

SUPPORT SERVICES FOR REMOTE USERS IN SELECTED PUBLIC UNIVERSITY

LIBRARIES IN KENYA

by

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DECLARATION

“I declare that “**Support services for remote users in selected public university libraries in Kenya**” is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.”

Signed:



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As the candidate’s supervisor/co-supervisor I have/have not approved this thesis for submission.

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PROF. O.B. ONYANCHA
(PROMOTER)

DEDICATION

This work is dedicated to my husband Elly W Mwangi, our Children Terryanne Wambui and Andrew Mwangi. Thank you for the love, care and support you have given me throughout my studies.

God bless you.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACRL	Association of College and Research Libraries
AGORA	Access to Global Online Research in Agriculture
CHE	Commission for Higher Education (name has changed to Commission for University Education)
EU	Egerton University
HINARI	Health Inter-network Access to Research Initiative
IFLA	International Federation of Library Associations and Institutions
INASP	International Network for the Availability of Scientific Publications
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KIPS	Kenya Information Preservation Society
KLISC	Kenya Libraries and Information Services Consortium
KU	Kenyatta University
ALA	American Library Association
MU	Moi University
OARE	Online Access to Research in the Environment
PERii	Programme for the Enhancement of Research Information
UoN	University of Nairobi

ABSTRACT

The study was undertaken to explore the remote users of services available public university libraries in Kenya. Scarce literature was available locally on the subject of the study. Provision of quality and relevant information services to support teaching, learning and research remains a central objective of libraries in higher education world over. Higher education institutions in Kenya continue to experience unprecedented growth in student population against limited human capital and physical infrastructure, among the library services. This reality has prompted Universities to adopt different education delivery models; distant learning, e-learning, and part time modules to accommodate the extra numbers seeking higher education. Depending on the preferred module, the students can be categorized into three main groups: on-campus, off-campus and remote user groups. Higher learning standards require that all users to have equitable and inclusive access to resources. This study explores the nature and availability of support services and resources available for remote library users in public university libraries in Kenya. The research methodology adopted was a descriptive research design; where qualitative data was collected using Focus Group Discussions (FGDs). The findings revealed that public university libraries in Kenya have various forms of resources and services that can support remote user needs. However they face certain challenges that hinder the use of the available remote user resources and services in providing equitable access to information services to all its types of users. Key among the challenges was that remote users were not identified as a special user group in the libraries studied contrary to what the study grounded. The results of the study are discussed under three main thematic areas: services for remote users, facilities available for remote users, and policies and regulations that govern remote use of library resources. Equally included in the study are discussions, conclusions and recommendations based on the findings besides identified informational gaps for further research.

Keywords: Academic libraries, Kenya, Universities, Library users, Remote users

CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction and Background Information

The justification for investing in higher education libraries lies in the extent to which a linkage can be demonstrated between such an investment and the library's role in the improvement of quality, efficiency, and achievement in university education (Kavulya 2004). A university library functions as an instrument of teaching besides other modes such as lectures and discussion methods. The librarian serves as a teacher, guiding the student in the ways of investigation and research. To achieve this, libraries acquire information materials to support tuition and research by the faculty and students, and organizing the resources in a manner that permits easy access to the contents and ensuring that such access is facilitated by giving users the necessary skills to retrieve the required information (Virkus & Metsar 2004).

Kavulya (2004) identifies access to up-to-date scientific information as the first condition to quality research. It is through a well-equipped and endowed library with books and journals that scholars can keep pace with developments in various disciplines and transmit the same to students. Quality undergraduate, postgraduate, and research programmes cannot be achieved without good library facilities (Wolpert, 1998). A strategy to develop a university library and information service is therefore a fundamental component of ensuring high standard of the teaching, learning, and research process in a university. The library has a direct link to the principle of improving educational quality by contributing to the enhancement of the quality of student output, maintaining, and improving the standards of teaching in higher education and facilitating research initiatives. Similarly, it has been argued by some authors (e.g. Buchanan, Luck and Jones 2002; Mwiria, Ng'ethe, Ngome, & Wesonga 2007; Horo 2006) that the level of information and library support to higher education directly affects the quality of future professionals, scientific and managerial personnel. Librarians in public universities should therefore be involved in the learning processes in academic departments by creating access to information resources by its users. In effect, the quality of educational output will be favorable (Kavulya 2004).

At the university level, the library is a partner with the schools and departments of the University to meet the teaching, research and learning commitments of the university. Asundi and

Karisiddappa (2006), Besser (2005) and Kavulya (2004:22) share the idea that the library's role has four components: information transfer, partnership in teaching and lifelong learning, partnership in research, and preservation of intellectual record. In other words, the university library facilitates the identification and delivery of information in support of the universities' teaching and research and learning guided by an ongoing assessment of the information needs of library users (CHE 2007; Horo 2006; Juma 2001). The library's responsibility therefore includes ensuring that information resources required in support of these activities are identified and accessed and facilitated as part of a broadened process at the university. *Ipsa facto*, University libraries have a mandate to facilitate access to information resources to all library users irrespective of their geographical location. Cahall (2002) argues that the primary goal for a university library is to support and compliment the teaching; research and scholarship programs offered by the academic institutions and constantly meet the needs of users, which have continued to grow in size and demand for resources.

Initially, the existing library facilities in most public institutions of higher learning were designed to serve the needs of on-campus users. This has presented major limitations with time coupled by user behavior changes (Gust & Haka 2006, Wayne, Butters & Brophy 1997). Over the last ten years, there has been an increase in demand for higher education, leading to a greater demand for more quality services. This has consequently impacted on the way libraries render services to its users.

Library and information services world over are facing new challenges that require reforms in information management and delivery styles. The increase in student enrolment and establishment of more colleges and campuses as well as expansion of programmes in institutions of higher learning continues to present higher demands for library and information services. Adoption of new technologies has provided opportunities in education delivery as well as other services. Other factors such as changing user characteristics, internal factors which include the level of involvement by librarians as partners in the developments in higher education, and the rapid pace at which new knowledge is created, presented and utilized, are among the recent developments which pose challenges in the provision of information and library services (Slade 2000; Nyaingoti-Chacha 2004).

The higher education sector has seen major changes due to advancements in technology influencing the way education products are being delivered (Oganda 2000; Kavulya 2003; Moyo & Cahoy, 2003). In Africa and particularly in Kenya, these changes include the introduction of e-learning, web-based learning, non-residential students and the introduction of electronic resources. Coupled with the availability of portable Internet connected equipments, the way library and information services are delivered both to education and related support services, has considerably changed.

In Kenya, changes in public university education as well as the emergence of new technologies have had an impact in the provision of library services as new user communities have emerged. Librarians are compelled to respond to changing circumstances (Jowi 2003) and adjust rapidly in order to fulfill their missions in the context of the institution's mission statement (ACRL 2002).

1.2 Contextual setting

This section discusses the context of the study. It provides a background overview of the developments in higher education in Kenya and a brief background of the selected sites of the study. A general view of the role of university libraries in higher education is also discussed.

1.2.1 Development of Higher Education in Kenya

Higher education sector in Kenya traces its history from the developments of the defunct East African Community era (the community is being resuscitated). In 1922, Makerere College was established in Uganda as a small technical college to meet the needs of the East African countries. It was the only college in the region providing higher education between 1940 and early 1950s. In 1956, the Royal Technical College was established in Nairobi and in 1963; the Royal Technical College became a University College, following the establishment of the University of East Africa with three constituent colleges based in Nairobi, Dar es Salaam and Kampala (Makerere). The University of East Africa offered programmes and degrees of the University of London until 1966. In 1970, the University of East Africa was dissolved to create three autonomous universities of Nairobi, Dar es Salaam and Makerere. As education is considered an important component in promoting economic and social development, higher education in Kenya has undergone rapid expansion in order to provide qualified personnel for a

growing economy and national development (Nyaingoti-Chacha 2004). As such, throughout the 1970s, the government strengthened and expanded the University of Nairobi, the only one then, as a conscious effort to provide university education to all qualified Kenyans and as a move to develop the necessary human resource for the private and public sectors. The number of Kenyans seeking university education exceeded the capacity of the University of Nairobi as years went by. This resulted in the upgrading of most middle-level colleges to full-fledged universities.

In 1984, Moi University was recommended by the Mackay's report (Government of Kenya 1981) and was established by an Act of parliament in 1984 as the second national university. Kenyatta University, previously a constituent college of the University of Nairobi since 1972, became a fully-fledged University in 1985. In late 1988, Jomo Kenyatta College of Agriculture and Technology which offered diploma and certificate courses was made a constituent college of Kenyatta University and admitted the first 200 Bachelor of science students, in the newly created faculty of science. It became an independent university through the Jomo Kenyatta University of Agriculture and Technology Act of 1994. Egerton College, which offered diploma programmes in agriculture, became a full-fledged university in 1988. Siriba Teachers' College became Maseno University College, a constituent college of Moi University, and in 2001 a full-fledged university called Maseno University. Sergei Teachers' College was renamed Chepkoilel campus, which became a constituent college of Moi University. Laikipia and Kisii Teachers' Colleges both became campuses of Egerton University. Kenya polytechnic and Kenya Science Teachers College became constituent colleges of the University of Nairobi in 2008. Mombasa polytechnic and Kimathi Institute of Teachers Training became constituents of Jomo Kenyatta University of Agriculture and Technology in 2008. By the time of completing this study, these last three have been granted autonomy in 2012 whereby Kimathi was chartered in December.

These developments meant that most tertiary-level colleges were upgraded in favor of university education. Continuing education programmes (CEP) were also established in accredited centres to bring education nearer to the people for better transfer of technology, improvement of economic and social development and for meeting the challenge of diverse livelihoods. The aim was to accommodate a growing demand for higher education by more post-secondary school students as well as service market demand of higher qualifications. In the recent past, the

institutions have expanded (see table 1). This expansion has affected support services such as accommodation and library services.

