing technological devices thereby promoting access and usage of library resources and services.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

In this chapter, the summary of the study, conclusions and recommendations are presented based on the key study findings on the access and utilization of library information resources provided through Busitema University. Specifically, this section presents the summary, conclusions and recommendations based on the findings of the study as highlighted in the previous chapter. Conclusions based on the study findings are made by tackling the purpose of the study. As well, the recommendations and suggestions for further research are addressed in this part of the study. The chapter is organized into five subsections: first subsection deals with summary of the study, the second subsection focuses on conclusions, the third subsection highlights recommendations, while the fourth subsection provides limitations of the study and highlights those areas that require further investigation.

5.2 Summary of Findings

The study aimed at examining the utilization of library/information resources and services at Busitema University. To achieve this, the following objectives were set: To establish how library resources and services are utilized at Busitema University; to examine the relationship between perceived usefulness and utilization of Library Resources and services at Busitema University; to examine the relationship between perceived ease of use and utilization of Library Resources and services at Busitema University; to establish the challenges encountered by students and academic staff in the process of utilization of library resources and services at Busitema University library and to propose strategies necessary to enhance utilization of library resources and services at Busitema University. The population of the study comprised of both students and staff of Busitema University. The study adopted a mixed research design using both the qualitative and the quantitative approaches. The methods of data collection involved document review, questionnaire and interview guide. Thematic analysis, descriptive statistics, correlation and regression analysis techniques were used to analyze data. Data were presented

in form of percentages, and tables with illustrative quotes or statements from the interviews. The following summaries were generated from the key objectives and findings of this study:

5.3 Conclusion

5.3.1 Utilization of Library Resources and Services

The study concludes that there are low levels of utilization of library resources and services within Busitema University. Factors that might have contributed to this situation range from low literacy skills, limited awareness of the accessible library resources and services inadequate and irrelevant resources and power outages, limited learning resources and services, inadequate funding, insufficient ICT infrastructure, lack of necessary ICT knowledge, limited information literacy, poor marketing of library resources and services, limited training of library users, poor internet facilities, information overload, limited qualified IT personnel, licensing of e-resources for a limited time, limited library education and lack of motivation, and limited library and information skills.

5.3.2 Relationship between perceived usefulness and utilization of Library Resources and services

perceived usefulness is necessary to achieve enhanced access and usage of library resources and services. This can be achieved through using appropriate systems and technologies that can quickly enable users track their regular tasks, resources and services that they require from the library setting. Perceived usefulness will thus improve efficiency and effectiveness with which library resources and services are utilized.

5.3.3 Relationship between perceived ease of use and utilization of Library Resources and services

perceived ease of use (PEOU) is a key driver for improved access and usage of library resources and services. Systems and technologies perceived as easy to use facilitate easy access and retrieval or location of resources and services in the library using available technological devices, which in turn will enhance utilization of library resources and services.

5.3.4 Challenges encountered by students and academic staff in the process of utilization of library resources and services at Busitema University library

The study concludes that several factors act in concert to limit access and utilization of library resources and services. These included: limited learning resources and services, inadequate

funding, insufficient ICT infrastructure, lack of necessary ICT knowledge, limited computer literacy, limited information literacy, poor marketing of library resources and services, limited training of library users, poor internet facilities, information overload, limited qualified IT personnel, e-resources are licensed for a limited time, and limited library education. Majority of these, are common challenges attributable to limited funding. However, the ongoing budgeting reforms in Busitema University will help deal with these challenges as identified.

5.3.5 Strategies to enhance utilization of library resources and services at Busitema University

In view of the above challenges, this study finds infrastructure upgrade in terms of building and technological system, altering traditionally mechanic institutional systems to those based on modern and organic approach, strengthening access to e-resources through enhancing information literacy practices, training in ICT skills in order to bridge existing gaps in access and usage of library resources as necessary interventions to enhance library utilization of resources and services.

5.4 Recommendations

In the view of the research findings, conclusions, and implications of the study findings as discussed, the study makes some recommendations to enable enhanced access and usage of library resources and service in Ugandan universities.

