

**INFORMATION COMMUNICATION TECHNOLOGY INTEGRATION AND
PERFORMANCE OF LIBRARIES IN PUBLIC UNIVERSITIES IN NAIROBI CITY
COUNTY, KENYA**

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DECLARATION

This research project is my original work and has not been presented for a degree or any other award in any other university.

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DEDICATION

This research project is a dedication to God Almighty for His grace which saw the research through to the end. I want to also dedicate this project to my family more sore my father Mr. James Kariuki Waigi, my mother Mrs. Margret Mumbi Kariuki and my sisters who have always shown their support for me through encouragement as well as proving emotional and monitory support.

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TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGMENT	iv
LIST OF TABLES	ix
LIST OF FIGURES	x
ABBREVIATION AND ACRONYMS	xi
OPERATIONAL DEFINATION OF TERMS	xii
ABSTRACT	xiii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study.	1
1.1.1 Library Performance	3
1.1.2 ICT Integration	4
1.2 Statement of the Problem.....	7
1.3 Objectives of the Study.....	8
1.3.1 General Objective.....	8
1.3.2 Specific Objectives.....	8
1.3.3 Research Questions	8
1.4 Significance of the Study	9
1.5 Scope of the Study	9
1.6 Limitation of the Study	9
1.7 Organization of Study	9
CHAPTER TWO	10
LITERATURE REVIEW	10
2.1 Introduction	10

2.2 Theoretical Literature Review.....	10
2.2.1 Technology Acceptance Model.....	10
2.2.2 Resource Based View Theory	11
2.2.3 Unified Theory of Acceptance and Use of Technology.....	11
2.3 Empirical Review.....	12
2.3.1 E-resources and Performance.....	12
2.3.2 Social Networks and Performance	13
2.3.3 Integrated Library System and Performance.....	14
2.3.4 Library Networking and Performance.....	15
2.4 Summary of Literature Review and Research Gaps	16
2.5 Conceptual Framework.....	18
CHAPTER THREE	20
RESEARCH METHODOLOGY	20
3.1 Introduction.....	20
3.2 Research Design.....	20
3.3 Target Population.....	20
3.3.1 Sample Size and Sampling Technique	20
3.4 Data Collection Instrument.....	22
3.4.1 Pilot Test	22
3.5 Validity and Reliability of Research Instruments.....	22
3.5.1 Validity of the Instrument	22
3.5.2 Reliability of the Instrument	23
3.6 Data Analysis and Presentation	23
3.7 Ethical Consideration.....	24
CHAPTER FOUR.....	25

RESEARCH FINDINGS AND DISCUSSIONS	25
4.1 Introduction.....	25
4.2 Response Rate.....	25
4.3 Reliability Results.....	25
4.4 Demographic Results	26
4.4.1 Gender of Respondents	26
4.4.2 Respondents' Education Level.....	27
4.4.3 Ages of Respondents	28
4.4.4 Work Experience.....	29
4.4.5 Department of Work.....	30
4.5 Descriptive Analysis	31
4.5.1 E-resources Effects on Performance	31
4.5.2 Social Networks Effects on Library Performance.....	33
4.5.3 Integrated Library System and Performance.....	34
4.5.4 Networking and Library Performance.....	35
4.5.5 Library Performance	37
4.6 Inferential Statistics	38
4.6.1 Correlation Analysis.....	38
4.7 Regression analysis.....	40
4.7.1 Model Summary.....	40
4.7.2 ANOVA	40
CHAPTER FIVE	43
SUMMARY, CONCLUSIONS AND RECOMMENDATONS.....	43
5.1 Introduction.....	43
5.2 Summary of Findings.....	43

5.3 Conclusion	44
5.4 Recommendations.....	45
5.5 Suggestions for Further Research.....	46
REFERENCES.....	47
APPENDIX I: QUESTIONNAIRE	50
APPENDIX II: APPROVAL RESEARCH LETTER.....	56
APPENDIX III: NACOSTI RESERCH PERMIT	57

LIST OF TABLES

Table 2.1 Summary of Research Gaps.....	17
Table 3.1 Library Professional Staff.....	21
Table 4.1 Reliability of Data Collection Instrument.....	26
Table 4.2 E-resources and Library Performance	32
Table 4.3 Social Media Effects on library Performance.....	33
Table 4.4 Integrated Library System and Library Performance	34
Table 4.5 Library networking and Library Performance	35
Table 4.6 Performance of Libraries	37
Table 4.7 Correlation Analysis	38
Table 4.8 Model Summary	40
Table 4.9 ANOVA	41
Table 4.10 Regression Coefficients	41

LIST OF FIGURES

Figure 2.1: Conceptual Framework	19
Figure 4.1: Gender of Respondents	27
Figure 4.2 Respondents' Education Level	28
Figure 4.3 Ages of Respondents	28
Figure 4.4 Respondents' Work Experience	30
Figure 4.5 Department of Work.....	31

ABBREVIATION AND ACRONYMS

CD-ROM:	Compact Disc Read-Only Memory
EIRs:	Electronic Information Resources
ICT:	Information and Communication Technology
ILS:	Integrated Library Software
JKML:	Jomo Kenyatta Memorial Library
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KUPML:	Kenyatta University Post Modern Library
KPI	Key Performance Indicators
KU	Kenyatta University
PINES	Public Information for Electronic Services
RBV:	Resource Based View Theory
TAM:	Technology Acceptance Model
UON	University of Nairobi
UTUAT:	Unified Theory of Acceptance and Use of Technology Model

OPERATIONAL DEFINATION OF TERMS

Academic library:	A building within the institution storing information Resources and it provides substantial information to its users
E-resources:	Materials in digital form that are accessed through computers including e-journals, e-books, CD-ROMS and online databases
Information and Communication Technology:	Computer based technologies aiding library functions such as: information access, storage and user-librarian communication
ICT integration:	Linking ICT with library functions like: information access and retrieval, communication.
Interlibrary resource sharing:	It is when one library allows users from different libraries access its information resources
Integrated Library Software:	Software created to combine all library functions like classification, acquisition into one system
Performance:	This is the extent to which library excels at its role to provide users with relevant information
Social media:	A place where people create own space on which they write blogs, Post video or music, share links to other web interest
Users:	People with access to the library.
User information need :	Refers to the necessity of users getting up to date information
User access need:	Refers to the necessity of users being able to access information conveniently

ABSTRACT

It is difficult to ignore the importance of a library in any university seeing it is one major source of information for students and staff. A research done on challenges faced by public universities libraries users indicated that poor collection development, limited access to information and poor service delivery were major challenges. The user needs have also changed and users are demanding for quick and easy access of information without necessarily going physically to the library. This raises the need for libraries to change the way they provide access to information for their users and improve on their collection as well as service delivery otherwise they may be rendered irrelevant to the users. As an effort to solve these challenges, academic libraries have started integrating Information Communication Technology (ICT) in their operations however, there has not been a well documentation showing the effects of integrating ICT on library performance. This study hence assessed ICT integration and library performance. This study's specific objectives were to investigate effects of: e-resources; social networks; integrated library software; library networking on library performance. The research was guided by three models namely: Technology Acceptance Model; Resource Based View theory and United Theory of Acceptance and Use of Technology Model .The research targeted public university academic libraries within Nairobi City County. Simple random sampling was used to come up with the sample to be used for the study. A total of 74 professional staff from various departments in both libraries constituted the respondents. To come up with the 74 staff, purposeful simple random sampling method was adopted. For data collection questionnaires were adopted. The researcher conducted a pilot study at Jomo Kenyatta University of Agriculture and Technology (JKUAT) library sampling 10 professional staff of the library. The research design embraced for this study was descriptive research design while descriptive and inferential statistics was adopted for data analysis. It was determined that ICT integration positively influenced how libraries performed and with a significant measure. The study gave a conclusion of E-resources, Social Networks, Information Management Systems and Networking having positively influenced with a significant measure the performance of these libraries. From the study, recommendation for academic libraries to integrate ICT fully in their functionality to achieve higher standards of performance was made. The researcher suggested other researchers can study other factors that affect library performance such as funding and staff satisfaction.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study.

Duffin (2019) states that academic libraries in higher institutions of education are meant to support the study of students and the research of faculty and to also support the curriculum. He further states that academic libraries in USA continue to vary as far as their users are concerned. Some of the libraries serve people who are not associated with the parent institution. Some libraries allow members of the public reading and borrowing privileges at a fee. Alumni and students of other cooperating local universities also get consideration for borrowing privileges. It is possible to find an academic library holding official government document repositories making it possible for the library to be open to the public. However, for some libraries, access is restricted to students, faculty and staff.

In Kenya most if not all academic libraries restrict their access only to people affiliated with the parent institution. According to (Kendeli, 2015) he observed that Jomo Kenyatta Memorial library (UoN) users were students and faculty from the institution. Kendeli further gave a statistical data citing the average number of users for the library. He observed that the library serves students whose number continues to increase annually as an average of 60,000 students is enrolled. Kenyatta University Post Modern Library also serves students and staff affiliated with the institution. In 2010 the library projected to serve a student population of 300,000. We can hence conclude that academic libraries main users are university students.

Given the crucial role the library plays in an institution, it becomes very important for libraries to identify and meet their users' information needs. Looking at the users' needs during the traditional ages, most users visited the library to aid in research. According to (Bakakutty & Majeed, 2005) to get information meant users going physically to the library, relying heavily on the librarians and spending a lot of time just finding the piece of information needed. This is different in the 21st century where the library are people who come at age in an era of Information Technology and are very fond of using Information Technology and social media. Robert (2015) says that in the 21st century user information and access needs have also changed. He observes that users in this century are people who are more interested in current information.

Users are also demanding to access information in the quickest, easiest way without necessarily visiting the library physically. Robert observes that meeting these needs has become a very huge challenge to the libraries in the 21st century. Adekele (2010) suggests that if libraries are to stay relevant to their users in the 21st century, moving from a manual driven environment to an ICT driven environment is paramount.

As the world is growing technologically, so are the library operations in various locations. Academic libraries have hence started integrating ICT in their functions with an aim of meeting the user information and access needs. In United States, most if not all academic libraries have integrated ICT into their services (Hussell, 2008). Infact public universities in America have in the 21st decade increased internet access as well as availability of ICT according Zaphiris (2018). This move has helped academic libraries satisfy the information needs of their users which continue to change as technology advances. Over the last two decades, University of Oxford, the University of Michigan at Ann Arbor, Stanford University, and the New York Public Library have worked with Google to digitize over 15millions of their collection. This has expedited information access for the users.

According to Mairaj (2012) libraries in developed countries computerized their operations two decades ago. However, the pace of ICT applications in libraries in developing countries has been very slow. Based on its economy, Asia is considered as developing. A research was done by Ramzan and Singh in 2008 aimed at determining how much of ICT had been integrated in libraries within Pakistani. The research concentrated on ICT infrastructure and digitization of information resources. From data collected, it was found that there was a low level of IT infrastructure and so integration levels of ICT were low as compared to developed countries. They recommended therefore for a major institutional effort to help in achieving high level (75-100 per cent) of automation of all academic libraries in Pakistan .This would enable librarians to organize their collections effectively and provide user-empowered library services and resource sharing at national and international level. Libraries cannot function effectively without sufficient computers, printers, e-mail, internet, library software and electronic resources in today's information driven society.