Table 1.1 Public Universities and their Constituent Colleges and Campuses, 1970-2009

(Source: Commission for Higher Education, 2008; Moi University (1984); Kenyatta University; (1985); Maseno (1991); and MMUST (2009)

	UNIVERSITY	COLLEGES	CAMPUSES AND CENTRES
1	University of Nairobi Established in 1970	Kenya Polytechnic University College – (2007) Bandari college	Kikuyu campus Pangani campus Kabete campus Chiromo campus Kenya Science Campus – (2007) Distance learning is offered at Kikuyu campus with centres in each province.
2	Moi University Established in 1985	Narok University College Kabianga University College	Chepkoilel Campus Town Campus (KPA) Town Campus (Annex) Town Campus (Health Sciences) Directorate of Open and Distance Learning (DODL) Kitale Satellite Campus Kericho Satellite Campus South Nyanza Satellite Campus Nairobi Satellite Campus
3.	Kenyatta University Established in 1985	Pwani constituent University College – (2007) Kitui constituent University College – (2007)	Ruiru Campus Parkland Campus Mombasa Campus The university has 8 centres managed by the Institute of Open Learning (IOL). Spread in the main towns in western, central and coast provinces.
4.	Egerton University Established in 1987	Kisii University College – (2007) Chuka University College – (2007)	Njoro Laikipia
5.	Jomo Kenyatta University of Agriculture and Technology	Kimathi constituent University College –	Karen campus Nairobi campus

	Established in 1994	(2007) Mombasa Polytechnic University College - - (2007)	NCBD Taita Taveta campus - (2007) The university has 28 centres managed by the Continuous Education Programme (CEP) Spread in the main towns in Rift Valley Central, Eastern and coast provinces
6.	Maseno University Established in 2000	Bondo constituent college -2008	Siriba College campus Kisumu City campus
7.	Masinde Muliro University of Science & Technology - Established in 2007	-	Kaimosi teachers College Sangalo Institute of science and Technology Nairobi Aviation College

Over the last decade, the social demands for higher education in Kenya have clearly intensified. This is evident in the rise in the number of public and private universities; accredited colleges and the establishment of self-sponsored programmes in the public universities. Student enrolment in public universities in Kenya rapidly increased since 1964. In 2008, at the start of the study, the data available on student enrolment in Kenya's public universities was roughly 101,302 students (Ngare & Muindi 2008). As additional students are increasingly being enrolled in the open and distance learning (ODL) and continuous education programmes (CEP) degree programmes, the numbers could obviously be much higher.

In two academic years, (1987/1988 and 1990/1991) the universities were required to admit two sets of students as an effort to clear a backlog that was necessitated by long university closures and to accommodate the overlap of the changes in the education system. To solve the problem of backlog, the Government of Kenya decided to admit both groups the same year hence increasing enrolment numbers at the university. The following factors were initially responsible for increased enrolment. The first double intake occurred in 1987/88 academic year following the 1982-attempted civil coup in Kenya, whereby the government ordered an indefinite closure of the universities lasting for about one year. This affected about 8000 applicants who qualified for university admission by end of 1982. This prolonged closure, coupled with other shorter duration closures, contributed to a backlog of qualified students due for admission. To clear the backlog, the public universities were directed to embark on a double intake of students starting with 1987/88 academic year. The second increase was experienced in 1990/91 when Kenya's

education system changed from 7-4-2-3 to 8-4-4 education system. This meant that, students had to take eight (8) years of basic education instead of seven (7), four (4) years of secondary education and a minimum of four (4) years of University degree. The two (2) year-Kenya Advanced Certificate of Education (KACE) was abolished. This occurrence increased the number of students who could join the university. Previously, the numbers were filtered at the 2 years of Form Five and Six as only a few qualified candidates could join Advanced level (A level). Consequently a few more students qualified to pursue university degrees while others joined middle level colleges.

With the advent of the 8-4-4 system of education in Kenya in 1984, there have been more students graduating from what was known as ordinary level (O level) education in Form Four, than those who used to graduate from Form Six, also known as advanced level (A level) which has since ceased in public schools in Kenya. These developments led to increased demand for spaces in higher education to absorb additional students who met minimum admission requirements. The government responded to this increase by upgrading middle level colleges to constituent colleges in order to increase capacity to admit more qualified Kenya Certificate of Secondary Education (KCSE) graduates through the Joint Admissions Board. The universities responded by opening up campuses and centers across the country. The opening of these establishments has put constraints on the available resources in the public universities in terms of human and material resources and the need to maintain high education standards.

For instance, the 1990/91-qualified candidates increased from the previously 20,000 per year to 170,000. This was occasioned by the merger in clearing the A-level system and admission of the first KCSE graduates of the new 8-4-4 system of education. Universities had to admit both groups. This further stretched the meager facilities that these institutions had in place (Nyaingoti-Chacha 2004). The library services were equally strained

As the demand for higher education in Kenya continues to increase, universities have become more innovative. For instance, among other ways, public universities have responded to this development by not pegging the number of students admitted on bed capacity but by admitting all those who meet minimum admission requirements so long as they are able to fund the cost of higher education. The students are categorized into two groups; government sponsored and self

sponsored. For some programmes, the self-sponsored students are taught in the part time model while the government-sponsored students attend regular lectures. This affects mainly newly introduced programmes (Oganda 2000). This has resulted in the use of various terms such as “Self sponsored, parallel programmes¹ or module II programme, alternative degree programmes and private Sponsored Students.”

Due to the increased number of students seeking further education, there has been a corresponding increase in the number of courses offered in parallel degree programmes. According to an article in the Daily Nation by David Aduda, on Saturday, March 14 2009, the public universities have re-invented themselves. Rather than recruit regular students, they introduced and expanded parallel degree programmes, which have become so popular because of their diversity and flexibility. Today, candidates no longer have to wait for two years to be selected by the Joint Admissions Board (JAB). Parallel programmes allow candidates to choose a course of interest and at a university of choice. Available information from the universities indicate that a number of students who qualify for admission through JAB forfeit their chances and opt to register under parallel programmes, because they have a chance to choose the course they want to enroll besides securing immediate admission. This arrangement has contributed to increased enrolment.

Statistical data available from a Daily Nation article of Saturday 12th July, 2008 and titled “Parallel Degree Programme Changing Education”, the 2007 Kenya Certificate of Secondary Education examination results reveal that of the 82,134 students who qualified for university admission, up from 62,926 students in 2006, only 16,000 could be admitted in the seven public universities through the State-funded regular programmes. Some (2008) emphasized that the sheer numbers of qualified students missing admission would affect Kenya's economic development and social well-being.

¹ (The term parallel programmes will be applied in this study to refer to program that are meant for self-sponsored students).

The University of Nairobi and Moi University were the first public universities to offer degrees under the self-sponsored programme. The Private and Self Sponsored programme (PSSP) for which students paid their fees as opposed to government sponsorship was launched in response to shrinking funding to public universities by the State and increased demand for higher education. Consequently, the cost of staff, learning, research expenses, food and accommodation coupled with inflation pressures made it difficult to sustain operations of public universities. Some (2008) argues that the programme has placed higher education within the reach of many Kenyans as well as immensely contributed towards the financial stability of public universities by supplementing funds received from the government. This has seen more students enroll for graduate programmes.

Presently, most students in public universities are those enrolled under parallel programmes. For instance, by 2004, the University of Nairobi had the highest number of learners under this programme with 32,010 students out of the university's total student population of 44,914. Kenyatta University had 11,568 out of 20,426; Moi University had 8000 out of its 16,000, Jomo Kenyatta University of Agriculture and Technology had 4,590 out of 7962, and Egerton University had 4,000 out of 12,000 students enrolled in the parallel programme. In Maseno, 60 per cent of the students were self-sponsored (Nyaingoti-Chacha 2004).

Over the last 10 years, the popularity of the parallel programmes has seen an ever-increasing demand for space, support services such as accommodation, hospitality, libraries, teacher student ratio as well as access to quality information (Some, 12th July 2008). The flexibility of the programme has also opened up opportunities for working people whose full time jobs and other personal commitments do not allow them to pursue further studies on a full-time basis. Those in jobs need not resign to proceed for further studies since they can pursue their studies after work through part-time, which are often offered during the evenings. A dwindling job opportunity has also driven the demand for higher education to newer heights. In the highly competitive job market, employment and promotions are done on the basis of academic qualifications among other considerations; the higher the qualifications, the greater the chances of being employed or promoted. This increased not only the number of students but also the number of constituent colleges, campuses, accredited centres as well as programmes, departments and faculties in public institutions to satisfy the demand (Some 2008). Kenya Economic Survey (2007:7), too,

reports that enrolment in public universities has increased by 11.8 per cent from 81,677 students in 2005/06 academic year to 91,337 in 2006/07.

Distance education has over the time singly gained popularity among the universities in Kenya. Learning is largely becoming more self-directed, collaborative, intertwined with personal life and work, and more resource-based, thus calling for perpetual access and usage of information and learning resources. The Open and Distance Learning (ODL) programmes in Kenya started at the University of Nairobi in the College of Education and External Studies, Kikuyu campus (School of Continuing and Distance Education). Its activities date back to 1953 when the first Department of Extra Mural Studies was founded in Makerere with a resident tutor for Kenya. ODL was originally a tool for helping universities reach beyond the campus. Modern technology has made distance education models more flexible as well as increased the capacity for sharing learning resources in higher education in Kenya (Commission for Higher Education 2007; Juma 2001).