5.4.1 Recommendation on level of utilization of library resources and services

Universities need to appreciate that access and usage of library resources is critical for users' capacity to take efficient and resourceful research decisions. This study established that the level of access and usage of library and services is generally poor at the university as indicated in Section 4.2.2. This has among others led to low quality graduates and limited research outputs. Therefore, it is recommended that university leadership comprising of the Vice Chancellor, University Secretary, University Bursar, University Librarian among others, need to identify and appreciate the diverse inhibitors of access and utilization of library resources and map out strategies to deal with this problem. Specifically, considering that accessibility is a fundamental factor that affects access and usage of library resources and services, institutional librarians need to endeavor to provide suitable library skills programs that are accessible with no trouble within a user-friendly environment. Furthermore, although library user, in this context, staff and students have substantial understanding, knowledge and experience in research, libraries should endeavor to

raise awareness for example through workshops among staff and students about the services and resources that are available in the library setting and how to locate and how these can be located.

5.4.2 Recommendation on the relationship between perceived usefulness and utilization of Library Resources and services

The findings of the study posit that perceived usefulness was found to be more important in influencing technology acceptance in library access and resource utilization among universities. Accordingly, it is recommended that the designers of the library information access systems such as Systems' Librarians, the Information Management experts in the Directorate of ICT should enhance perceived usefulness either by adding additional functional capabilities to the system, or by making it easier to invoke the functions that are already in existence.

5.4.3 Recommendation on the relationship between perceived ease of use and utilization of Library Resources and services

The study found that perceive ease of use of any technology and system is a significant enabler for enhanced access and utilization of library resources and services. In light of this, it is recommended that those in charge of developing access packages and systems such as Systems' Librarians, the Information Management experts in the Directorate of ICT should try to make the navigation and design layout easily understandable and less challenging to use.

5.4.4 Recommendation on strategies to promote utilization of library resources and services

It was found that the major strategies used to enhance access and utilization of library resources and services at Busitema University were: infrastructure upgrade in terms of building and technological system, adoption of modern and organic approach to resource usage, strengthening access through enhancing information literacy practices, training in ICT skills in order to bridge existing gaps in access and usage of library resources as necessary interventions to enhance library utilization of resources and services. The study therefore recommends that universities should put in place policies and legislations to encourage usage of these strategies. The University should through legislations, guidelines and policies create a library and information skills unit with mandate to design and monitor timely interventions into the relentlessly changing information needs of user both for on- and off- university students across diverse programs.

Universities should ensure that they recruit qualified library staff to take charge of institutional libraries as they have the experience in the arrangement and management of the resources and services of the library. Finally, whilst learners have diverse capabilities and experience regarding access and usage of library resources and services, institutional library staff should regularly provide education throughout the academic year for students at all levels, with major focus on the students who depict unfamiliar tendencies pertaining university library practices. University library staff may not independently assume this responsibility of education or instruction but can take a lead in enabling library users, that is, staff and students access and locate library information.

5.5 Suggestions for Future Studies

First, this study was limited to the staff and students of Busitema University and as such, the findings are limited to the sample studied, which places doubts on the question of generalizability to other settings. Therefore, there is a serious question regarding external validity. Despite the aforesaid limit of this study, it provides a basis to investigate library access and usage in other Universities and institutions of higher learning. Therefore, it is recommended that this study be replicated in other settings, that is, other universities and institutions of higher learning in order to address issues pertaining to external validity. Research in the area of access and usability of library resources and services generally is in formative stages and as such, there remains much to be done in order to enhance accessibility and usage of library resources and services.

Secondly, this study is grounded on the theoretical assumption of TAM (Davis, 1985) that argues that when users are presented with a recent technology, multiple factors such as perceived usefulness (PU) and perceived ease of use (PEOU) determine their acceptance decision relating to how and when to use it. However, some studies have suggested that TAM is not specifically appropriate to investigate the use of open-source software, which may be of value to many institutions of higher learning, particularly in developing countries, that are persistently grappling with financial constraints (Laugasson, Quaiocoe, Jeladze & Jesmin, 2016). Laugasson et al. (2016)'s argument is premised on the foundation that open-source platforms and software are free technology, which do not necessarily create an inducement for the library users as it is free. Consequently, the perception concerning the ease of use and level of usefulness does not hold because the technology can easily be replaced with other free and open-source technologies. It is

therefore recommended that similar study, that is, access and usage of library resources be investigated from the theory of Reasoned Action (TRA), the Theory of Planned Behavior (TPB) and the Unified Theory of Acceptance and Use of Information Technology (UTAUT) lens in order to provide a complete understanding of the library utilization of resources and services.