ICT integration in Africa has increased over the last decade. Cholla and Enakrire (2017) indicated that academic universities in Nigeria and South Africa are integrating ICT in

knowledge management. They went ahead to observe that libraries especially in Nigeria are faced with some challenges especially with the internet as the connection is slow. Acanit (2016) studied the status of ICT in academic libraries based in central Uganda. According to her, academic libraries have put in place basic ICT infrastructure with an objective of making it possible to access networking, web-based and internet services. However, Acanit raised a concern as to whether libraries were using ICT infrastructure to effectively serve their users' needs or was this infrastructure just for show in libraries. Going by the above findings, academic libraries have to ensure that they put up the right technology which will enable them fulfill the information needs of their users.

In Kenya, academic libraries have also started integrating ICT in their functions. Odongo (2011) states that the 21st century has seen academic libraries adopt a trend of provision of ICT facilities including computer section, internet ports and online public access catalogue (OPAC) section among others. E-resources have widely been integrated in most academic libraries in Kenya.

1.1.1 Library Performance

According to (Husain & Nazim, 2015) the vital activities of libraries comprise collection development, reference services management, document delivery service, access to organized collections held by the library and assisting users in information search and retrieval. This narrows it down to libraries main task being ensuring their users get the information they need. According to (Khalid, 2010, Libraries worldwide have a particular motive and various outlined objectives as per the stakeholders' expectations. A library that attains its objective and excels at its roles will be considered valuable to both the stakeholders and the users.

Libraries whether in the public universities or private universities are usually concerned with offering high quality services. As a result, these libraries are constantly in the process of creating strategies to improve the quality of services they provide. Performance measurement is a strategy that has been used over the years by libraries as a platform for providing feedback and improving decision making. Performance measurement becomes a key strategy in any organization seeing decision making cuts across all levels of management: strategic, mid-level management and operational control. According to (Poll & Boekhorst, 2007) performance measurement has been used for a long time in the libraries and has been described in the journals, books, handbooks, and International Standard Organization (ISO) standards in the Western world.

Performance of libraries is measured against key performance indicators (KPIs); user support, user satisfaction and motivated skilled staff. User satisfaction is a major KPI for library performance according to (Karim, 2018). This study will focus on user satisfaction as the measure for library performance. For user satisfaction to be achieved in the 21st century, both the information and access needs have to be achieved by libraries. This means the libraries have to adopt mechanisms to match these user needs. Information need is achieved based on a library collection. The library has to understand that in the 21st century users are diverse. This brings us to the fact that libraries have not only to consider historical information resources but also current information. Access user needs refers to the necessity of users getting information in the fastest, easiest way possible and also in various formats. Access user needs reflects on users accessing information without physically visiting the library.

If libraries are to remain relevant, they have to overcome the major challenge which is meeting the 21st user needs. Libraries will have to quickly move from their manual systems where information is in print and consider alternatives like e-resources. Libraries will have to start seeing themselves more of digital libraries that can be accessed by their users from anywhere. Libraries will have to stay up to date with the current technology so they can be able to match their users' needs which are also changing as technology is changing. Makori (2009) put emphasis on the need of academic libraries integrating ICT to be able to perform much better in the 21st century.

1.1.2 ICT Integration

ICT integration has been seen to bring many benefits. Beardsley et al. (2010) indicated that between the years 2003 to 2008, there has been a 5.4% growth of the global GDP which has been attributed to ICT and that by 2020 the GDP growth is expected to be at 8.7%. Not only has ICT benefited the economic sector but academic libraries stand to benefit from integrating ICT in their functions. As the world transform technologically, the libraries are beginning to take up ICT as a strategy of matching user needs which in the 21st century are changing.

E- Resources are one component of ICT that is becoming more prevalent throughout the world. These resources include CD-ROMs, Online-Databases, E-journals, E-books, Internet resources (Oak, 2016).The fact that e-resources allow for ease and convenient way of accessing information, library users continue to relate with them day by day. Okazie (2016) confirms that

libraries are now shifting from traditional printed resources to the use of Information and Communication Technology (ICT) and other electronic-driven services. Prakash (2017) further observes that e-resources are significantly contributing towards the removal of geographical barriers across the globe. He states that libraries don't have to be a physical space to provide information to the users. Erdamar & Demirel (2014) in a study in Turkey at the University of Turkey concluded that the library was well equipped with e-resources and that the continuous access of the e-resources made the users prefer the electronic resources. Mostofa, (2013) on the other hand in his study, he points out the need for Asian academic libraries to update their infrastructure and training programs to support the new technologies.

Academic libraries in Africa continue to adopt Technology as a way to support the new models of learning. Ahiauzu (2008) states that the National Universities Commission (NUC) in collaboration with Nigerian University Libraries Consortium (NULIB) have collaborated to ensure that university libraries in the country subscribe to relevant online databases to enhance learning, teaching and research in the universities. Gathoni et al. (2011) recognizes that academic libraries in Kenya like Kenyatta University library, JKUAT library, UON library, and Maseno library have integrated electronic resources to their collections.

Social media especially Whatsapp, YouTube, Twitter and Facebook have become one of the most important communication means especially in the 21st century. Although social media is increasingly being used by individuals of all ages, it is especially popular with the young people and university students. It is for this reason that academic libraries are starting to integrate the social media aspect in their functions with an aim of reaching out to their users who are mainly the university students. According to (Chu and Du, 2013) a survey done across Asia, North America, and Europe reported that 71% of academic libraries were using social media.

In Africa the trend is the same. Academic libraries have started integrating social media to deliver their services. Ezeani and Igwesi (2012) in their study observed that academic libraries within Nigeria are also starting to incline more on the use of social media as well as Web2.0 tools as a means of keeping up with their patron real time. Kenyan academic libraries are also integrating social media in their service delivery. Moropa (2009) backs this theory up by stating that Facebook and Twitter are now being used in service delivery by academic libraries even as libraries aim at being able to reach out to their users who are diverse.

Another technology being embraced by academic libraries in the 21st century is the Integrated Library software (ILS), a system designed to help librarians to trace information resources held in the library, information resources ordered and also resources borrowed from the library (Ali &Younes, 2013). According to a statement by Moropa (2010), more than 250 libraries within Georgia Consortium for Public Information Network for Electronic Services (PINES) had begun using an ILS that they had created. Moropa went ahead to indicate that these libraries had within two months succeeded in serving about 1,500,000 borrowers by checking out resources against their accounts. Within the same period of time, these libraries through the ILS were able to help borrowers renew various materials they borrowed from the library. The ILS had improved the circulation process of the libraries whose collection holding was 8,000,000 items.

Ayodele (2015) considers Integrated Library Software as one of the most vital technology that must be maximized in libraries. Going by (Vera & Edore, 2015) university libraries in Nigeria are already automating their functions though at different levels. Vera and Edore state that the libraries are using different Integrated Library Softwares which are either open source or propriety ILS. Rachel and Philiam (2018) in their study observed that in Uganda, academic libraries are starting to welcome ILS as they continue to work towards meeting their user needs even to a more individualized level. According to Rachel & Philiam, ILS brings about changing the needs perceived as an affordable cost.

According to Moropa (2010) states that Kenyan academic libraries have embraced the use of ILS for their day to day functions. He cites that this trend is being observed in both public and private universities. According to him, among the first academic libraries to automate their operations are: Post Modern Library within Kenyatta University, USIU academic library and Catholic University of Eastern Africa academic library. Moropa emphasizes that the move of libraries adopting ILS has greatly improved library service delivery.

Library networking is a strategy that libraries across the globe have adapted to aid in the achieving their objectives. According to (Daly, 2014) academic libraries are looking at resource sharing as one of the strategies to help when it comes to building their collection. Globally academic libraries are already working as a consortium. Adewole (2015) defines a consortium as a group of two or more libraries that are cooperating with each other to accomplish certain similar needs and normally resource sharing. Libraries are working together to ensure their users

access information they require. Harvard University Library offers an opportunity for students to borrow resources that are not within that library from other libraries across the world at a small fee. Rosenfeld a librarian at Woodbury University, US wrote a journal in 2019 where she states that the university lends from other universities. She concluded by saying that resource sharing has gone a long way in helping the library meet the user information needs.

The culture has been adopted within the Kenyan academic libraries (Magak, 2013). He observed that academic libraries at Kenyatta University, Egerton University, and Chuka University had started to embrace resource sharing. Magak Further states that global explosion of information, cuts in budget allocation, complexities of information resources, rising costs and above all the need to provide the user community with optimal access to information needed makes the resource sharing initiative indispensable.

1.2 Statement of the Problem

Traditionally, one had to visit the library physically to get information as it was stored in print materials. To access the information, users had to fully rely on librarians and it took some time to retrieve the information. Coming into the 21st century, user needs have changed. According to (Robert, 2015) the 21st century is a century driven by information. The users in this century are people who are coming of age when technology is changing the world. Users now demand for up to date information and they want to access the information without necessarily having to visit the library physically. Users are demanding for information in various formats. They also want to access information within the shortest time possible. Academic libraries have to acknowledge the change of their user needs and adjust to meet the 21st century user needs.

According to Mwangi (2018) who conducted a study on challenges facing library users in public universities in Kenya, library users indicated to be facing major challenges ranging from poor collection development, limited access to information and poor service delivery. He further stated that most of the users were requesting to be trained with an aim of acquiring the necessary skills to be able to virtually access information materials from the library using their phones and personal computers. Mwangi further indicated that the library has started integrating ICT in their functions. The notion is that ICT will help the library counter these challenges and completely meet the needs of their users.

Most studies have based their research on libraries adopting ICT infrastructure and the challenges faced during the process. There are contextual and conceptual gaps on how ICT has affected the performance of libraries. It is for this reasons this study will assess ICT integration in relation to academic libraries performance.

1.3 Objectives of the Study

1.3.1 General Objective

The study generally aims at examining ICT integration in relation to academic libraries performance

1.3.2 Specific Objectives

- i. To determine how E-resources affect the performance of libraries in public universities within Nairobi City County.
- ii. To determine how social media affect the performance of libraries in public universities within Nairobi City County.
- iii. To assess how integrated library system affect the performance of libraries in public universities within Nairobi City County.
- iv. To determine how library networking affect the performance of libraries in public universities within Nairobi City County.

1.3.3 Research Questions

- i. How has e-resources affected the performance of libraries in public universities within Nairobi City County?
- ii. How has social media affected the performance of libraries in public universities within Nairobi City County?
- iii. How has integrated library system affected the performance of libraries in public universities within Nairobi City County?
- iv. How has library networking affected the performance of libraries in public universities within Nairobi City County?

1.4 Significance of the Study

Academic libraries which are in the process of adopting ICT and doing away with the manual processes will benefit from this study as they will be informed on the advantages of integrating ICT in their functionality. Academic library management will find the study useful as it will enable them gauge their performance based on the performance indicators discussed. The study will be helpful to scholars wishing to gather more information relating to ICT integration in academic libraries. The researcher will also gain an in-depth understanding of library functions.

1.5 Scope of the Study

The study was carried out within Nairobi City County. The reason for choosing this county was that most public universities are found within this county and hence it was easy to analyze the situation of the libraries as far as performance was concerned. Professional library staff from the two libraries would serve as the respondents for the research. The study was completed in December 2021.