According to a press release by the Minister of education, Prof George Saitoti, at the second International Conference on ICT for Development, Education and Training – E-learning Africa, the government participation in expanding higher education initiatives in public universities has facilitated the establishment of ODL in the universities (Saitoti 2007). For instance; Moi University has initiated ODL programmes. The university has set up the necessary ICT infrastructure in its satellite campuses in different parts of the country that operationalised ODL through the Kenya Education Network Trust (KENET). The idea is to improve connectivity, expand learning opportunities among the institutions of higher learning in Kenya. According to a Ten-Year Strategic Plan from the ministry of education, Moi University was scheduled to start ODL Programmes during the 2007/2008 academic year (Republic of Kenya, Ministry of Education 2007).

By 2007, in the Lakeside city of Kisumu, Maseno University had assembled the requisite ICT Infrastructure worth Kshs 14 million in readinesses for e-learning programmes in the form of video conferencing equipment. In order to offer access to university education to a larger number of students who qualify but fail to join public universities through Joint Admissions Board (JAB), Maseno University identified nine (9) learning centers countrywide, which could be used

as pilot centers for the Open, Distance and Electronic Learning (ODEL) programmes. At Egerton University, there are plans to launch an e-learning programme in Nursing at its Nakuru Town Campus during the 2007/2008 academic year. The university fully understands that learners play a major role in constructing their own knowledge and developing their skills and hence the need to provide support services to enhance their learning base. Kenyatta University has been offering Open Learning and School-Based programmes since 2002. The University currently has eight Open Learning Centres countrywide, namely: - Parklands Campus, Mombasa, Nakuru, Kakamega, Kisumu, Garissa, Embu and Nyeri. The programmes range from diploma to postgraduate levels hence the University has been receiving overwhelming students' enrolments in the ODL programmes (Ngare & Muindi 24 August 2008).

1.2.2 Paradigm shift in the provision of library services

According to the Free Online Dictionary, Thesaurus and Encyclopedia (2007), a library is a place in which literary and artistic materials, such as books, periodicals, newspapers, pamphlets, prints, records, and tapes, are kept for reading, referencing, or lending. It is a collection of books and other materials maintained for reading, consultation, study, and research and organized to provide access to information sources with a staff trained to provide services to meet the needs of information users.

Traditionally, libraries offered circulation services, interlibrary loans, course reserves, an information desk, and reference desk and library instruction. Users have had to physically get to the library building for a variety of services such as: circulation services, borrow, return or reserve a book, readers services, user registration, reference services, reprographic and binding services, bibliographic services, research, book and newspaper services, abstracting/indexing services, selective dissemination of information (SDI), current awareness (CAS), user education, searching and retrieval services, audiovisual services, and user support. The opening hours were posted near entrance for users to plan their library visits appropriately and to ensure that users can use the library services and resources independently and efficiently.

Literature provides a rich record of service models and best practices in the provision of services and there has been an explosion in publication as librarians consider ways to support learners in a networked environment (Slade 2000). Today, libraries also serve as gateways to

online and Internet resources, and provide instructions in the use of electronic resources. The library as a place of teaching and research as well as a place of culture, information and intellectual exchange, is forever striving to serve the educational needs of students and researchers, and the socio-cultural needs of a fast changing community. For example, some people live in other parts of the country or even in other countries, and some are gainfully employed, some are hospitalized, physically challenged. For all these persons distance education and web-based learning may offer interesting opportunities and democratic advantages (Zinn, Sellers, Bohli 1986; Besser 2005; Adewale, Ibam and Alese 2007).

Arguments by Gust and Haka (2006) and Schmidt (2004) have been advanced that the traditional library is no longer the only or even the primary provider of information to its community. Search engines like Google and Yahoo provide users with free information in a variety of formats, including electronic documents. Users have a general impression that, the Internet can satisfy all their information requirements adequately. They believe that most relevant information is available freely on the web and thereby bypass the library as a place to find what they are seeking (Research Information Network & Consortium of Research Libraries in the British Isles 2007). This perception of the library as something used at the end, or at best in the middle, of their information search must become the concern of the library profession (Sharifabadi 2006). Libraries have to recognize and address this challenge by mediating and providing support to the new models of education and reaching out to their patrons by facilitating an easy path for accessing the vast library resources (Thachill 2008).

Challenges faced by libraries in ensuring that these new electronic resources are available for use are more than just a marketing issue. Integrating electronic resources into a library collection is a team activity (Thachill 2008). The cataloguer has to make sure that appropriate tags and links are in the online catalogue record of each item (Moyo & Cahoy, 2002). Systems managers provide technical assistance when required and ensure that the library's public and staff computers have the appropriate software needed for access, of organized materials (Moyo & Cahoy, 2002).

Amekuedee (2005: 442) corroborates this fact by asserting that "providing access to information has become the principal goal and activity, and coping with technology and change are the major driving forces of the emerging information age library." The explosion in the quantity, cost and

communicability of information is a new phenomenon that calls for new responses. Among these responses must be the willingness to accept change. Changes in higher education, the new student-centred paradigms, and new learning and teaching approaches call for a re-conceptualisation of the roles and responsibilities of librarians (Virkus & Metsar 2004)

Producers of information are making more and more information available electronically and directly to the consumer in a more cost-effective manner. Consumers plug into the network to gain direct access to information in a variety of formats. The customers have become remote users of library collections and specific services are required to support them and help them make the most of their learning experience.

Today, libraries are shifting their role from the custodian of traditional information resources to the provider of service-oriented digital information resources (Haneefa 2007). It is in this context that the concept 'remote library user' is applied in the proposed study. Cooper, Dempsey, Menon, and Millson-Matula (1998), observe that, remote users lack time, good searching skills for information resources and that they need more intense information literacy and user guidance in the usage of all the resources and primarily, those available remotely.

Over the past several years, university libraries have changed dramatically in how they deliver information to faculty, staff and students. Advancements in technology and the rise of the Internet uptake, E-mails, electronic indexes and databases with full-text articles, which have increasingly become available via the World Wide Web have changed the way users' access information as well as influenced operations in libraries. Book publishers have also entered the digital world by making selected materials available online through subscription services (Sacchanand 2002; Slade 2000). Coupled with advances in networking and computer technology, accessing library resources from off-campus locations is now much easier than before. The tasks of the librarian are also changing to meet the needs of remote users.

Library consortiums have also been established to improve the provision of information resources and services to the library users. The standardized policy in collection development and bargaining power of a consortium can help to reduce costs of documents (Haneefa 2007). In Kenya, public universities participate in the Programme for the Enhancement of Research Information (PERI) consortium that ensures electronic publications are accessible to learning and

research communities. PERI is service sponsored through the International Network for the Availability of Scientific Publications (INASP) in which African researchers can access thousands of full text electronic journals and databases (Were 2006). The provision of online support becomes critical in selecting a particular electronic document and confirming its relevance. Resources are properly registered and organized as part of the task of managing information. Additional technology has blurred the line between the selection of materials and its organization just as the acquisition of an electronic document and providing access to the information contained in it has replaced the physical description in cataloguing (Al-Ansari 1999). In effect, the job of the librarian tends to become more and more complicated as aspects of ownership and access, licensing and preservation evolve. Yet, libraries remain important for the future as well as for the past of our civilization. The other aspect is that more and more users prefer online access to searching the card catalogues and library shelves. The information quantity is growing enormously fast and the users demanding more access to resources from remote places increases this call for a strategy that ensures what has been collected and organized is accessible to users.

Lippincott (2002) advocates that librarians should be involved in learning communities by shifting their focus from explaining library resources to meeting ongoing information needs of the students in the broad information environment. The needs of remote users should be met regardless of location or mode of communication. Agee and Antrim (2003) assert that librarians need to seize the opportunity to guide and instruct information seekers, especially those who are entering higher education. As Libraries face increasing changes, studies have shown that there are more opportunities than are drawbacks for libraries to re-engineer the way things are done to accommodate remote users. Ho (2004) in a study at Monash University in Australia comments that libraries can achieve growth in the area of off-campus delivery and stressed the need for appropriate support to ensure appropriate infrastructure to deliver effective service to the total student population whether they be on-campus, off-campus or part time models

1.3 Problem statement

The educational developments and growth of universities in Kenya (including the number of students, and the establishment of constituent colleges and campuses) has had tremendous

impact on service delivery by libraries. The establishment of module II programs and the introduction of ODL in universities have resulted in the emergence of remote users - users who do not physically visit the library. The pressure that these developments have had on the provision of services (including libraries) in higher education is enormous; with library services taking the largest share of this pressure. The opening of more universities, campuses and centres coupled with increased number of academic programs, has put constraints on the available resources in the public universities libraries. Pre-existing library facilities have developed slowly compared to the rate of growth as the number of students enrolling in public universities increase.

Advanced technology has also brought changes in the learning environment, from contact based to off-campus environment. This has seen the emergence of users who are not able to visit the library building physically but demand library services. Technology has seen the proliferation of electronic resources that can be accessed from any Internet enabled communication interface such as computers and mobile phones. This presents challenges for libraries to adopt new strategies to meet the needs of such users.

The changes discussed above impact on all services –teaching and learning; reference and research consultation, circulation and reserve; liaison work, demand for books, journals, electronic information and other resources. The current library services in public universities were established for the needs of a sit-in patron pursuing the traditional courses. The increased enrolment was not envisaged during their establishment. To supplement and manage their obligation as information intermediaries, libraries now subscribe to the available electronic resources via the Internet for enhanced resource sharing and information transfer. A new library clientele that has emerged requires a relook at how libraries are coping with the new challenges of service provision. The new clientele are not likely to use the physical library as often due to the demand of their courses, distance from the campus, lack of enough space in the library and inadequate facilities. These users have a variety of options, which require support and mediation from library and information professionals. They also present an aspect of increased demand due to their sheer numbers and often prefer remote access to information resources. They present an increased demand on library online services, user guidance, reference services and document delivery. Often, librarians are not adequately equipped to deal with the changing user paradigm.