Finally, the present study comprises samples only from the staff and students of Busitema University, future studies should attempt to broaden the scope by including members of the community as part of community engagement and corporate social responsibility.

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APPENDICES

APPENDIX 1: Questionnaire

Dear Respondent,

My name is NTAGA Eriya, pursuing a Master of Science in Information Science of Makerere University in Uganda. I am conducting a study on **Utilization of library resources and services among academics and students of Busitema University in Uganda**. I am kindly inviting you to respond to the following questions for my research project, as part of the requirements for the graduation fulfillment of the Master of Science in Information Science of Makerere University. This study captures issues on perceived usefulness (PU), perceived ease of use (PEOU), challenges and strategies to enhance information access and usage in Busitema University in Uganda. Any information provided here shall remain confidential and you will remain anonymous. Your cooperation will be greatly appreciated.

***** Thank you*****

SECTION A: BACKGROUND INFORMATION

For each of the following questions, please tick what best describes your answer

A1: INDIVIDUAL STAFF CHARACTERISTICS

Gender

Male	Female
1	2

Age

20 – 29 years	30 – 34 years	35 – 39 years	40 – 44 years	45 and above years
1	2	3	4	5

Education background

Diploma	Degree	Post graduate qualification
1	2	3

Position held at the University

Teaching Assistant	Assistant lecturer	Lecturer	Senior Lecturer	Ass. professor	Professor
1	2	3	4	5	6

Campus

Pallisa	Arapai	Nagongera	Namasagali	Mbale	Main Campus
1	2	3	4	5	6

A2: INDIVIDUAL STUDENT CHARACTERISTICS

Gender

Male	Female
1	2

Age

20 – 29 years	30 – 34 years	35 – 39 years	40 – 44 years	45 and above years
1	2	3	4	5

Year of study (For Students only)

First year	Second year	Third year	Fourth year	Fifth year
1	2	3	4	5

Program of study

Certificate	Diploma	Bachelors	Post graduate qualification
1	2	3	4

Campus

Pallisa	Arapai	Nagongera	Namasagali	Mbale	Main Campus
1	2	3	4	5	6

SECTION B: TECHNOLOGY AND SYSTEMS USAGE

Under this section, you are required to give your independent opinion based on the key provided below

Strongly Disagree (SD)	Disagree (D)	Not Sure (NS)	Agree(A)	Strongly Agree (SA)
1	2	3	4	5

	Perceived usefulness (PU)	SD	D	NS	A	SA
	Questionnaire Items					
PU 01	Using the existing library technologies & system has increased the efficiency of my daily work	1	2	3	4	5
PU 02	The existing library technologies and system is useful to me as a student/lecturer	1	2	3	4	5
PU 03	This library technologies and system allows me to better schedule my time	1	2	3	4	5
PU 04	This system/technology makes it easier for me to keep track of my weekly tasks	1	2	3	4	5
PU 05	The library technology/ system allows me to easily track all the resources and services which I require in this library	1	2	3	4	5

	Perceived Ease of Use (PEOU)	SD	D	NS	A	SA
	Questionnaire Items					
PU 01	The technology/system that we use to access and locate resources and services in this library is user friendly	1	2	3	4	5
PU 02	The technology/system we use to locate resources & services in this library is easy to interact with	1	2	3	4	5
PU 03	Learning to use existing technology to locate resources & services in this library is easy	1	2	3	4	5

PU 04	I usually find the user- interface of the system/technology clear and intuitive	1	2	3	4	5
PU 05	I easily locate information I am looking for using existing technological devices in this university library	1	2	3	4	5