1.6 Limitation of the Study

The challenge faced was with the data collection tool which was a questionnaire. Some of the respondents were cynical and had doubts about giving out information. This challenge was tackled by the researcher providing for a letter from the institution of learning and from NACOSTI indicating permission to collect data for academic purposes. The researcher also assured the respondents of confidentiality.

1.7 Organization of Study

The study was presented in five chapters whereby; chapter one brought out clearly the dependent and the independent variables backed up by some background information. Chapter two provided for both the theoretical literature and empirical reviews. All the techniques to be used in research design, data collection and data analysis were highlighted in chapter three. The findings from the research were discussed in chapter four as well as analyzing these findings. Finally in chapter five the researcher addressed the summary of the study along with the conclusions and recommendations derived from the data analysis.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter two introduced the literature backing up this study. The researcher linked the research variables through the theoretical literature review as well as showed studies done in relation to ICT integration and performance. To conclude this section the researcher came up with the study's conceptual framework as well as a summary of research gaps identified from the various studies highlighted in this chapter.

2.2 Theoretical Literature Review

The sub section discussed various models that supported the link between ICT integration and library performance. The models were: Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology Model (UTUAT) and Resource Based Theory (RBV).

2.2.1 Technology Acceptance Model

The above model is amongst the most popular theories that most researchers looking into information system usage have adopted. The theory was developed in 1989 by Davis and since then the theory has consistently been adopted in many studies which has led to the study being verified. (TAM) has always been guided by two factors. The first factor is ease of use. Davis defined ease of use as simply at what rate do users find that they can use a certain technology and not much effort will be required from them in terms of being able to easily use and understand a certain technology. The other factor is perceived usefulness. Davis defined perceived usefulness as the rate by which users find that a certain technology is helpful in their work by measuring improvement in outcome or rather how a technology enhances an individual's job or performance. Studies continue to provide evidence that justify using TAM while assessing ICT usage or rather adoption in various organizations as reliable. In this study, TAM will be ground to justify the uptake of ICT in academic libraries. Libraries will integrate ICT to their functions guided by what advantages does ICT have in regards to their operations and how convenient is he said technology to the users and the library staff.

2.2.2 Resource Based View Theory

Formalized in 1991 by Barney, the theory holds that organizations can gain competitive advantage in a dynamic (Poudel,2012) .According to Barney, RBV illustrates that companies or organizations often find themselves fighting for a market with their competitors. As such this theory explains that if these organizations are to fight and win their competition, it would mean a change in strategy, acquisition of new resources that are unique and of great worth.

According to Jurevicius (2013) organizations should capitalize on their resources and abilities so also stand out amongst the competitors. He further states that an organization that is well structured, has the right infrastructure is able to continuously remain reliable to the customers. It also compels organizations to sell services that stand out the market. Academic libraries are non-profit making organizations. However, they are striving to remain relevant to the new generation of users in the 21st century. Resource Based Theory will guide this study in understanding how ICT is the unique resource libraries need so as to be able to meet the 21st century users' information and access needs.

2.2.3 Unified Theory of Acceptance and Use of Technology

Venkatesh, Morris, David and Davis are the founders of the theory back in the year 2003. The UTUAT model has been used to show the level of acceptance of a given IT application by the users based on technology adoptability and how well the user can work with the said technology. UTUAT has been successfully used by strategic and mid-level managers to evaluate the success of a new technology which has been introduced in an organization as well motivating the users on the uptake of the technology. According to Venkatesh et.al (2003) UTUAT theory is grounded under the following concepts;

Performance expectancy is defined by Venkatesh et.al (2003) as how much an individual believes using a certain technology will improve their work performance. This is to mean there is likelihood that people are more likely to adopt new technologies when they believe this will help them to perform their job. Effort expectancy; the extent of simplicity associated with using a certain technology or system (Arman & Hartati, 2015; Chang, Hwang, Hung, & Li, 2007; Phichitchaisopa & Naenna, 2013) Social influence; the extent to which an individual perceives the technology to be important because others believe he or she should use the new system/technology (Venkatesh et al. 2003).Venkatesh and others went ahead to conclude that

there are three concepts included in social influence: subjective norm, social factors and image. Each of these concepts refers to the notion that the social environment is largely responsible for how people react. Facilitating conditions explain the factors in a certain environment that make it easy for a certain technology to be adopted or not. This has to do with whether an organization has the right setting to be able to adopt a certain technology. UTAUT as a theory has combined elements from several theories to expound on information systems based on acceptability, usage and performance of the same. Therefore, UTAUT will be used in this study as a guide in understanding why the academic libraries are integrating ICT in their functions and how does ICT improve their performance.

2.3 Empirical Review

The researcher indicates various current studies done relating to ICT integration and performance. The section also captures information gaps identified from the various studies that will be discussed in this chapter as well as bringing out how the current study will bridge the said gaps.

2.3.1 E-resources and Performance

As a concept, electronic resources stand for those information resources that the users access via a computing network from inside the library or remotely. They range from E-books, E-journals, online databases which usually are in various formats.

Okorie (2018) assessed how academic performance of hnd students in Infederal polytechnic in Nigeria had been influenced by E-resources. In his study the independent variable was e-resources utilization while his dependent variable was academic performance. He measured academic performance as: students acquired skills to do a task, factual knowledge gained from an educational system; scores on academic tests. He embraced a descriptive research design for his study. He collected data through questionnaires and analyzed it by mean and standard deviation. The study concluded that academic performance was only influenced by the use of electronic information resources only in the area of writing and presenting seminars. He however observed that in relation to class assignments and examinations, e-resources had a low influence. The study focused on EIR influence on academic performance. It laid a foundation on various e-

resources adopted in academic institutions. There was a need to investigate if there is a link between integration of Electronic resources and performance of academic libraries. The current study focused on EIR on library performance.

Olabode (2016) carried out a study on impact of electronic resources use on academic performance of undergraduates in Nigeria. The study was conducted through the survey method. Data was collected via questionnaires and thereafter analyzed using Statistical Package for Social Science (SPSS) and presented in tables and figures. From the data collected, Olabode came to a conclusion that use of electronic resources positively impacted the academic performance of students. Olabode's research sought to discover how e-resources influenced academic performance of students. The current study established the influence E- resources had on library performance.

2.3.2 Social Media and Performance

Chebet (2019) did a study addressing academic performance of university students in relation to social media at Uganda University. Chebet opted for cross sectional survey research design. She collected data through questionnaires. To analyze data, she adopted descriptive statistics. Chebet looked at social media as the dependent variable while student academic performance was the independent variable under which she examined performance in terms of leadership, extracurricular activities and grades. The study concluded that most, if not all, of university students are very active on social media. Chebet concluded further that learning for the students improved with the use of social media. She also indicated that some of the students who only used social media for entertainment had their learning outcome affected negatively. This was an indication that social media was common amongst university students and that if well utilized it would benefit the students by enhancing their learning outcomes. The study is relevant because it brings out the information behavior of the 21st century users of academic libraries. They are people who rely often on social media. Libraries can also take advantage and use social media platforms to interact with users. This study aimed to assess how social media impacted student academic performance. The current study shifted attention to social media effects on library performance.

Ntaka (2017) studied the use of social media sites by university library staff to facilitate undergraduate students. She focused on two Greek academic libraries. The researcher focused on

assessing Facebook and it being used by library staff to serve their users. In her study, qualitative research design was applied and data collected via interviews. This study concluded that library staff was satisfied with use of Facebook as an informational and communication tool to cover user information needs. This study focused on Facebook alone as the social media platform used by library staff to facilitate library users. Social media covers a wider scope. There are other platforms like twitter which are very popular. The current study looked into Facebook and other social media platforms and how they affect library performance. The current study employed questionnaires as a way of collecting data as compared to this study where interviews were done to collect data.

2.3.3 Integrated Library System and Performance

Fayen (2011) describes Integrated Library Software as combination of various components in numerous ways to meet needs of libraries. Integrated Library Software combines various library functions ranging from circulation, acquisition, OPAC into one integrated system such that librarians can work online. Some of the ILSs that have been used in libraries include KOHA which is very common, X-LIB, SLAM, Auto Librarian and Lib-Portal.

Omeluzor (2020) studied how Integrated Library System was used in academic libraries amongst universities in Nigeria. He focused on the adoption, performance, achievements and shortcomings of the ILS. The research design employed in this study was descriptive survey design. Omeluzor collected data using questionnaires. From the data analyzed, it was determined that uptake of ILS in the various libraries was high. Omeluzor concluded that much had been achieved in the libraries as a result of using ILS. He further concluded that libraries were now effectively and efficiently delivering their services to their users as a result of ILS. Omeluzor's study's main objective was to determine the adoption rate of ILS together with its performance in libraries across Nigerian Universities. The current study assessed how performance of libraries within Nairobi city-county was influenced by ILS.

Adeyinka and Ifeoluwa (2017) researched on the effects the use of KOHA had on libraries functions. They focused on the various modules of KOHA namely; cataloguing, acquisitions, circulation, ease of customization and also how KOHA influenced the libraries functionality. Their research focused on academic libraries within Nigeria. They administered questionnaires to the respondents who were the library professional staff. After data was collected, it was analyzed

through descriptive statistical method. From the study, it was concluded that KOHA did actually improve the libraries functionality. The research also recommended for academic libraries to adopt KOHA as their library software given its ease of use. The study showed evidence that academic libraries have adopted KOHA and it has improved the functionality of the libraries. Using one system for all library activities brings about efficiency. This study focused on one type of Integrated Library Software, KOHA. The current study focused on determining what effects integrating ILS within the library has on its performance. The current study also employed both descriptive and multiple regression methods for data analysis.

2.3.4 Library Networking and Performance

Library networking is when libraries come together so as to achieve their main goal of providing information to their users. This they do by interlibrary resource sharing (Daly, 2014). Academic libraries are reinforcing the spirit of cooperation that is essential in all the library activities, particularly in this period of challenges due to information age and new technologies. Information in this century is very vast and a library may not hold all that information. It is through sharing resources among libraries that makes it possible for a particular library to provide all the necessary information to their users.

Kalbande (2016) investigated networking and resource sharing in the agricultural college libraries in Maharashtra with an aim to identify the attitude of librarians towards library networking and resource sharing. In his study he used survey as the research method. Data was analyzed using SPSS software as well as other statistical tools. Kalbande concluded that there was a positive attitude towards resource sharing within agricultural colleges' libraries in Maharashtra. He further concluded that resource sharing among these colleges helped the users get adequate information by accessing variety information materials as access was not limited to a user's specific library. This study focused on the librarian attitude towards library networking and resource sharing. The current study assessed the effects networking had on performance of libraries.

Aminga (2012) carried out a study on prospects for resource sharing among government libraries in Nairobi. He aimed to investigate the prospects of resource sharing in the provision of library services in Government ministries in Nairobi and ascertain the extent to which resource-sharing can assist to alleviate some of the problems they are facing. The researcher focused on the

following aspects of government libraries: factors affecting the performance of Government libraries; Government policies within which these libraries operate; the information resources and facilities available in Government libraries. The study used qualitative research method. The researcher collected data through face-to-face interviews, observations as well as documentary evidence. Data collected was then analyzed using qualitative and quantitative approaches. This study established that most government libraries in Nairobi do not share their resources effectively. They have inadequate information resources, limited accommodation space as well as lack of equipment and other facilities. The study revealed that there is no formalized library resource-sharing that exists within government ministry libraries in Nairobi. Aminga recommended that resource-sharing can be used to harness and/or improve the provision of information services in Government Ministry libraries in Nairobi. This study is relevant as it brings out some of the challenges government institutions face more sore inadequate funding. Public universities being government institutions face this challenge. This means academic libraries in public universities may not have an adequate budget to keep acquiring new collections. The researcher hence introduces the concept of resource sharing within government libraries. The current study investigated interlibrary resource sharing and academic library performance as well applied questionnaires as the method of collecting data. Data collected was analyzed through descriptive technique together with regression methods.