The researcher noted that the users have been surveyed on their needs and expectations and findings have been presented in various studies (see Chapter Two). For this reason the study will focus on provision of services to meet those needs identified by other scholars of user studies.

1.2.1 Research purpose

The study sought to explore the support services and resources for remote library users in selected public university libraries in Kenya

1.2.2 Research objectives

In view of the above-mentioned purpose, the study's objectives are:

1. To identify and describe the library services and resources available for remote users in public university libraries in Kenya.
2. To find out the tools used to create awareness of the services and resources available for remote users
3. To evaluate the available policies, infrastructure and procedures for remote user services in academic libraries in Kenya
4. To establish the challenges faced by librarians in meeting the needs of remote users
5. To establish measures that will help improve library service delivery to remote users

1.2.3 Research questions

The research was guided by the following research questions: -

1. What library services and resources are available to remote users in public university libraries in Kenya?
2. What tools are in use to create awareness of the available services and resources?
3. What policies, procedures and infrastructure are in place for remote user services?
4. What are the challenges faced by librarians in providing services to remote users in public university libraries?
5. Which measures can help improve library service delivery to remote users?

1.3 Justification of the study

The need for reliable and efficient communication networks to increase the capabilities to access library services and resources at remote sites and create awareness for services available to its communities has become more urgent than before. The communities are defined by their needs and characteristics. Today, students have better access to the Internet and this presents a window of opportunity in solving challenges of increased demand and limited library and information resources. The financial support in government institutions has been shrinking over the years. Institutions of higher learning are encouraged to be innovative in services delivery to its communities. This affects all sections in the universities and librarians' therefore, must also redesign the way they provide services and facilitate an array of resources to the faculty staff and students in remote places. To develop successfully, librarians may need to review library and information policies to accommodate the changing user characteristic. Other areas that require review include collection development and access policies relevant to the remote access of academic materials.

The use of the Internet and web-based technology has also improved the way distance education is delivered. Libraries and the information community globally have moved rapidly into an era of powerful-networked scholarly workstations, large quantities of information accessible in electronic formats, and dispersed information sources connected to regional and national networks provides an opportunity to provide appropriate services in public libraries (Amekuedee 2005). These developments are not without their challenges in the success of provision of services to remote sites. Access to quality information is identified as a key constraint to the learning experience. For instance, inadequate library services frustrate learners in accomplishing their academic assignments.

Provision of support services to remote users in public universities is crucial to enable libraries to respond effectively to problems presented by increased enrolment upon limited resources. According to the Associations of College and Research Libraries (ACRL) (2004) in its guidelines for distance learning library services, academic librarians are expected to assist users in evaluating the information they receive to accomplish their educational goals irrespective of their physical location.

1.4 Scope and limitation of the study

This study was limited to four (4) public universities in Kenya, namely University of Nairobi (UON), Kenyatta University (KU), Moi University (MU), and Egerton University (EU). The study could not cover all public universities, university colleges, international universities, private universities and colleges due to time and financial constraints.

The 4 public universities were chosen because of the following reasons: two universities each from urban and rural areas, were selected to strike a balance between the variables of the study and have a favorable comparison; UON and KU are situated within Nairobi metropolitan setting and are presumed to have better infrastructure while MU and EU are located in a rural setting, where the infrastructure may pose challenges such as connectivity.

The selected universities were established before the year 2000 and may provide a better picture on the impact of increased student enrolment on library services. The libraries are well established in terms of online services, collection, staff, library programmes, and activities. The students' enrolment as well as the total number of lecturers in the four public universities is also comparatively higher.

The effectiveness of support services to remote users in selected academic libraries in Kenya such as availability of services and resources, creating awareness, policies, infrastructure and procedures, are addressed. The remote users are conceptualized as users who access resources remotely from outside the library building. This study was essentially exploratory, focusing on the services available to remote users of the selected academic libraries in Kenya; hence, the technical aspects of support services were not explored.

Financial constraints was a major limitation. Time was inadequate as the researcher took the study while attending to the needs of full-employment in a busy academic library. The study involved the librarians in the selected universities. The faculties and administrators of flexible learning models (module II, part-time, ODEL and CEP) were not covered in this study.

1.5 Significance of the study

Remote use of resources and services is a reality in the technologically advanced environment both in the business world and in the learning institutions. The presence of support services to remote users will ensure maximum utilization of resources in the libraries. Librarians and service providers will have an intermediary role to ensure users access information services and resources to meet their educational needs. The findings would form the basis for developing infrastructure to support services for remote users in public university libraries in Kenya. Improved library and information services to remote users will lead to more satisfied remote users with high quality learning outcomes comparative to those of on-campus users.

Improving library services to remote users will mean graduates from public universities and their accredited centres and campuses can compete favorably and equitably. Using the emerging technologies, libraries would achieve cost effectiveness in service delivery. More users will be able to utilize information services and resources simultaneously improving circulation level. The funds used to buy multiple copies of books and print journals can now be used to acquire more E-based information materials. The finding will provide grounds to redefine the library services in the integration of the emerging technologies for quality service delivery to remote users.

The research is intended to make contribution to the knowledge base of user studies as well as play a positive role in highlighting key areas in strategic information planning. The results will provide a knowledge-based framework for developing sound information strategies, policies, and procedures for improving the way services to remote users are developed and delivered. The results of the study may influence decision-making process to the university's management in budgetary and resource allocation to the library department; and provide a framework for evaluation and monitoring provision of library services.

The researcher will benefit greatly as the knowledge obtained after the research will play a complimentary role in her professional proficiency. Finally, the findings of the study might reveal certain gaps in the profession, which other scholars might pick up for further research.

1.6 Literature review

The review of the literature covered study materials, and reports, study guides and related studies. The researcher organized and reviewed literature in line with the objectives of the study.

The literature review focused on the following, among others:

- i. Identify remote information users
- ii. Resources and services for remote users
- iii. Type of information Materials
- iv. Type of information services
- v. Library Staffing Awareness strategy for information services and resources to remote users
- vi. Information marketing concept
- vii. Tools of marketing information services and resources
- viii. Policies, infrastructure and procedures in provision of library services
- ix. Policies issues in the provision of information services
- x. Infrastructure for provision of information services
- xi. Procedures followed in provision information service
- xii. Challenges and opportunities in meeting remote user needs
- xiii. Measures in the improvement and redefining library services

1.7 Definition of terms

This section briefly defines important terms that are used in the study. By understanding the way these terms are used, the reader will gain a clearer understanding of the nature of this research.

Alternative education programs:

The term refers to University admission for privately self sponsored students. The Programme opened invaluable opportunity for the hundreds of Kenyans and non-Kenyans who meet the University admission requirement but do not secure admission due to the restricted intake through the joint Admission Board (JAB). Candidates for various programmes in the Privately

Sponsored Students Programmes are expected to apply for admission directly to the university of interest.

Infrastructure

The term refers to the basic, underlying framework or features of a system or organization, for example, raw materials of a library program, money, space, collection, equipment, and staff, out of which a program can arise.

Library Portal

According to Reitz (2004-2012), a library portal is defined as Software that allows a computer user to customize online access to collections of information resources. This is done by creating a list of Internet connections, much like a personalized directory of street addresses and telephone/fax numbers. Library portals (example: My Library, my synergy, MyUnisa/library) are designed to reduce information overload by allowing patrons to select only the resources they wish to display on their personal interface.

Library Use

The term is concerned with the extent to which the resources and services of a library are utilized by its clientele (students and faculty in the case of academic libraries; the public for public libraries). Common measures include overall or per capita circulation, turnover of collection(s), gate count, program attendance, Internet use within and without the building, interlibrary loan and reference transactions, etc. Accurate statistics on library use are essential in documenting effectiveness and justifying funding.

Library Support Services

This refers to all the activities put in place to ensure accessibility and use of library services and resources to remote users. The concept also refers to all activities that guarantee availability and access to information resources including linkages to resources, collections, and human resources most appropriate to its users, such as information services, user guidance and

promotion to stimulate use of resources. Availability and accessibility to resources forms a key strategy to ensure user satisfaction in using the library.

Remote Access

According to the Tecnoterms.com (<http://www.techterms.com/definition/remotearchive>)

‘Remote access is just what it sounds like -- the ability to access your computer from a remote location. Programs like PC Anywhere (Windows), Remote Access (Mac), and Timbuktu (Windows and Mac) allow users to control remote computers from their local machine. In order for a remote access connection to take place, the local machine must have the remote client software installed and the remote machine must have the remote server software installed. Also, a username and password is almost always required to authenticate the connecting user.’

The process consists of programs that allow users to control remote computers from their local machine. In order for a remote access connection to take place, the local machine must have the remote client software installed and the remote machine must have the remote server software installed. In addition, a username and password is usually required to authenticate the connecting user. Remote access is more than just being able to connect to a remote machine -- it is the ability to control the machine once the connection has been made. A remote access program transforms a local computer into a remote computer, with an online connection to another computer in the network. This is great for people who sometimes work from home and for server administrators who frequently need to update and make changes on their server machines. Most remote access programs also allow users to transfer files between the local and remote machines, which can save a lot of commuting time. While remote access can be helpful to many people, security aspects come to play posing challenges to the advantage. To log on to a network server, the user may be required to enter an authorized username and/or password. Special communications software and/or hardware, such as a modem or dedicated line, may also be required. Wireless, cable modem, and DSL (Digital Subscriber Line) technologies provide alternative methods of accessing computer systems remotely

Remote users

According to Cooper, et al (1998), remote users can be defined as any individuals accessing library resources from any site outside a library without regard to physical distance.