	Challenges inhibiting information access and Usage	SD	D	NS	A	SA
	Questionnaire Items					
CH 01	Limited learning resources and services	1	2	3	4	5
CH 02	Inadequate funding	1	2	3	4	5
CH 03	Insufficient ICT infrastructure	1	2	3	4	5
CH 04	Lack of relevant ICT knowledge	1	2	3	4	5
CH 05	Limited computer literacy	1	2	3	4	5
CH 06	Limited information literacy skills	1	2	3	4	5
CH 07	Poor marketing of library resources and services	1	2	3	4	5
CH 08	Limited training of library users and staff	1	2	3	4	5
CH 09	Poor internet facilities	1	2	3	4	5
CH 10	Information overload	1	2	3	4	5
CH 11	Limited qualified ICT personnel	1	2	3	4	5
CH 12	e- resources are licensed for a limited time	1	2	3	4	5
CH 13	Lack of motivation	1	2	3	4	5
CH14	Limited library education	1	2	3	4	5

	Utilization of library resources and services	SD	D	NS	A	SA
	<i>Following this scale, please tick the number that best describes the situation in relation to the statements below</i>					
LRS 01	I regularly use the university/campus library for academic purpose	1	2	3	4	5
LRS 02	I often make use of the university ICT laboratory	1	2	3	4	5
LRS 03	My course work & research has benefitted from the introductions, orientations, inductions, etc. I was motivated to using the library& its resources	1	2	3	4	5
LRS 04	I am at a loss when faced with doing an assignment in the library	1	2	3	4	5
LRS 05	I feel frustrated when I have academic assignments to do using library resources and services	1	2	3	4	5
LRS 06	I am encouraged by my lecturers and library staff to use the library	1	2	3	4	5
LRS 07	The library skills' training program has given me all the preparation I need for finding information in the library	1	2	3	4	5
LRS 08	I feel comfortable when using library electronic resources provided through the Busitema library Web site	1	2	3	4	5
LRS 09	I use KOHA, an integrated information system, accessible through the Internet to identify the resources and services I need	1	2	3	4	5
LRS 10	When I walk into the library I feel I want to do some serious work	1	2	3	4	5
LRS 11	The library is the heart of the university	1	2	3	4	5
LRS 12	I feel well able to do research using library resources	1	2	3	4	5

LRS 13	Librarians are possessive of their books and reluctant to tell users about their services	1	2	3	4	5
LRS 14	Librarians are overworked and often too busy to help	1	2	3	4	5
LRS15	I can find the information I need for my units through the library's Web site	1	2	3	4	5
LRS16	I feel there is need to learn about library e-resources	1	2	3	4	5
LRS17	Whenever I am doing research in the library, I get the feeling that there are information resources on my topic that I am missing	1	2	3	4	5
LU18	I use information resources in the library Often	1	2	3	4	5
LU19	I use information resources in the library Occasionally	1	2	3	4	5
LU20	I rarely use information resources in the library	1	2	3	4	5
LU21	I have never used information resources in the library because I have all the books I need for my study and also a laptop which provides me with all the information I need	1	2	3	4	5

APPENDIX II: Interview Guide for Senior Management

Dear Respondent,

I am a Masters student pursuing a Master of Science in information science, of Makerere University in Uganda. I am conducting a study on **Utilization of library resources and services among academics and students in Busitema University in Uganda**. I am kindly inviting you to respond to the following questions for my research project, as part of the requirements for the fulfillment of the Master of Science in information science, of Makerere University. Any information provided here shall remain confidential and you will remain anonymous. Your cooperation will be greatly appreciated.

1. Name of Position in the university.....
2. Name of Department:
3. Highest level of education
4. What types of library resources and services exist within Busitema University library?
5. What organizational structures are in place to promote utilization of library resources and services among academics and students of Busitema University?
6. Are the academics and students willing to access and utilize the existing library resources and services?
7. How do you support access and utilization of library resources and services in your in your university?
 - (i) Do you have staff designated for access and utilization of library resources and services?
8. What facilities are available to promote utilization of library resources and services in this university?
9. What policies exist to enhance utilization of library resources and services in Busitema University?
10. What budgetary provisions are made to facilitate utilization of library resources and services?
11. What strategies exist in your university to promote utilization of library resources and services?
12. How are academics and students motivated to access and utilize existing library resources and services?
13. Does the university culture promote library resources and services utilization? How do you support/ promote culture of utilization of library resources and services' utilization in this university?

15. What can be done to improve utilization of library resources and services among academics and students in Busitema University?

THANK YOU FOR YOUR TIME AND COOPERATION