2.4 Summary of Literature Review and Research Gaps

The studies as indicated in chapter two were significant as they had brought out some perspectives as far as ICT integration and performance was concerned. However, there were Information gaps and geographical gaps identified within these studies and the current study sought to bridge these studies and further agree or disagree with findings of the other studies. The identified gaps are as illustrated below;

Table 2.1 Summary of Research Gaps

AUTHOR /YEAR	TITLE	STUDY FINDINGS	RESEARCH GAPS	CURRENT STUDY
Okorie (2018)	electronic information resources utilization on academic performance	Use of e-resources influenced academic performance for the students	Influence of EIRs on performance of libraries was not examined	The study focused on E-Resources integration and academic library performance
Olabode (2016)	Impact of electronic resources on academic performance of the undergraduates in Nigeria	E-resources had a positive impact on students' academic performance	The study focused on academic performance of students and not performance of academic libraries	The current study Sort to determine effects of e-resources on library performance
Chebet(2017)	Social Networking and Students academic performance in University	Facebook, has had positive effect on learning outcomes for students who Use it	Social network has been discussed as well as its effects on student academic performance. It has not covered how social network helps the library achieve its objectives	It looked into the relationship between social network integration and academic library performance
Omeluzor (2020)	Evaluation of ILS use in University Libraries in Nigeria	The libraries are able to offer their services effectively and efficiently to their users aided by the ILS	This study has discussed adoption and use of ILS in libraries but has not discussed library performance	The current study focused on library performance in terms of access and collection development
Adeyinka and Ifeoluwa (2017)	Impact of KOHA on library services in selected academic libraries in Nigeria	Academic libraries have adopted KOHA and it has improved the functionality of the libraries.	The study only focused on KOHA which is a type of Integrated Library System. The study looked at libraries in Nigerian	Current study generally examined the effect of Integrated library system and focused on libraries with Nairobi City county Kenya

Kalbande(2016)	Networking and resource sharing of the agricultural college libraries in Maharashtra	There was a positive attitude by the librarians about resource sharing. Library users were exposed to variety of information	The study looked at uptake of resource sharing in libraries and the librarian attitude on the same	The current study focused on the effect resource sharing among libraries has on performance
Aminga (2012)	prospects for resource sharing among government libraries in Nairobi	Most government libraries in Nairobi do not share their resources	The study looked at libraries within government ministries. Public universities are government institutions. Resource sharing amongst academic libraries has not been discussed	Current study assessed the relationship between interlibrary resource sharing and academic library performance. This study adopted descriptive statistics and inferential methods of data analysis

Source: Researcher (2021)

2.5 Conceptual Framework

This section aimed at bringing out the influence ICT integration had on library performance. Assessment of performance in the academic libraries was through independent factors which were: e-resources, social media, Integrated Library System and library networking. These are internal factors affecting users' satisfaction in terms of collection development available in the library and virtual access of information. Ultimately collection development and virtual access of information are the measures for library performance in this study.

Independent Variables

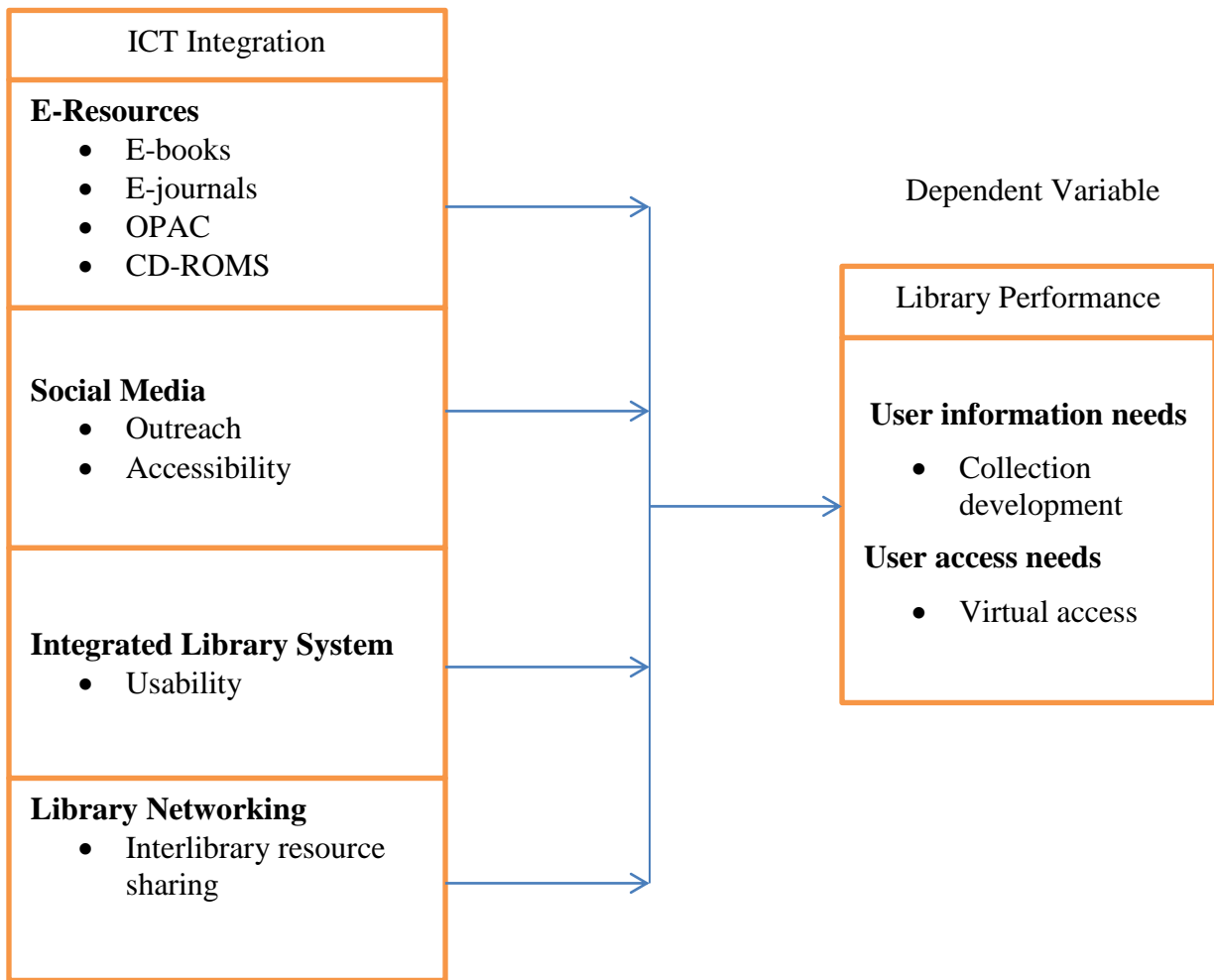


Figure 2.1: Conceptual Framework

Source: researcher (2021)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, specifics regarding data collection techniques are discussed. The chapter will focus on addressing ;the research design that was adopted for the study, who was the target population and how were they sampled, what methods were used to collect data and analyze it, was the validity and reliability test on data collection tool carried out and finally address the ethical considerations adhered to.

3.2 Research Design

Descriptive research design was appropriate for this study as far as achieving the study's objectives was concerned. Colorafi and Evan (2016) stated that descriptive research design focused on accurately describing a situation by answering the what, where, when and how questions therefore enabling a subject not to be influenced in any way. This design saw to it that data collected was vital in scrutinizing events and therefore proving for conclusions and recommendations that were essential. The research embraced cross sectional descriptive structure.

3.3 Target Population

Target population defines all individuals in a research which for this study involved academic libraries within public universities located in Nairobi City council: Post Modern Library within Kenyatta University, Jomo Kenyatta Memorial Library within the University of Nairobi, Technical University of Kenya Library, Multimedia University library, Co-operative University College of Kenya library.

3.3.1 Sample Size and Sampling Technique

A sample is defined as set of respondents that will participate in this study. For this study, simple random sampling technique was adopted and the sample size included Post Modern Library in Kenyatta University and Jomo Kenyatta Memorial Library with University of Nairobi. Mugenda and Mugenda(2003) observed that in a study adopting a descriptive research design, the sample

should be between 10% to 20% of the target population thus making this sample size was ideal .Picking these locations was ideal seeing these libraries are well automated. Odongo, (2011) stated that libraries in Nairobi University are 77% digitalized. He also stated that Kenyatta University has integrated ICT in massive way to ensure academic excellence.

Library staff was the respondents in this study. For this study, purposeful simple random sampling was used. This sampling design provided for the researcher to select certain staff from the library but who of the library staff picked is completely random hence avoiding biasness. Purposeful simple random sampling was effective as it focused on Library professional staffs that are in charge of providing various services in the library. Jomo Kenyatta Memorial Library (UoN) has a total of 30 staff while Post Modern Library (KU) has 44 staff members. Library professional staffs were selected as the respondents as they are in a better position to understand library performance.

Table 3.1 Library Professional Staff

Library Unit	Post Modern Library Staff	Jomo Kenyatta Memorial Library Staff
Administration	2	3
Teaching programme section	4	3
Circulation desk	5	2
Bibliographic control section	2	4
Reference desk	5	-
Unique /Africana collection	5	4
Graduate research library	-	2
Digital content section	2	2
Processing unit/ Acquisition	8	7
Science and technology collection	4	-
Education and special needs	3	-

ICT	1	3
Humanities collection	3	-
Total	74	

Source: Researcher, 2021

3.4 Data Collection Instrument

After seeking approval from the institute of interest to collect data, the researcher self-administered questionnaires physically to the respondents. Semi-structured questionnaires were used as they provide for researcher to collect requisite, well detailed data as they contained both structured and unstructured questions. This kind of questionnaire allows the respondents to indicate their option on a subject. Mugenda & Mugenda (2003) supported this statement by citing that questionnaires tend to save time when collecting data especially from many respondents and they are cost friendly.

3.4.1 Pilot Test

As part of pre-testing the data collection instruments, the researcher used 10 questionnaires from trials by selecting a sample population smaller than the entire sample size. This is known as a pilot study. Kumar (2012) refers to a pilot study as the activity of administering the data collection tools to respondents who are not part of the target group to determine if there could be deficiency with the tools. The pilot study took place at Jomo Kenyatta University of Agriculture and Technology main library. The responses from the pilot study will determine whether the researcher will make some corrections to the questionnaire.

3.5 Validity and Reliability of Research Instruments

Before data collection process, it is necessary for the researcher to guarantee that the tools to be used to collect data are well grounded and valid.

3.5.1 Validity of the Instrument

Validity in this case will be used to measure authenticity or rather rationality of data. Questionnaires will be tested before they are used for research to ascertain they are in line with

the research objectives. Construct validity was tested through examining various literatures on ICT integration and performance. To ascertain content reliability, the researcher worked with the research supervisor.