Resources

All components required for accomplishment of a task. As used in this study it refers to all those needed components required to accomplish and improve assignment for academic excellence. It covers the four elements of resources: materials, human, space, and environment.

University library

This refers to an information system that collects information sources both print and non-print and makes them available to student and the members of the faculty for academic and research activities.

1.8 Organization of the thesis

The thesis is divided into five chapters as follows:

Chapter 1 covers the introduction and background of study including development of higher education in Kenya and the paradigm shift in library services, the statement of problems, objectives of the study, research questions, justification of study and scope and limitations of the study, significance of the study, definition of key terms, organization of the dissertation and dissemination of research findings.

Chapter 2 deals with the literature review. It covers the background information of related works and the theoretical framework.

Chapter 3 covers the research methodology, which includes research design, area of study, population, sampling technique, instruments of data collection; data analysis presentation technique.

In Chapter 4 covers presentation of the findings according to the set out objectives and research questions of the study.

Chapter 5 provides the discussion of the findings.

Chapter 6 offers the summary of the findings, conclusions and recommendations

1.9 Dissemination of Research Findings

The findings of the study will be disseminated through presentation of papers at conferences and seminars and will be availed to other researchers through the libraries. It will also be submitted for indexing in theses and dissertations databases in both Kenya and South Africa. The results may be published in peer-reviewed journals such as *Mousaion* and other professional journals.

1.10 Chapter Summary

This chapter covered the introduction and background information' which addressed issues on development of the education system, expansion of universities, establishment of constituent colleges, expansion of programs, growth in the number of students, introduction of module II degree programs and ODL and the paradigm shift in library services. The term remote users is also defined and operationalised for the study. The statement of the problem spelt out the impact of increased enrolment on library services prompting the need to adopt new technology to provide support services to meet increased demand for library services. Other sections covered the purpose of the study, research objectives, and research questions; justification of the study; scope and limitations, significance of the study; literature review approaches; organization of the dissertation and dissemination of the research findings.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

The purpose of this Chapter is to survey, report and synthesize the relevant literature that has been published by various scholars on the subject that is under the investigation of this study. The review focuses on policy papers, newspapers, and published and unpublished research articles as well as Internet-based literature. It covers studies conducted in developed and developing nations, on issues such as access to library services, standards, policy issues and challenges of information services provision. The review also focuses on the revised laws of librarianship (Gorman & Crawford 2007).

This section is divided into the following main headings: theoretical framework; library resources and services for remote users; marketing information services and resources; policies, infrastructure and procedures in the provision of library services; challenges and opportunities in meeting remote user needs; and measures of improving library services for remote users.

2.2 Theoretical framework

Support for library patrons entails the availability of services and the users' ability to access the services whenever they require them. According to Ugah (2008), learning materials might be available, in the library, but inaccessible to those who need them. Aguolu and Aguolu (2002) has identified the reasons for inaccessibility have been identified as follows:

- Users do not know precisely what they want; if they do, they cannot articulate their needs accurately to the library staff.
- The bibliographic or intellectual access to the content of the library is inadequate owing to poor indexing system in the library catalogue or of the library collection itself.
- The circulation policy of the library is inefficient, shelving methods are inadvertent, and guides to the library arrangement are lacking.
- Unnecessary physical and administrative barriers are imposed upon the poor use of the library material by the library management.

The laws of Library Science have been applied to collection development and services to ensure availability and accessibility of the necessary resources. Ranganathan's (1931) five laws provide a blueprint for library and information professional values. These laws remain relevant now, as they were when they were formulated (Noruzi 2004:2). Noruzi notes that the brief statements below coined by Ranganathan then, remain as valid in substance and expression today just as they were then, concisely representing the ideal service and organizational philosophy of most libraries today. Ranganathan (1931) postulates that:

- i. Books are for use
- ii. Every reader his or her book
- iii. Every book its reader
- iv. Save the time of the reader
- v. The library is a growing organism

The core function of libraries is not just about storing books but more importantly, to enable people have access to information resources. Ranganathan's first law emphasized not only the preservation of materials but also access to and use of information resources. Preservation and access issues should be of concern especially with the introduction of digital technologies that Ranganathan could only have 'dreamt of in his time' (Noruzi 2004).

The emergence of the information and communication technologies suggests that Ranganathan's laws of library science can be appropriately applied to the Web. Nowadays, the same five laws have been operationalised in different contexts as the library profession develops. Since 1992, several modern scholars of library science have attempted to update his laws, or reworded them for other purposes (Noruzi 2004). Noruzi (2004) observes that, based on Ranganathan's laws, several researchers have presented different principles and laws. For instance, Gorman and Crawford's (2007) laws of librarianship compare with Ranganathan's original laws of library science or to any one of their many new interpretations.

Michael Gorman and Walt Crawford's laws immensely influenced the current study on the aspects of the provision of Library Services to remote users. Gorman and Crawford's laws are not a revision of Ranganathan's laws. However, they represent another completely separate set, from the point of view of a librarian practicing in a technological society. These theoretical

fundamentals of library science as applied in this study are found useful in directing the exploratory study on provision of support services to remote library users in public university libraries in Kenya. This study is informed by the following laws as spelt out by Gorman and Crawford (2007).

- i. Libraries serve humanity
- ii. Respect all forms by which knowledge is communicated
- iii. Use technology to enhance service:
- iv. Protect free access to knowledge
- v. Honour the past and create the future

Observably, the rules are ethical, independent, and applicable to many social issues related to the library and information resources and services. The laws emphasize that librarians should formulate enabling information strategies and policies and strive to meet user information needs in a timely manner irrespective of the mode of learning, location, time of access or technology used. In that respect, Cahall (2002:1) opines, “Libraries must also possess’ built-in mechanism for governing the use of resources to ensure that users affiliated to the university are able to connect to them.”

Library and information professionals must work in collaboration with the academic faculties and users in a tripartite collaboration to realize success of the organizational goals and objectives. The following is a brief exposition of Gorman and Crawford’s laws of librarianship

2.2.1 Libraries serve humanity

The first law of Gorman and Crawford (2007) implies that libraries exist to nourish and develop human beings. Information serves to advance and sustain society. Just like Ranganathan’s first law that books/documents are for use, this law implies that libraries are for learning and information is there for use. Information resources serve no purpose if they are not adequately utilized and made accessible to people who need them. For users to realize their goals in education or learning process they must utilize information painstakingly acquired. In this context, libraries have a major role to play in developing information infrastructure, processes,

and procedures that serve the user needs of all members of the institution irrespective of their distance, space, form, and time.

2.2.2. Respect all forms by which knowledge is communicated

The second law focuses on the diversity of library resources and services. It implies that knowledge and information bearing formats are varied; some are suitable for varied circumstances. Libraries are required to respect and appreciate the traditional print-based resources as well as the digital and multimedia resources and services.

Despite the advances in technology, the imposing benefits of information, and the critical roles of academic libraries for supporting teaching, learning and research remains intact. Librarians and faculty staff must therefore cooperate in addressing the needs of the learning and research fraternity whether on-campus or remote locations in the provision of any support needed for academic achievements. With reference to the current study, librarians are expected to focus on providing effective services to remote users in their academic journey. They need to promote and assist learners to access and appreciate all formats in which knowledge is displayed.

2.2.3 Use technology to enhance service

The third law emphasizes the need for maximizing the use of information resources through the adoption of modern technology. Information searching skills must be inculcated by training users and staff to benefit from the adopted technology. Technology heralds efficiency, effectiveness, diversity, and quality service if aptly harnessed. It enables libraries to cope with the increasing demand for library services, brought about by an increased enrolment and changing user characteristics. The law encourages adoption of appropriate ICT technology to ensure equitable distribution and access to information services and resources remotely.

Faced with limited space in the library building, shrinking government funding and the changing user information seeking behavior; librarians need to equip users with necessary skills to increase access and usage of both print and electronic resources to meet their information needs. System developers should also take into consideration all the changes in information bearing

format and in collaboration with the library, provide a platform needed to support sharing and transfer.

2.2.4 Protect free access to knowledge

This fourth law is very explicit. Libraries are making available resources and uploading information on their institutions' websites for online access. Librarians should ensure that all users have equal access to information and knowledge. It abhors any form of user discrimination relating to gender, race, social, education, religion, and geographical location, in pursuit of knowledge. This law reveals the fundamental need for achieving a balance between making web resources available and the basic right of access to resources for all users as provided for in the ACRL guidelines (ACRL 2000).

The impact of this law by Gorman and Crawford (2007) can compare with the fifth law of web connectivity by Lennart Björneborn (2004), which stipulates that '*each web resource should call to mind a potential user,*' in that they make online dissemination of information very important. The law draws the attention of both the system librarian and the reference librarian into a continuum support system for remote users. The law calls for the formulation of enabling information strategies and access policies that ensure that the collection maintained is appropriate and adequate to fulfill the expectations of the library community. In other words, the collection must be appropriate to the needs of all its users and available in all formats.

There is an even more practical aspect to this law in that ICT librarians must know their users well if they are to provide them with the materials they need for their research or learning. They have a responsibility, therefore, to instruct and guide users in the process of searching the web-based documents in support of their education and research tasks. To effectively offer support services to remote users, librarians will therefore need to identify the needs and expectations of remote users. This would influence the selection of resources and identification of services that can be offered remotely. This will in turn lead to effective location, retrieval, and dissemination of information for remote users.