3.5.2 Reliability of the Instrument

Reliability for this study stands for consistency in terms of results obtained if the same methods were used but circumstances changed. From the pilot study, data collected was analyzed using Cronbach's alpha so as to test for accuracy of items in the instrument. Questionnaire items bearing a Cronbach's alpha coefficient of below 0.7 were considered unreliable and adjusted while those with a coefficient surpassing 0.7 were considered reliable for the instrument

3.6 Data Analysis and Presentation

Data analysis was done so as to draw out useful information from data collected during the research, restructure it to make it more viable for decision making. It is from the analyzed data that the researcher came up with conclusions and recommendations about the study. For this study, descriptive analysis revolved around means, standard deviations, percentages and frequency distributions through which after analyzing responses provided inferential analysis. Multiple regression model was used to express library performance as a function of ICT integration. Below is the study's presentation of the regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where by:

Y = Library Performance

X₁ = E-resources

X₂ = Social Media

X₃ = Integrated Library System

X₄ = Library Networking

β₁, β₂, β₃, β₄ = Regression Coefficients

ε = Error term

3.7 Ethical Consideration

This covers the how a researcher is supposed to professionally interact with the respondents during data collection as observed by (Mugenda &Mugenda, 2013). The researcher cannot just go and collect data in any organization .there are rules, merits and protocols the researcher must adhere to during this activity. After successfully defending the research proposal, in accordance to the set rules, the researcher received Graduate school letter of permit from Kenyatta University Graduate School which then was submitted to NACOSTI so as to be given a permit.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

The segment captures the analysis of data collected after the respondents filled in the questionnaire in Appendix I. The study focused on E-resources, Social Media, Integrated Library System and Library Networking and their influence on the performance of library. The Performance of library was measured against user access to information and availability of up-to date information. Their responses have been presented in form of tables, charts, percentages, means, frequencies and also standard deviations.

4.2 Response Rate

After simple purposeful random sampling of the staff, the total sum of respondents given the questionnaires was 74 while the number of questionnaires filled and given back was 67. This makes the response rate 90% which means data collected is efficient enough for conclusions and recommendations to be drawn from it. This is reinforced by Mugenda & Mugenda (2013) who stated that for any data to be reliable and well suited for conclusions and recommendations to be picked from it, it requires a 70% and above in terms of response rate translating to 52 and above respondents.

4.3 Reliability Results

There was a need to show that the data collection instruments were consistent. The researcher achieved this by conducting a pilot test which involved giving 10 library professionals at Jomo Kenyatta University of Agriculture and technology the questionnaires. There was need to assess the consistency of the questionnaire and hence the researcher sought to find the Cronbach's Alpha Factor co-efficient for the various variables. Below is a presentation of the coefficients.

Table 4.1 Reliability of Data Collection Instrument

Variables	No. of Items	Cronbach's Alpha
E-Resources	6	0.874
Social Media	6	0.903
Integrated Library System	4	0.877
Library Networking	5	0.818
Library Performance	6	0.932
<i>Average Cronbach co-efficient</i>		0.8808

Source: Survey Data (2021)

As displayed by table 4.1 above, a coefficient of 0.874 on E-resources and 0.903 on social media was obtained. A coefficient of 0.877 on Integrated Library System was derived and 0.818 on Library networking. Library performance had a coefficient of 0.932. The average coefficient for both the dependent and independent variables was 0.8808. Going by Cronbach (1957) he considered variables statistically reliable for a study if the average coefficient surpassed 0.7. A study by Okello (2020) on effects of library integrated system on performance found the average coefficient of both the dependent and independent variables to be 0.8175 and deemed the variables statistically reliable to carry out her research.

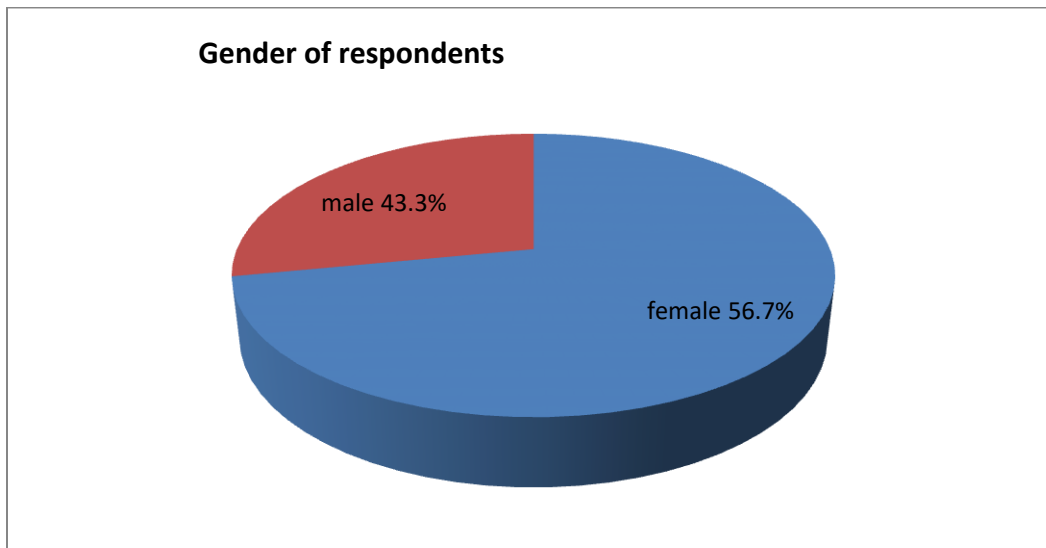
4.4 Demographic Results

The respondents were professional library staff in the libraries. Demographic data collected and analyzed included the respondents' gender, their age, level of education they have achieved and level of work experience they have working in the specific library and which was their department of work. The findings were as follows;

4.4.1 Gender of Respondents

The researcher determined the respondents ages as indicated below;

Figure 4.1: Gender of Respondents



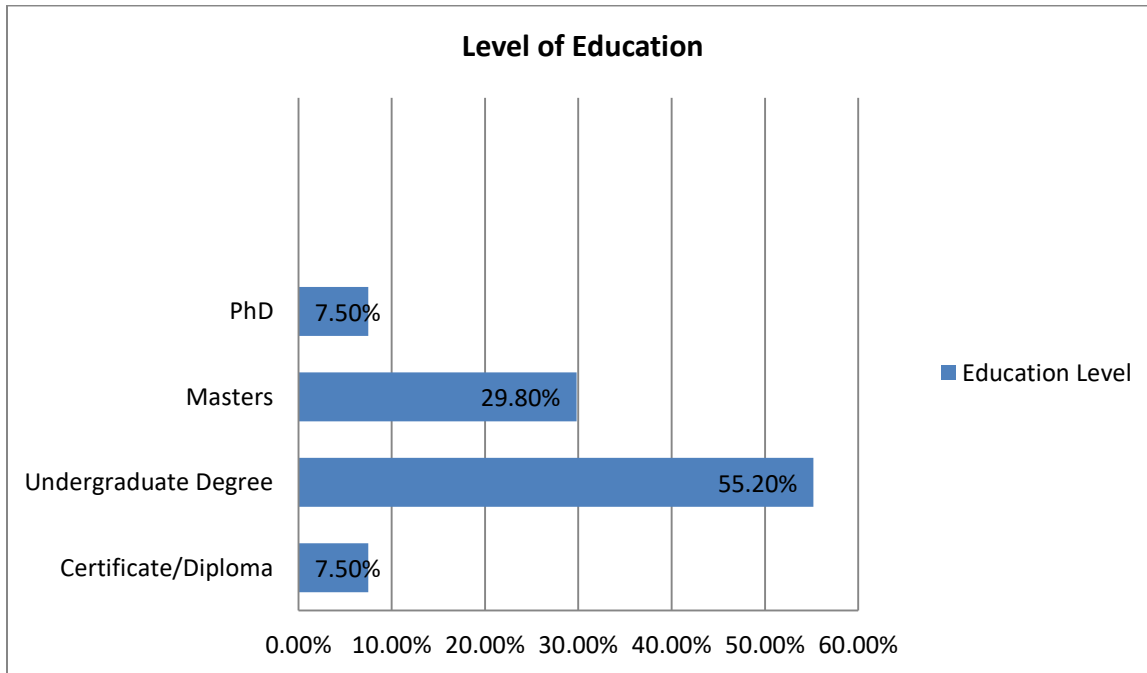
Source; Survey Data (2021)

The results as indicated in the pie chart above demonstrated that 57% of the respondents were female making the other 43% male. The above results indicated that there was an even distribution for both genders making a conclusion that in both the libraries, there was no gender biasness as far as their employees were concerned. This study included both male and female professional staff from both libraries.

4.4.2 Respondents' Education Level

After evaluating the respondents' education level, the researcher came up with the following conclusions as illustrated below;

Figure 4.2 Respondents' Education Level



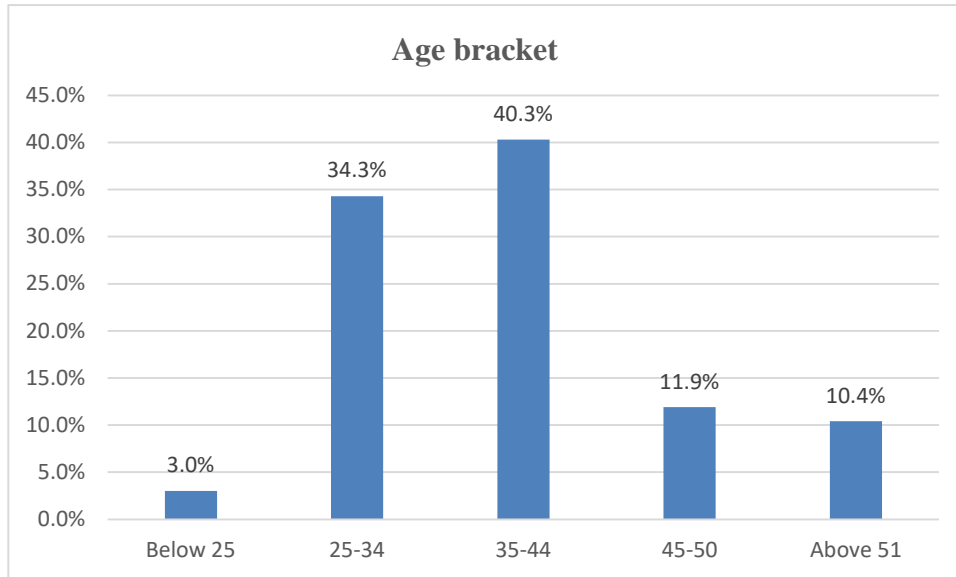
Source: Survey Data, (2021)

Results from figure 4.3 above determined that 7.5% of the respondents had the highest academic qualifications as a certificate and/or diploma. 55.2% of the respondents had attained undergraduate degrees. 29.8% of the respondents had attained master's degree while 7.5% was PhD holders. The study determined that most of the respondents were under graduates. The data as shown above lead to the conclusion that the staffs had acquired the required qualifications to work in the library and as such could efficiently perform their duties and understand the library functionality.