2.2.5 Honour the past and create the future

The fifth law compares with Ranganathan's law that regards a library as a growing organism. Libraries are expected to expand in terms of space, resources, and services to accommodate changing user needs and new information products. Libraries must use their past and present resources to conquer the future. The present and future should be the focus, to design appropriate ways and continue meeting the information user's needs. Libraries are evolving fast from purely print-based materials to electronic and digital formats. As technology changes, the staff, and the users need to learn new skills on how to navigate the modern databases and digital resources. Information literacy techniques should include computer-aided instruction to train users in navigating the rich resources in peer-reviewed electronic journals and full-text databases.

In the current study, these laws address the continuum between the traditional and the technological aspects of library and information services. Lebowitz (1997) argues that there are challenges for developing such an elaborate service and an all-inclusive service. Institutions need to develop information policies and strategies that facilitate equal access to information resources. Studies by such scholars as Moyo and Cahoy (2003), Oladukun (2002) and Were (2006) provide a roadmap that guides provision of library services to remote users. Moyo and Cahoy (2003) argue that where such services are available, little attention is paid as to whether or not the initiatives are useful and/or successful. Libraries operate within the mission and vision of the parent institution. Active participation by librarians both within their academic departments and beyond ensures continuity in achieving the institutions' goals and objectives.

The laws outlined above empower librarians to extend their services and resources beyond the library walls. If librarians used these laws as a guideline, they would be able to discover firsthand the patron's information needs and witness the changing course of learning patterns. The effect would be development of user-need driven design for service delivery

2.3. Introducing a remote user

Advances in technology, digitization of resources, limited physical space in the library as well as an increased enrolment of new students in the institutions of higher learning, have caused changes in the way users interact with their library. This has created an additional category of

users who access information both on-campus and off-campus in a virtual environment. These users are commonly referred to as remote users.

According to Cooper, et al (1998), remote users can be defined as any individuals accessing library resources from any site outside a library without regard to physical distance. Graham and Grodzinski (2001) indicate that remote users fall into three primary groups: on-campus remote users, off-campus remote users and distance education users. On-campus remote users include those accessing library resources from halls of residence, offices, classrooms and computer laboratories. This group has access to the library building but from time to time, they require to access library services from places outside the building. Reaching this category may not be a major concern as they are within the institutions' intranet and can easily connect to the resources as long as one has access to a connected facility (Horo 2006).

The off-campus remote users, on the other hand, consist primarily of students taking regular programmes but are non-residents and some members of teaching and non-teaching staff taking part time classes within the campus or other institutions of higher learning. They may access library resources from their homes or other locations away from the library building. Another class of remote users consists of distance learners, including e-learners. The users in this category access the library's resources from greater distances and remote access is often their only means of attaining library materials and services. All members of the institution are potential remote users as far as electronic services are concerned.

According to Debowski (2003), knowing the type of library users and their needs is critical to any successful information service. The 21st century library user is increasingly accessing the library services from computers and other external support tools. Debowski (2003) argues that the impact for the library as a place becomes significantly diminished as users seek alternative means of accessing information they need from distant facilities. Debowski (2003) defines the remote user as any patron who accesses the library services without actually entering the library doors. A facilitated remote user is one who obtains a physical resource from a library service through an agent away from the actual place where a resource is housed. Such would include an external university student who seeks textbooks and reference sources through their external library support service, or homebound users who receive a customized service from a visiting

librarian. Debowski's ideas concur with those by Moyo & Cahoy (2003) that libraries need to identify and consider the needs of remote users in the provision of appropriate support services and access to information resources.

The trend towards remote access to resources creates opportunities for mediating information searches as the users tend to depend on free search engines such as Yahoo, Google as opposed to seeking references from the library-organized services. The opportunity is in librarians creating services that point the users to useful information resources.

As stipulated in the Standards for Distance Learning Library Services (ALA 2008; 4), the following statement can conclusively delimit the remote users in the sense of this study:

“Online access to library resources has blurred the distinctions between main campus online users of library resources and distance learning online users. Main campus online users are typically enrolled there, or employed there. They access online library resources in their dorms or offices, in their apartments..., or anywhere they can get Internet access from their laptop computers or other portable devices. These individuals function very much like distance learners and faculty in their online use of library resources and require some of the same kinds of interactions with library personnel”

2. 4 Resources and services for remote users

This section introduces resources and services for remote users. According to Cooper et al (1998), identifying and describing the library services and resources available for remote users provide a framework for librarians to plan and develop information strategies for remote users.

2.4.1 Types of information materials and resources

According to Standards for University Libraries in Kenya (CHE 2007), an information resource means “formal, informal, human, printed, or electronic resources that contain information that can be accessed to meet a need.” The resources include electronic textbooks and journals, full-text databases, CD-ROMs, films, microfilms, reference and bibliographic sources, Online Public Access Catalogue (OPAC). These materials can be transmitted electronically. Horo (2006) in his study on utilization of electronic resources defines an electronic resource as “any material for

meeting the learner information needs. They may require peripheral connections to computer devices”. Ani, Esin and Edem (2005) and Gorman and Crawford (2007) concur that the provision of online public catalogs (OPACs) at all service points and access to the Internet are imperative in a seamless and timeless connectivity for successful remote user service.

Besser (2005) observes that the libraries’ focus on resources for remote users is a transformation in the library world. Libraries are becoming more important not because of the materials they collect or house, such as print based books, journals and CD-ROMs, but for the kind of material they can obtain in response to users’ requests. This paradigm is enhanced by the availability of online resources accessible beyond the library wall (Gust & Haka 2006). This paradigm change from collecting information resources for ‘just in case’ they are needed to ‘just in time’ delivery to answer to a user's needs is a profound shift for the library service. This shift is a direct result of the recent proliferation of digital networking environment (Kumar & Kumar 2008).

Horo (2006) and Were (2004) concur that electronic information resources currently appear in different formats and that academic libraries in Kenya have integrated them in their library collections. These trends have brought into question information resources licensing, authentication, authorization and access. Licensed journals and databases proliferates the web-based information resources. Institutions world over have formed consortiums to ease the burden of subscription. The Kenya Libraries and Information Services Consortium (*KLISC*) through the Programmed for Enhanced Research Information (PERI) consortium has played a commendable role of bringing together academic and research organizations with the agenda of enhancing the availability of publications (Were 2004). These consortiums have enabled the institutions to acquire more electronic resources, which would otherwise be impossible due to inadequate funding.

Wrenn, Mueller, and Shellhase (2009) refer to online services available for remote users offered through institutional repositories such as those found on <http://www.oaister.org>, www.Dspace.Org, www.Opendoar.org. These are authoritative directories of academic open access repositories among others that support research activities in academic libraries. The services provide access to full text thesis and dissertations including digital repositories.

2.4.2 Types of information services for remote users

According to Franklin and Plum (2004), remote services are all those activities that enable library users to access information resources electronically from off-campus, i.e. outside the library building. Library patrons can access the services from within the campus remotely from off-campus facilities such as home computers, or cyber cafés and related electronic devices.

According to the Kenya Commission for Higher Education (CHE 2007:8), an information service includes traditional library and information services comprising of books, archives, standards, patents, research reports and electronic materials comprising of CD-ROMs database, software, electronic documents, multi-media and video”.

Association of College and Research Libraries (ACRL) (2000), notes the importance of library support for on-campus and off-campus users and recommends equitable provision of library services. Oladukun (2002) refers to the library services as a necessary tool in meeting the university informational, learning and research needs. It is a priority when institutions begin to expand their education programmes to ensure access to learning and research materials. Various studies (e.g. Kavulya 2003; Juma 2001; Lebowitz 1997) concur that the quality of academic achievements in any educational facility is pegged on the quality of information services available to the students and the teaching staff.

This is augmented by information available in some worldwide universities. At Kansas State University (2008) for example, the following services are available for remote users: interlibrary loan, delivery of photocopies, delivery of books and materials within United States. These services fall into three categories, namely: administration, technical, and user services and are complimentary to each other in ensuring access and use by students, faculty, and staff.

IOWA State University (2008) library services are available to users who hold a users University identity card. Authentication and authorization are standard requirements for gaining access to online catalogues, document delivery service, e-journals, e-books, and other full-text databases, electronic reserve, e-mail, listservs, instructional services, interlibrary loan, library hours, media services, online reference assistance, reference services, research in primary resources/special collections; training users in the use of resources and services and how to place requests for

information online. Wynne, Butters and Brophy (1997) discuss additional benefits of services such as interlibrary loans as a delivery model for users who are differentially positioned.

Ho (2004) lists services for remote users available at Monash library as comprising access to electronic reserve, digitization exam paper database, lectures online, databases and online document delivery. Graham and Grodzinski (2001) observe that library users expect that they will be able to log on to electronic resources at any time of the day and from any location in order to access the information that they need. To meet these expectations, many libraries globally now provide their users with remote access to library research databases using identity name and passwords... These authors observe that when databases are accessed within the library, it is possible to offer support to in-house library users. Borgman (1999) argues that the advent of digitized library services has had an effect on the role of the library in serving the remote users. The role of the librarian has therefore gradually changed from custodian of information materials to a provider of technical support.

Debowski (2003) emphasizes on redesigning library services for the benefit of the remote users and their different needs while Amekuedee (2005) focuses on the need for continued performance and quality control of the information and library services. According to Amekuedee (2005), capacity to remain, connected and content relevance stand out in the list of remote user services.

An information service needs to be flexible in order to respond to the changing needs of the community it serves. It is important when planning a service to provide a means of continually monitoring and evaluation of its effectiveness. There is also a need to have a cost-effective service in order for remote users to exploit the available information resources (Horo 2006). This requires changes in selection criteria of information resources and service development and delivery for remote users (Graham & Grodzinski 2001).