4.4.3 Ages of Respondents

After assessing how old the respondents were, the researcher came up with the following conclusion as illustrated in the line-chart below;

Figure 4.3 Ages of Respondents



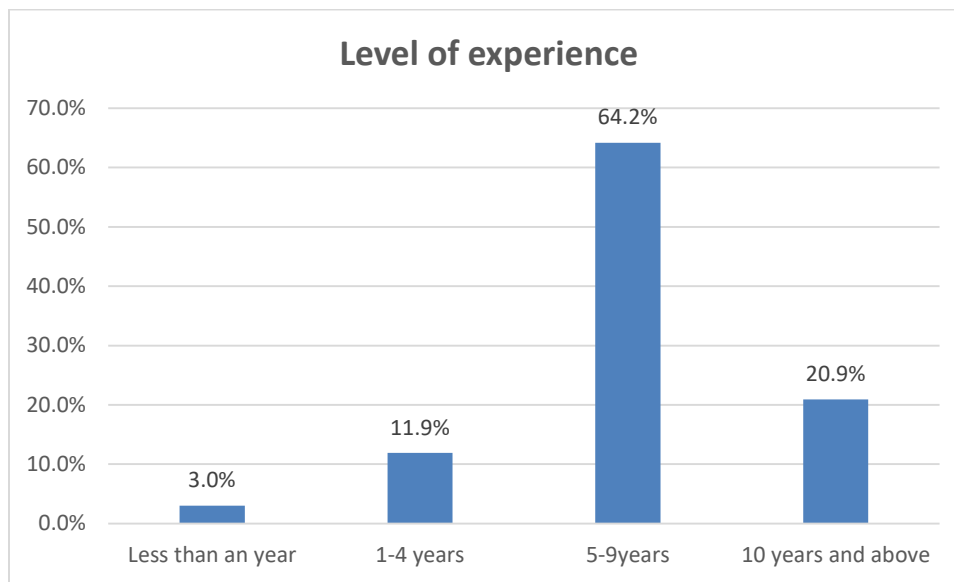
Source: Survey Data, (2021)

The researcher determined that 3% of the respondents were below the age of 25 years. 34.3% was a representation of respondents who were aged between 25 to 34 years. 40.3% represented respondents aged between 35 to 44 years. 11.9% comprised of respondents aged between 45 to 50 years. 10.4% represented respondents aged above 50 years. The study hence demonstrated continuity in library operations.

4.4.4 Work Experience

Below were the findings indicating the level of experience the respondents had working in their respective libraries;

Figure 4.4 Respondents' Work Experience



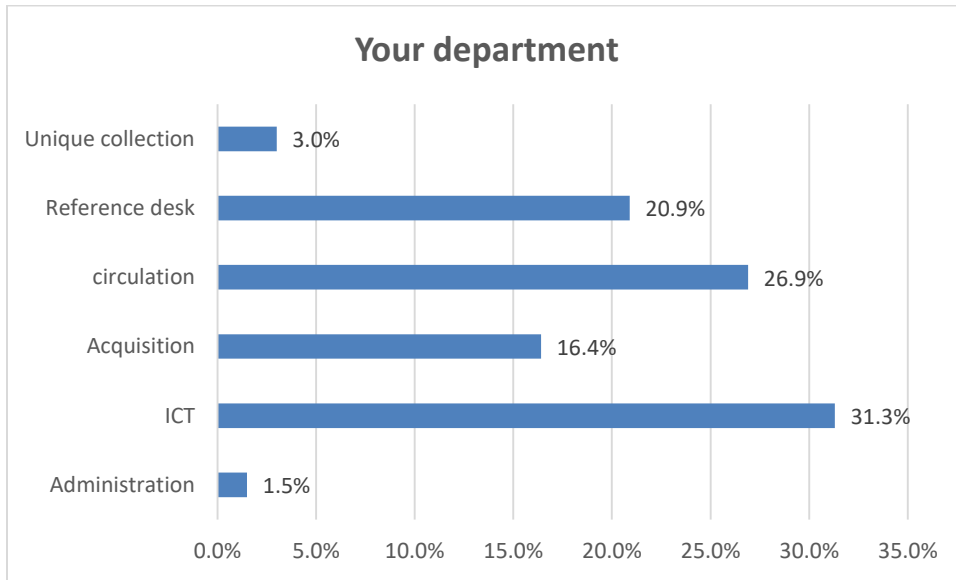
Source; Field work (2021)

From the data analysis, only 3% of the staff had worked in the library for less than one year. 11.9% Of the staff indicated to have worked in the library for a period of 1 to 4 years. Majority of the respondents accounted for by 64.2% had worked in the library between 5 to 9 years while 20.9% of the respondents indicated to have worked in the library for a decade or more. This indicated that majority of the library staff were not new in the library which meant they were well familiar with the libraries operations and challenges and hence they were capable of gauging the libraries performance and answer the questionnaires.

4.4.5 Department of Work

The study assessed what department the library staffs worked under and the results are as follows;

Figure 4.5 Department of Work



Source: Field data (2021)

From the data analyzed, 1.5% of the respondents worked in administration, 31.3% of the respondents worked in ICT while 16.4% worked in acquisition. 26.9% of the respondents indicated to be in the circulation department while 20.9% of the respondents worked at the reference desk. There was a 3% representation of staff who indicated to working at the unique collection. Other departments identified by the respondents included the bibliographic control, training, research and digitization. This was an indication that information collected was all rounded.

4.5 Descriptive Analysis

4.5.1 E-resources Effects on Performance

In order to find out how e-resources affected the performance of the libraries, respondents were requested to point out to which level they agreed or disagreed with the following statements applying the Likert scale where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree. These were the findings;

Table 4.2 E-resources and Library Performance

Statement for E-resources	Mean	Std. Dev
Library has e-resources which are easily accessible either physically from the library or remotely	4.21	0.67
Library has a well-organized ,up to date collection of e-journals and e-books	3.71	0.85
The library has an adequate, collection of e-books from different subjects.	3.89	0.74
The OPAC provides for many search options	3.79	0.83
CD-ROMS has improved the library’s collection development	3.64	0.75
<i>Average mean</i>	3.85	

Source: Field data, 2021

Table 4.2 above indicated that e-resources could be easily accessed both in the library and remotely as indicated by mean of 4.21. The respondents were neutral regarding to the library having a well-organized, up to date collection of e-journals and e-books as shown by the mean of 3.71. As of the library having an adequate, collection of e-books from different subjects and the OPAC providing many search options for information, the respondents remained neutral with a mean of 3.89 and 3.79 respectively. The aggregate mean was 3.85. This indicated that the respondents remained neutral about integration of E-resources having improved the library performance. The respondents further indicated that with the libraries subscribing to current resources, they find that it is easier to acquire e-resources after publication as compared to print books hence allowing the library to have relevant and up to date information for their users who can hence access it remotely anytime they want to.

This study agreed with Olabode (2016) who after conducting a research on impact of electronic resources use on academic performance of undergraduates in Nigeria concluded that use of electronic resources had a positive impact on students’ academic performance. All the same the current study differed from Okorie (2018) study on utilization of e-resources and the academic performance of students. The researcher came to a conclusion that EIR had low influence on other areas such as performance in class assignments, examinations and class tests, although the students used EIR daily for academics purposes of learning and self-development. The current study confirmed the previous study that integration of EIRs in libraries has improved their performance which is measured by how well the libraries are able to fulfill the user information needs in terms of access and collection development.

4.5.2 Social Media Effects on Library Performance

In order to find out how Social Media affected the performance of the libraries, respondents were requested to point their level of agreement or disagreement as far as the following statements were concerned. They were to apply the Likert scale where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree. These were the findings;

Table 4.3 Social Media Effects on library Performance

Statement for Social Media	Mean	Std. Dev
Through either Facebook, Whatsapp and twitter ,the library creates outreach for specific events and new developments	3.99	1.04
Library’s social media accounts being active always has increased user library interaction	3.85	1.16
Use of social media is an effective means of communication between the library and its users	3.91	1.13
Using social media, the library has effectively promoted available collection	4.33	0.77
The library is able to get user feedback easily and faster using Facebook and Twitter	3.99	0.77
The library staff easily exchange service expertise with other libraries trough social media	3.93	1.03
The library staff easily exchange service expertise with other libraries through social media	3.93	1.03

Aggregate mean 4.0

Source: Field data, 2021

Respondents did agree on the library having successfully promoted their available information to their users and this statement was confirmed by a mean of 4.33 as from the table above. On the matter of the library using Facebook, Twitter and Whatsapp to create outreach for specific events and new developments, the respondents took a neutral stand with a mean of 3.99. The same was observed for the matter of library being able to get the users’ feedback easily and faster when using Twitter and Facebook where the mean remained at neutral with a value of 3.99. They remained neutral about use of social media as an effective means of communication between the library and its users as indicated by a mean of 3.91. All the same these finding agreed with Ntaka (2017) who studied use of social media sites by university library staff to facilitate undergraduate students and found out that library staff was satisfied with use of Facebook as an informational and communication tool to cover user information needs. The respondents indicated that the

library staff easily exchanged service expertise with other libraries via social media shown by a mean of 3.93. They remained neutral about social media accounts being active always hence increasing user library interaction as shown by a mean of 3.85. This indicated a positive impact on performance upon integration of e-resources. The respondents further indicated that they found social media platforms useful as a reference desk where users could communicate with a librarian for any inquiries or any updates. From the findings as indicated in the table 4.3, the aggregate mean was 4.0 which concluded that generally, there was an agreement amongst the respondents about social networks improving the performance of libraries. This was in line with Chebet (2017) who after studying academic performance of university students in relation to social networking concluded that for students using social networks in learning, their learning outcomes improved.

4.5.3 Integrated Library System and Performance

In order to find out how Integrated Library System affected the performance of the libraries, respondents were requested to point their level of agreement or disagreement as far as the following statements were concerned. They were to apply the Likert scale where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree. These were the findings;

Table 4.4 Integrated Library System and Library Performance

Statement for Integrated Library System	Mean	Std. Dev
Integrated Library System (ILS) has made cataloguing and classification efficient hence promoting ease in finding information resources	3.89	0.86
ILS makes acquisition system smaller & simple hence greatly improving the library collection development	4.43	0.69
ILS is customizable and with easy to search option for information resources	3.86	0.85
ILS keeps records of the user demands hence allowing the library to acquire relevant materials	3.75	0.84

Aggregate mean 3.98

Source: Field data, 2021

The findings indicated that Integrated Library System was used in both libraries to manage their information. Respondents agreed to a moderate degree as represented by a mean of 3.89 that the Integrated Library System (ILS) had made cataloguing and classification efficient hence promoting ease in finding information resources. They further much agreed that ILS kept records of the user demands hence allowed the library to acquire relevant materials as represented by a mean of 4.43. The findings illustrated that ILS made acquisition system smaller and simple hence greatly improving the library collection development as indicated by the mean of 3.86. This was in line with the findings of Adeyinka and Ifeoluwa (2017) that KOHA which is an ILS helped with discharge and charging of library materials and at the same time making acquisition smaller and the acquisition system simple. At the same time respondents agreed moderately that ILS allowed for easy search of information given the ILS was with customized search options as indicated by the mean of 3.75. The respondents further indicated that ILS allowed for better and more precise inventory management data to be collected and through it informed decisions with regard to resource development were able to be made. The aggregate mean was 3.89, an indication that use of an Integrated Library System (ILS) improved the performance of libraries. This agreed with Omeluzor (2020) that ILSs in libraries was changing the way libraries delivered their services to their users and that libraries were able to achieve much through the use of ILS. Adeyinka and Ifeoluwa (2017) indicated the same findings that academic libraries have adopted (KOHA) an ILS and it has improved the functionality of the libraries