User education forms a critical component in the utilization of resources in an electronic environment. Library instruction has always been a significant role that librarians play (Amunga 2007). Traditionally, librarians provided library tours, introductory and subject-specific classroom instruction, as well as at-the-point-of-need instruction in the reference department. According to Sharifabadi (2006), new challenges for librarians include the provision of library

instruction equitably to a growing population of remote users who may never contact the librarians for assistance. The author relates this to increased digital library activities such as collections that are accessible outside the library via the Internet, a situation that has reduced the frequency of students' visit to the library building. Telephone and e-mail reference services allow librarians to provide short and sometimes detailed reference assistance to e-learners. As observed by Johnson, Reid and Newton (2011:5)

“The growing use of the Internet for information storage, retrieval and communication is perhaps the most significant development shaping library and information services today. The advantages of developing e-reference services using the facilities of the Internet include 24 hour access for users and the potential for easier referral of questions to services with more substantial collections or higher levels of expertise”.

However, these media are too cumbersome for remote instruction making personal mediation necessary. As noted by Sharifabadi (2006) the advent of real-time virtual reference services, librarians should be able to provide instruction to remote and distance learners. They can do this by proactively identifying the user, their needs and plan to meet the identified needs.

2.4.3 Staffing

Lamont (1999) argues that as libraries move from the automation stage to digital content, the technological stresses on the staff have intensified. Library staff must learn to negotiate software packages, keep current with developments on the Web, and incorporate text and digital sources into their reference collection. The staff must be educated about the use of new technology without becoming stalled in the details of running the software or the precise nature of the data holdings. The staff needs to understand the relationship of the new service to print materials and other library operations. Debowski (2003) adds that human attributes such as friendliness and understanding in an electronic link may result in quality service. Citing Edwards and Brown (1995), Debowski says that outputs in a support service should include responsiveness, reliability, assistance to users and empathy.

Konnur and Bhandi (2004) argued that rapid technological changes and advances require an even more adaptive and sophisticated workforce. The need to cultivate a new workforce of electronic

resources librarians, information managers, system administrators, and the training and education providers to conceive, build, and implement a wide array of user-oriented applications using innovative information technology becomes necessary. According to these authors, information technology solutions would only be successful if librarians directly focus on a skilled and competent work force, which is expected to satisfy the critical information needs of users.

Reference librarians require competencies in not only handling physical contact enquiry but also online enquiries. Lamont (1999) is of the view that education, communication skills and competencies among the staff play a central role in the provision of quality and relevant reference services.

Katz (2003) enlists three levels of staff for a successful online support service.

- i. The manager or the coordinator to lead the project,
- ii. The technical support staff needed to set the system. They need to have rights and privileges to the library server to get the program running properly and provide the link between the system and the vendor.
- iii. The web support staff, who is responsible for web design and placing the links in the right places and ensure the links work well for the remote user.

These three components, according to Katz (2003), are critical and occupy the human resource docket of library planning. The library staff takes its cues from the administration. A new service important to the administration likely will be important to the staff. A supportive and flexible library administration is the last essential human ingredient for a successful new technology center. The project will require support through resources and attitudes as well as a willingness to build partnerships and bend reporting and communication structures within the library and within the larger institution (Lamont 1999:6)

The Commission for Higher Education - the body responsible for higher education in Kenya - recommends hiring of qualified and adequate staff to offer services in tandem with the academic programmes offered, enrolment, service points and hours of access (CHE 2007:14). The requirement is an indication that staff competencies play an important role in the success of library services. The primary responsibility is to assist the users in the process of transforming

information to knowledge. The librarian in any university is supposed to coordinate the evaluation and selection of information resources required for the various programmes and organizes and maintains the collection of these resources. Equally important is the responsibility of library staff of providing information literacy skills to remote users. Information literacy skills enable patrons to master the online content and to make their investigations into the literature from remote places comprehensive. Information literacy significantly contributes to the remote users becoming more self-directed thus assuming greater control of their learning (CHE 2007)

Among the literature surveyed in the related works (Agee & Antrim, 2003, Gadd 2002, Amekuedee 2005, Kavulya 2003, Shiri 2003, Spink 2004), the general view is that academic libraries are involved in capacity building, provision of a consistent, and comprehensive training in electronic technical skills, instructional delivery, system design, managerial supervisory skills, and continuing education for library staff. Studies reveal the need to develop computer-based instruction for student assistants and personnel to provide training in core technical and informational competencies needed for academic libraries.

2.5 Creating Awareness of Information Services and Resources to Remote Users

This section discusses the methods and tools used to create awareness of the information services and resources to remote users.

2.5.1 Methods and tools of creating awareness among remote users

Various authors have observed that marketing, advertising and public relations constitute some of the methods of creating awareness of the library resources and services for users (for example, Agee & Antrim 2003; Were 2004). This section discusses these methods in detail.

(a) Marketing

Marketing is a method that the libraries use to create awareness among remote users. Kumar (2008) citing Kotler (1997) defines marketing as:

The analysis, planning, implementation, and control of carefully formulated programs designed to bring about voluntary exchanges of values with target markets for the

purpose of achieving organizational objectives. It relies heavily on designing the organization's offering in terms of the target market's needs and desires and as using effective pricing, communication, and distribution to inform, motivate and serve the markets.

Marketing strategy is about telling the actual and potential library users what collections and services are being offered. It is a relationship builder between the library staff, library services and resources and the users. The process begins by identifying the market, developing the product/service and ends with informing the market (Madhusuman 2008).

Kumar and Kumar (2008) note that librarians have adopted the 5Ps of the traditional external marketing mix. The concept is used in the provision of more accessible service-oriented models of library services as related in the table below.

Table 2.1: Five P's of marketing mix as adopted by libraries. Source: (Kumar and Kumar, 2008)

Product:	Information resources and research services.
Price:	Free to employees. In other words, company sponsored. This is particularly important in an R&D environment where research budgets are tight and the company may not realize Return on Investment (ROI) in a project for some time.
Place:	Not necessarily a physical location anymore. A strong web presence is necessary. Libraries are both virtual as well as physical spaces now and the possibilities in both these worlds are endless.
Promotion:	Internal bulletins, e-mails, the company intranet, the library web site, newsletters and poster campaigns are all effective promotional vehicles for highlighting new tools and advertising events.
People (Staff):	Staffs are relatively a new element in marketing mix, as its importance for the Development of strategies has only recently been realized. It is difficult to achieve satisfactory exchanges with public without suitable staff. That is why marketing experts now talk about "internal marketing," emphasizing that the entire staff must be at all costs involved in the organization is marketing strategies.

Marketing mix includes products (such as books, periodicals, literal programmes, bibliographies, annual reports, statistical surveys, and compilations and services such as electronic resources); price (in the form of credit, discount, cash, etc.); Place (including

coverage, distribution channels, inventory, locations, and transport), and Promotion (which is done through advertising, personal selling, and public relations).

Marketing electronic resources takes a deliberate move on the part of the library administration to initiate campaigns to promote utilization of electronic journals and full-text databases, and other library resources (Rowley, J. 1998; Bhatt 2011). Evans and Wards (2003) says that promotional activities are meant communicate, inform, persuade and remind. They are meant to increase awareness in the information to current and potential users. Some methods have a wider outreach than others do

In a previous study (Kaur 2009: 4, citing Ronan, 2003; Kibbee *et al.*, 2002 and Coppola *et al.*, 2002) noted that traditionally, library marketing strategies included publicity activities such as display panels, posters, exhibits, bulletins, promotional materials, promotional events; direct mail, newspaper and radio advertisements. The main aim then was to realize the library's mission in support of its parent institution's mission. Kavulya (2004) in his study titled '*exploration of marketing tools used in universities in Kenya*', agrees that the following promotional tools for marketing library services: - brochures; newsletters; notice boards; library manuals and guides; and Internet home pages are used in academic libraries in Kenya.

Kaur (2009) argues that marketing strategies do not just include telling the library clientele what collections and services are being offered, but it also contributes to building a relationship with library customers that begins and ends with awareness of the library's users: their values, their concerns and their needs.

(b) Advertising

McNamara (2010) in a paper titled *Basics of advertising and promotion online* argues that there are few books that explain how to carefully plan, organize, develop and market a non-profit program. The author discusses various methods that can be used to create awareness through advertising and promotion. Advertising is important for promoting library services. The library can advertise its products and services in newspapers, scholarly journals, magazines, newsletters, radio, television, Web, etc. Furthermore, advertisements help in image-building. The methods may include short message, or staff can write longer articles on

new and existing library services. Librarians can appear on local radio and TV, highlighting the new role the libraries play in the present era. There are a variety of ways of advertising online (Jaafar 1998). More tools include the traditional print advertisements such as brochures, leaflets, posters pamphlets, newspaper advertisements, etc.

Brochures or flyers

The design and presentation of brochures and leaflets should be aesthetic and attractive to users. The language should be simple and should hold the interest of the user. Desktop publishing and word-processing software packages can produce highly attractive tri-fold (an 8.5 inch by 11-inch sheet folded in thirds) brochures. Brochures can contain a great deal of information if designed well. They are becoming a common method of advertising. They are portable and can be inserted in newspapers to reach wider audience.

Leaflets

Leaflets include guides to the library and its special collections, Web guides, Reading list on Information Technology, and so on. Other brochures can be kept in the library at a location which is open so that anyone who enters the library is attracted to that corner.

Posters

Posters offer good visual communication. They can draw attention when displayed at prominent locations and provide brief information about an event, service, etc. Old and defaced posters should be replaced on a regular basis. Posters can be very powerful when placed where your clients will actually notice them. Most people may not notice the posters but if well designed they can catch the potential user's attention. Bulletin boards are useful for posting any useful information in strategic places targeting users. Such information would cover what is new in the library or any changes worth information to optimize access and use of library resources and services.