4.5.4 Library networking and Library Performance

In order to find out how library networking affected the performance of the libraries, respondents were requested to point their level of agreement or disagreement as far as the following statements were concerned. They were to apply the Likert scale where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree. These were the findings;

Table 4.5 Library networking and Library Performance

Statement for Library Networking	Mean	Std. Dev
Number of library users has increased as a result of resource sharing among libraries	3.76	1.12
Through resource sharing, the library makes accessibility of	4.03	1.06

information resources faster		
Resource sharing has significantly increased availability of resources enlarging the library collection	3.88	1.30
Resource sharing has promoted resources exploitation from users in other libraries	4.09	1.05
Resource sharing has made acquisition cheaper	3.94	1.29

Aggregate mean 3.94

Source; Field data, 2021

Respondents agreed that with the library now sharing resources with other libraries, all users from the participating libraries were in a position to exploit information as it was now available. A mean of 4.09 was recorded indicating agreement between the respondents. The respondents were also in agreement that through resource sharing, the library made accessibility of information resources faster as expressed by the mean of 4.03. This was in agreement with Kalbande (2016) who investigated networking and resource sharing of the agricultural college libraries in Maharashtra and indicated that resource sharing and networking was of great benefit because it enabled the libraries to have a large collection and users could obtain these information resources without delay. He further indicated that resource sharing promoted reading materials of one library available to users of another library. The respondents remained neutral on library having increased its users through interlibrary resource sharing as represented by a mean of 3.76. They further remained neutral about resource sharing significantly increasing availability of resources enlarging the library collection and at the same time resource sharing making acquisition cheaper as shown by a mean of 3.88 and 3.94 respectively. The aggregate mean was 3.94 indicating that respondents remained neutral on networking improving library performance. This contradicted Aminga (2012) who carried out a study on prospects for resource sharing among government libraries in Nairobi. Aminga concluded that that most government libraries in Nairobi do not share their resources effectively due to inadequate information resources, limited accommodation space as well as lack of equipment and other facilities.

4.5.5 Library Performance

In order to find out how the library was performing in terms of information and access needs, respondents were requested to point out their level of agreement or disagreement as far as the following statements were concerned. They were to apply the Likert scale where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree. These were the findings;

Table 4.6 Performance of Libraries

Statement for Library Performance	Mean	Std. Dev
The library's collection is well-organized and updated hence meeting the user information needs	4.45	0.86
Library makes the information easily accessible from the library or remotely	4.67	0.77
Information is stored in different formats that are user friendly	4.46	0.70
The library is accessible to users all the time	4.36	1.01
The library creates awareness of new collections, events to their users	4.40	0.99
The library offers access to a vast collection covering different subjects	4.52	0.79

Aggregate mean 4.49

Source: Field data, 2021

A significant level of agreement on library having a well-organized and up to date collection that met the user information needs was indicated by a mean of 4.45. Respondents further indicated that the libraries had stored information in various formats that were user friendly and that this information was easily accessible from either the library or remotely as indicated by mean of 4.46, 4.67 respectively. There was a significant agreement on the library being available always making information readily available for the users as illustrated by a mean of 4.36. The results further indicated agreement that the libraries provided a vast collection covering different subjects to the users and that the library through current awareness informed their users about new materials or events taking place within the library as illustrated by a mean of 4.52 and 4.40 respectively. The aggregate mean was 4.49 illustrating that the respondents agreed performance of the library improved with the integration of ICT in their functions. These results were in line with those of Ayodele (2015) who concluded that ICT integration in libraries improved information access and also how libraries served their users.

4.6 Inferential Statistics

The researcher sought to investigate the connection between ICT integration and library performance and hence carried out multiple regression analysis. Documented below are the results;

4.6.1 Correlation Analysis

This study adopted Pearson Moment Correlation analysis to bring out the association between E-resources, Social networks, Information Management System and Networking in performance of academic libraries within Nairobi city-county, Kenya. Documented below are the results from the analysis;

Table 4.7 Correlation Analysis

		E-resources	Social Network	Information System Management	Networking	Library Performance
E-resources	Pearson Correlation	1	.484**	.672**	.610**	.566**
	Sig. (2-tailed)		.009	.000	.001	.002
	N	67	67	67	67	67
Social Media	Pearson Correlation	.484**	1	.287**	.339**	.294**
	Sig. (2-tailed)	.009		.033	.019	.029
	N	67	67	67	67	67
Integrated Library System	Pearson Correlation	.672**	.287**	1	.838**	.852**
	Sig. (2-tailed)	.000	.033		.000	.000
	N	67	67	67	67	67
Library networking	Pearson Correlation	.610**	.339**	.838**	1	.868**
	Sig. (2-tailed)	.001	.019	.000		.000
	N	67	67	67	67	67
=Library Performance	Pearson Correlation	.566**	.294**	.852**	.868**	1
	Sig. (2-tailed)	.002	.029	.000	.000	
	N	67	67	67	67	67

****.**Correlation is significant at the 0.05 level (2-tailed).

Independent variables: E-resources, social media, integrated library system, networking

Dependent variable: Library performance

Source: Field data (2021)

As per table 4.7 shown above, e- resources and library performance relationship was deemed to be strongly significant and positive as relayed by ($r= 0.566$) and ($p=0.002$). This translated to both E-resources and library performance changing in the same direction an indication that the correlation was significant for use for a wider study scope.

The same was witnessed for both social media and library performance. With an r value ($r=0.294$) and a p value of 0.029 which was below the significant level of 0.05, the researcher concluded that both of these variables had a strong significant relationship with each other and hence could be used in a large study scope.

The findings from table 4.7 presented the r value at 0.852 and the significant level being 0.000 in regards to integrated library system. With a p value less than the significant level value of 0.05, this result indicated that both variables; integrated library system and library performance had a highly significant and with a positive relationship which meant that they could be used for a wider study scope.

A high significance of an r value ($r=0.868$) was portrayed between library networking and the performance of academic libraries within Nairobi city-county .In addition, the p value as portrayed in the table was 0.000 and this was below significance level i.e. ($p=0.000$, $p<0.05$). These results indicated that both Networking and library performance change in the same direction. This was an indication that the correlation was significant for use for a wider study scope.

4.7 Regression analysis

4.7.1 Model Summary

The researcher purposed to identify the level of influence ICT integration variables had on the performance of the library and as such the researcher conducted a multiple regression analysis. (SPSS V21.0) statistical package for sciences was the software used to carry out multiple regression analysis. The results were as illustrated;

Table 4.8 Model Summary

Model Summary^b

Model	R	R Square	Adjusted R Square	Std.Error of the Estimate
1	.899 ^a	.808	.775	.30021

As per the table 4.8 drawn above, e-resources, social media, integrated library system and library networking influenced the performance of the library to some extent as indicated by the adjusted R square value of 0.775. This is translated to mean that if all other factors were held constant, 77.5% of the changes in the library performance would be as a result of these elements of ICT being integrated in the library functionality. This was in line with Ayodele (2015) who indicated that academic libraries would need to shift from manual based system and integrate more of ICT in their service delivery activities so as to make sure they remain relevant to the 21st century user by addressing her/his needs efficiently and effectively.

4.7.2 ANOVA

The ANOVA technique was employed to test for significance.

Table 4.9 ANOVA

Model	Sum of Squares	DF	Mean Square	F	Sig.
I Regression	18.740	4	4.685	23.243	.000 ^b
Residual	12.073	62	.195		
Total	30.813	66			

From table 4.8, the independent variables (library networking, integrated library system, E-resources and social media) were statistically significant over library performance which was the dependent variable based on the p value which was at =0.000, a lower value than the set mark of 0.05. This was supported by Kongetal (2015) who stated that a p value that was less than 0.05 was statistically significant. This further revealed this model was effectively outlined making the influence of the independent variable not a coincidence.

Table 4.10 Regression Coefficients

Coefficients^a						
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.512	.588		2.571	.003
	E-resources	.483	.123	.067	3.927	.002
	Social Media	.219	.110	.019	1.991	.042
	Integrated Library System	.522	.210	.454	2.485	.016
	Library Networking	.621	.164	.522	3.785	.001

The estimated relationship between the dependent and independent variables after use of SPSS is represented in the following equation;

$$\underline{Y = 1.512 + 0.67X_1 + 0.219X_2 + 0.522X_3 + 0.621X_4}$$

Table 4.10 outlines the coefficient results which indicate the statistical significance effects the independent variable has on the dependent variable. Every single variable (e-resources, social media, Integrated library systems and library networking) fell within the predefine entry of 0.05

which is used to dictate the level of significance as far as their influence on library performance (dependent variable) is concerned.

The researcher first assessed E-resources and from the findings in table 4.10, e-resources significantly influenced the performance of libraries with p value at ($p=0.002$, $p<0.05$). The results further illustrated that if all other factors were to be held constant, e-resources would improve the performance of libraries by $\beta_1=0.483$. These findings agreed with the findings of Okorie (2018) that use of e-resources improved academic performance in universities.

Social media was the second independent variable to be assessed. It was found that social network significantly influenced library performance. This was supported by the p value of media had a p value lower than the significant level to mean if all other factors were to be held constant, social media would improve the performance of the library by $\beta_2=0.219$. The findings collaborated those of Chebet (2017) that social network improved academic performance of university students. Similarly these findings agree with Ntaka (2017) that library staff was satisfied with use of social media (Facebook) as an informational and communication tool to cover user information needs.

Similarly integrated library system significantly influenced how the libraries performed as illustrated with a p value ($p=0.016<0.05$). In addition to that, results indicated that if all factors were held constant, Library Information system would improve library performance by $\beta_3=0.522$. These findings agreed with Okinyi (2016) whose findings indicated that open source library software had greatly influenced the performance of libraries.

Lastly the results indicated that library networking significantly influenced library performance as illustrate with a p value ($p=0.001<0.05$). It was also established that if all factors were held constant, library networking would improve library performance by $\beta_4=0.621$. These findings were in line with the findings of Kalbande (2016) that through networking and resource sharing, the library had improved their services rendered to their users.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The goal of the study was to identify how ICT integration influenced the performance of academic libraries that were within Nairobi City County in Kenya. The study had four main objectives: determining the effects of E-resources on library performance, examining the effect social media had on library performance, evaluating the effects of Library Information System in library performance, assessing how library performance was influenced by library networking. The researcher conducted a descriptive research design so as to answer the research questions. The conclusions and recommendations drawn from the study findings are addressed in this section.

5.2 Summary of Findings

On determining how library performance was influenced by e-resources, the findings illustrated that library performance was significantly and positively affected by e-resources. This was clearly brought out in data analysis with e-resources having a p value of ($p=0.002<0.05$). It was an indication of a sufficient level of agreement amongst the library staff that e-resources were easily available and users could easily access them whether physically in the library or remotely. The respondents remained neutral on the library having a well-organized, up to date collection of e-journals and e-books as well as library having an adequate, collection of e-books from different subjects. The respondents further remained neutral on the OPAC providing many search options for information and CD-ROMS having improved the library's collection development. The respondents came to a moderate agreement that e-resources integration improved library performance.

On establishing what effects social media had on performance of libraries, most respondents were in agreement that using social media in the library had effectively promoted available collection to their users. The respondents also agreed that Facebook, Whatsapp and twitter were used by the library staff to create outreach for specific events and new developments. The study indicated that the respondents were neutral on social media being an effective means of

communication between the library and its users and that library's social media accounts being active always had increased user-library interactions. The respondents were in moderate agreement that the library got user feedback easily and faster through Facebook and twitter platforms. They remained neutral on library staff easily exchanging service expertise with other libraries through social media. All the same the outcome of the study was that social media did have a significant positive influence on how libraries performed as indicted by a p value ($p=0.042<0.05$).

The third objective was establishing how Integrated Library system influenced library performance. The respondents significantly agreed that (ILS) made acquisition smaller and simple which greatly improved library collection development. The respondents moderately agreed that ILS had made cataloguing and classification efficient hence promoting ease in finding information resources especially because the ILS was customizable with easy to search option for information resources. The respondents moderately agreed that ILS kept records of the user demands hence allowing the library to acquire relevant materials. The study determine that Integrated Library systems were significantly and positively affecting how the library performed as it was illustrated with a p value of ($p=0.016<0.05$).

Lastly, on establishing how library networking influenced library performance, the respondents significantly agreed that resource sharing had promoted resource exploitation from users in other libraries as well as making accessibility of information resources faster. The respondents moderately agreed that resource sharing had made acquisition cheaper and at the same time it significantly enlarged the library collection by increasing availability of information resources. The respondents remained neutral as to the library increasing its users through interlibrary resource sharing. The study determined that library networking had an overall significant and positive effect on how the library performed as represented with a p value of ($p=0.001<0.05$).

5.3 Conclusion

Based on the study's findings and discussions, it is concluded that that E-resources have a major impact on how the academic library performance. There is an improvement in terms of the library offering current information as e-resources are easily and quickly published unlike the

print media. E-resources have also improved access of information from the library as they can be accessed virtually.

From the findings and discussions, the study concludes that social media has improved the performance of academic libraries. Academic libraries are now able to reach out to a large number of users who have highly adopted various social media platforms. Social media is a quick method for libraries to create outreach to their patrons and also an easy way for the users to communicate with the library about their information preference.

The study concludes that integrated library system has improved the library performance greatly. From the findings and the discussions, Integrated Library System (ILS) has proved to be useful in helping the library with collection development. The library is able to identify various information gaps in their collection for acquisition. At the same time ILS has made all library functions effective and easy for both the staff and users.

Library networking has greatly improved the library performance. The findings and the discussions indicate academic libraries are now networking with other libraries and sharing resources amongst themselves. The budget given to one specific library may not cover all the information materials required by the users but with resource sharing, library users are exposed to a wide scope of information within a short time. This ultimately improves the library collection.

5.4 Recommendations

When it comes to the effects e-resources have on the performance of libraries, the researcher recommends that academic libraries should consider acquisition of e-resources as compared to print resources. This is because with E-resources, they are easier to access even remotely and it is easier to acquire current information materials in electronic format as compared to print materials which takes time to be published.

In regards to Social media influence on academic library performance, the researcher recommends for Libraries to adopt use of various social media platforms to create outreach to

their users. The researcher recommends that since social media is a fast means to communicating with a large group of people, the library could use various platforms to create current awareness of the materials in stock and at the same time gather feedback from library users on information they require. This will go a long way to helping the library acquire a relevant collection.

As far as integrated library system and its influence on library performance are concerned, the researcher recommends that libraries should be able to acquire a functional Integrated Library System. This will help the library manage its database and therefore be able to discover information gaps within their collection. An integrated library system allows for acquisition of library information materials to be quicker and easier. ILS also keeps records of user demand and hence will allow a library build up a relevant collection for its users.

In relation to influence of library networking on library performance, users being able to remotely access information that is up to date from the library constitutes to a library performing well. The researcher hence recommends for libraries to work with other libraries to achieve success. Resource sharing is one way to enable that users are able to access a wide scope of information in an easy and quick manner.

5.5 Suggestions for Further Research

From the multiple regression analysis, R^2 0.775 meaning that the remaining 25.5% represented other factors aside from ICT integration that also influenced how library performed. The researcher recommends the need for more studies to be conducted on other factors that influence library performance. These factors include staff satisfaction, funding and place and outreach services marketing (Becker, 2015).

The scope of the study was limited to public university libraries within Nairobi City County, however other Kenyan universities including private universities have integrated ICT in their functionality, and therefore this study gives a foundation for future studies on ICT and library performance in other universities for the sole purpose of comparing the findings.

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APPENDIX I: QUESTIONNAIRE

Dear Sir/Madam

My Name is Leah Mary Wangari, a student at Kenyatta University under the Department of Management Science undertaking my Masters in Business Administration, specializing in Management Information Systems. As part of the course work, I am undertaking a research project titled: ICT INTEGRATION AND PERFORMANCE OF LIBRARIES IN PUBLIC UNIVERSITIES IN NAIROBI CITY COUNTY, KENYA. The target population for my research is Post Modern Library (KU) and Jomo Kenyatta Memorial Library (UoN). To come up with significant results; I need your views as one of the library staff. I kindly request you fill this questionnaire truthfully and openly. Please note that any information you give will be kept confidential and will only be used for the purpose of this research. I will truly appreciate your assistance.

Thank you,

For any queries kindly contact me via **0711393834**

SECTION A: Demographic Information

1. What is your gender?

Male [] Female []

2. What is your highest level of education?

Certificate/Diploma []

Undergraduate degree []

Masters []

PhD []

3. What is your age bracket?

Below 25 [] 25-34 [] 35-44 [] 45-50 [] Above 51 []

4. How long have you worked here?

Less than an year []

1-4 years []

5-9years []

10 years and above []

5. What is your department in the library?

Administration [] ICT [] Acquisition [] circulation [] Reference desk []

unique collection []

Specify other.....

SECTION B: E-RESOURCES ON PERFORMANCE

1. What e-resources have been integrated in your library? (Tick where it applies)

E-books []

E-journals []

CD/DVD sources []

OPAC []

List Any other

.....
.....

2. In what ways has the use of E-resources improved user’s access to information?

.....
.....
.....

3. In what ways has the use of E-resources helped the library maintain an up to date collection?

.....
.....

Kindly indicate if you agree or disagree with the statements given below on E-resources and library performance. Please tick appropriately where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree.

No.	Statement on E-resources	1	2	3	4	5
1	The CD-ROM system in the library is user friendly					
2	CD-ROMS has improved the library's collection development					
3	The library has a well-organized, up to date collection of e-journals and e-books					
4	The library has an adequate, updated collection of e-books from different subjects.					
5	The OPAC provides for many search options					
6	The library e-resources can be easily accessed both in the library and remotely					

SECTION C: SOCIAL MEDIA AND PERFORMANCE

1. The library utilizes these social media platforms (tick where appropriate)

Media Platform	Frequency of Usage		
	Daily	Occasionally	Never
Facebook			
Twitter			
Whatsapp			
YouTube			
Instagram			
LinkedIn			
Telegram			
Pinterest			
Others			
▪ _____			
▪ _____			
▪ _____			
▪ _____			

2. In what ways does the library use social media as a platform to ensure users access current information?

.....

 Kindly indicate if you agree or disagree with the statements given below on Social Media and library performance. Please tick appropriately where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree.

No.	Statement on Social Media	1	2	3	4	5
1	Through either Facebook, Whatsapp and twitter, the library creates outreach for specific events and new developments					
2	Library's social media accounts being active 24/7 has increased user library interaction					
3	Use of social media is an effective means of communication between the library and its users					
4	Using social media, the library has effectively promoted available collection					
5	The library is able to get user feedback easily and faster using Facebook and twitter					
6	The library staff easily exchange service expertise with other libraries through social media					

SECTION D: INTEGRATED LIBRARY SYSTEM AND PERFORMANCE

1. What type of Integrated Library Software does your library use?

KOHA [] OPALS [] Evergreen [] EPrints []

List Any other

.....

2. What modules do the Integrated Library Software in use has? (tick where it applies)

Acquisition [] Cataloguing [] Classification []

List Any other

.....

3. In what ways does the ILS improve collection development in the library?

.....

 4. In what ways does the ILS improve user access to information?

Kindly indicate if you agree or disagree with the statements given below on Integrated library system and library performance. Please tick appropriately where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree.

No.	Statement on Integrated Library System	1	2	3	4	5
1	ILS has made cataloguing and classification efficient hence promoting ease in finding information resources					
2	ILS makes acquisition system smaller & simple hence greatly improving the library collection development					
3	ILS customizable and with easy to search option for information resources					
4	ILS keeps records of the user demands hence allowing the library to acquire relevant materials					

SECTION E: LIBRARY NETWORKING ON PERFORMANCE

1) Does your library network with other libraries?

Yes [] No []

2) If yes, for what purpose?

3) In which ways does networking with other libraries improve libraries' performance?

Kindly indicate if you agree or disagree with the statements given below on Networking and library performance. Please tick appropriately where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree.

No.	Statement on library networking	1	2	3	4	5
1	Through interlibrary resource sharing, library has increased number of users.					
2	Through resource sharing, the library makes accessibility of information resources faster					
3	Resource sharing has significantly increased availability of resources enlarging the library collection					
4	Resource sharing has promoted resources exploitation from users in other libraries					
5	Resource sharing has helped libraries resolve acquisition problems					

SECTION F: PERFORMANCE OF THE LIBRARY

Kindly indicate if you agree or disagree with the statements given below on library performance. Please tick appropriately where 5 stands for Strongly Agree, 4 represents Agree, 3 represents Neutral, 2 stands for Disagree while 1 stands for Strongly Disagree.

No.	Statement on Library Performance	1	2	3	4	5
1	The library's collection is well-organized and updated hence meeting user information needs					
2	Library makes the information easily accessible from the library or remotely					
3	Information is stored in different formats that are user friendly					
4	The library is accessible to users 24/7					
5	The library creates awareness of new collections, events to their users					
6	The library offers access to a vast collection covering different subjects					

Thank you.

APPENDIX II: APPROVAL RESEARCH LETTER



KENYATTA UNIVERSITY
GRADUATE SCHOOL



3

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 30th November, 2020

TO: Kariuki Leah Mary
C/o Business Administration Dept.

REF: D53/OL/CTY/39265/2016

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 18th November, 2020 approved your Research Project Proposal for the MBA Degree Entitled, "ICT Integration and Performance of Libraries in Public Universities in Nairobi City County, Kenya".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

JACKSON LUVUSI
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Business Administration Department.


Supervisors:

I. Dr. Joshua Tumuti
C/o Department of Business Administration
Kenyatta University

JL/nn


APPENDIX III: NACOSTI RESERCH PERMIT


REPUBLIC OF KENYA


**NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: **773459** Date of Issue: **04/February/2021**


RESEARCH LICENSE




This is to Certify that Miss. Leah Mary Wangari of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: ICT INTEGRATION AND PERFORMANCE OF LIBRARIES IN PUBLIC UNIVERSITIES IN NAIROBI CITY COUNTY, KENYA for the period ending : 04/February/2022.

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