Extension activities

Activities such as book displays, lectures, quiz, debates, seminars, competitions, exhibitions, etc., can have a positive impact on the image of the library

Direct mail

Mail sent directly to users can highly be customized to suit their nature and needs. The remote user's lists can be generated at the time of registration and updated regularly as they quickly become out of date.

Electronic Mail/Mailshots

According to Natarajan (2002), e-mail is the most universal application on the Internet and it can be used for direct communication with potential users. There are many benefits to using email as a promotional tool. The source adds that mailshots are an effective medium that create personalized services, with information about library activities and events, membership renewal. This tool can be wonderful in getting the word out to remote users. E-mail packages are user friendly. The only drawbacks are that they depend on stable power supply and availability of a networked communication system.

Magazines

Magazine advertisements can be very expensive. However, this can be overcome where an institution publishes its own magazine because it will focus on its potential users. Advertisement can be placed in the library magazines without incurring extra costs.

Newspapers

Almost everyone reads the local newspaper(s). The newspapers can pass information using a variety of features such as editorial, stories, and advertisements written about one's business. Newspapers can serve as a good tool of distribution of pamphlets and brochures to remote users.

Newsletters

The library can convey information about new acquisitions, new services, events and activities, fee changes, etc. Information regarding library can be included to convey a message to readers about the promptness of the library in updating and communicating small but important pieces of information. In fact, they are an excellent marketing tool because they list all the activities of a library. With ICT facilities in the library, an e-newsletter can be produced. The text of the newsletter can also be included on the library website.

Online discussion groups and chat reference service

As with e-mail, it is possible to gain frequent exposure by participating in online discussion groups and chat groups. The institution can develop chat rooms where the remote users can connect to the reference librarian to seek services they need. Stoffel and Tucker (2004:120) report on a survey done at Southern Illinois University Carbondale (SIUC) on the use of pop-up reference service. Of the 340 responses 82 percent indicated that the answers they received using the chat reference service were very helpful, and 82 percent rated the service as a very good method of getting reference help.

Web pages

Users can access libraries' websites at any time. The websites contain details about the library, including the collection, subscriptions, service policy, terms and conditions, etc. It may also have graphics and multimedia advertising that can have an impact on visitors. The library website should be continuously updated to avoid an adverse effect on the image of the library. The website can also be interactive to enable users communicate with staff. Mahajan and Chakravarty (2007) suggested that a directory of staff members should be posted on the website to facilitate reference service and virtual contacts.

Today, advertising and promotions on the World Wide Web are almost commonplace. Using the Web for advertising requires certain equipment and expertise, including getting a computer, an Internet service provider, Website name, designing and installing the Website graphics and other

functions as needed (for example, an online store for e-commerce) and promoting the Website via various search engines, directories and maintaining the Website (McNamara 2010).

According to Daniels and McDonald (2006), Web 2.0 has been used to ensure visibility and accessibility. User friendly interfaces such as RSS (Rich Site Summary) feeds, Podcasts, and in-time learning, are useful tools to access subject specific databases; communicate the latest electronic services; and for strategic outreach respectively. Reference services should be designed to use proxy support for off-campus support for remote users and that libraries need to expand their online presence to reach users beyond the comfort of their offices, rooms or remote locations. Creating relevant web content in consultation with course management systems will help establish communication with remote users. Libraries are investing in relevant infrastructures to reach out to remote users.

In a similar study, Kaur (2009) citing Welch (2005) identified a survey of 106 academic libraries in the USA on the placement of marketing and public relations links on the homepages, using four main categories to analyze the university and library home pages based on primary goals of library. Marketing and public relations revealed various aspects that promote library services such as ensuring:-__

- i. Visibility- direct link from institutional home page to library web site.
- ii. Fundraising - direct links to friends/associates group pages and gifts/donations.
- iii. Information – direct links to news, exhibits, new collections, or “what's new” pages.
- iv. Consultation and comments – direct links to “Ask-a-librarian”, e-mail, or comments pages.

Though the study was silent on remote users, it provides a basis for the current research in considering the method as a means to increase user awareness. Kaur (2009: 12) observed that libraries are now having direct links to inform users about what is happening at the library, about the new collections and spread library news through electronic newsletters and bulletins. It is not very encouraging to know that less than 60 percent of libraries are involved in such activities. Libraries must realize that users have many other avenues to search for information, so the library must proactively promote itself and let users know what is happening at the library, what

new collections there are, and how libraries are evolving to electronic services to fulfill the users' demand for speed and convenience.

(c) Public relations

Kotler and Fox (1995) define public relations for educational institutions as efforts to obtain favorable interest in the institution and its programs through planting significant news about them in publications and/or obtaining favorable unpaid presentation on radio, television, or in other media.

Marshall (2001:8) observes that academic libraries unlike their public counterparts, have not been discerning the need of public relations as a means of communication with various publics. The use of communication channels such as newsletters, brochures, e-mail or the World Wide Web are some of the tools useful for public relations activities. Libraries could also sponsor special events in the campus and participate in public shows and exhibitions. The CHE sponsors an annual exhibition for higher education institutions, an avenue for libraries to make an impact on the institution as well as users attracted by such events. However, Marshall (2001) found that PR is not a conscious activity for the library staff and stressed the importance of employing the method to disseminate information to users. Information that can be delivered include hours of service, resources/services, library guides, and links and contact details.

The library's specific tools such as current awareness and selective dissemination of information (CAS/SDI, bibliographic lists and catalogues can be used to reach specific users. The ultimate objective of the marketing of library and information services is to create awareness and effective dissemination of the right information to the right user at the right time. Prytherch (1995:188) describes CAS as "a system, and often a publication, for notifying current documents to users of libraries and information services, e.g. selective dissemination of information, bulletin, indexing service, and current literature." According to the Sci-Tec Dictionary (2003), the CAS is "a system for notifying users on a periodic basis of the acquisition, by a central file or library, information (usually literature) which should be of interest to the user." The emergence of the Internet in the 1990s has changed the manner in which the CAS is viewed. For example, Fourie (2001:2) defines CAS as "a selection of one or more systems that provide notification of the existence of new entities added to the system's database or of which the system took note

(e.g. documents, Web sites, events such as conferences, discussion groups, editions of newsletters, etc). CAS automatically notifies users or allows users to check periodically for updates. The entities can be specified according to users' subject interests or according to the type of entity (e.g. books or newsletters)”

Fourie (2003) and Zillman (2010) concur that online CAS/SDI offers a number of advantages over their traditional printed counterparts; they are speedy, up-to-date, and convenient to use from one's desktop. In the electronic age and domain, tools such as my synergy and/or my library (see Zillman, 2010) carries user profiles and generates automated alerts and updates on log in. The updates depend on user profiles provided at registration. The automated updates occur anytime relevant information is captured in a database or a journal article in one's area of interest (Fourie 2003; Zillman 2010). CAS has been a very important service provided by libraries that fulfill the current information needs of end users.

Proactive service approach by librarians would enhance library resources and services by promoting value added services such as electronic reserves, seamless access to electronic and print collections. Integration of electronic resources into courses and course content, tutorial materials; providing electronic notices of newly purchased materials and the help desk as well as quick guides to resources library and information services should be visible to the users (Markey 2007).

A survey on marketing library services on the web (Kaur, 2009) revealed that libraries involved publicity, image enhancement, and awareness. Library news includes news about library programs, exhibitions, library updates, photographs of events and online bulletins. Results from 20 libraries surveyed, revealed that a majority of 14 (63 percent) libraries had library programs announced on the web site. Only six (33 percent) libraries, all of which were public university libraries had news about upcoming exhibitions. Fifteen (68 percent) libraries informed users about library updates and only five (22 percent) had online photographs about library events. Three (16 percent) public libraries have access to an online library bulletin. One of which also has an online library periodical indexed by LISA (Library and Information Science Abstracts).

A total of 11 (50 percent) libraries listed new library collections on the web page, including new books, new journals or databases on trial. Further 13 (59 percent) of the libraries have

links to internet subject resources arranged by discipline, either by the librarians or a link to others. However it is notable that private university libraries have not yet explored this value added service that can be an asset to library marketing. Internet resources that have been selected and organized by subject specialized librarians can encourage students and faculty members to increase usage of library web site rather than having to search from within the internet using search engines.

Kaur (2009) argued that library users are a divert group of people, hence providing links to news and newspapers can be a contributing factor to encourage library web site usage. The study revealed a 12 (54 percent) of the libraries studied provided links to current newspapers and periodicals online. Thus using the same provision would improve library visibility to remote users.

2.6 Policies, Infrastructure, Procedures and Processes in Provision of Library Services to Remote Users

This section will discuss issues around policies, infrastructure, facilities, and clear procedures, which govern and facilitate support for remote users.

2.6.1 Policy Issues in the Provision of Information Services to remote users

According to the CHE (2007), developments in ICT have led to a large increase in electronic publications alongside paper and micro text publications produced in both print and digital formats. Thus librarians, in addition to acquiring, organizing and providing information, are also called upon to assist users in evaluating and interpreting information available in its various formats. The evolving role of the librarian therefore demands closer partnership with the teaching faculty and the users and a greater responsibility in the education process. The standards spelt out in section 8 of the CHE policy document states that:

“...the library shall establish, promote, and maintain a wide variety of quality services that will support the vision, mission and objectives of the university. In this case, the library professionals are expected to provide competent and prompt assistance for its users.”

The American Library Association (ALA 2004:5) on Standards for Libraries in Higher Education; outlines the issues of access to library resources in a timely and orderly manner, organization of resources in standard formats. This provision involves linking users to resources whether held in the offering library or other libraries. A sound access policy provides services such as interlibrary and document delivery, consortia agreements, and access to virtual electronic collections. The standards stipulated in section 13 of ALA 2004, states that policies regarding access should be disseminated to library users.

A study conducted at Monash Library (Ho 2004) reports the policy on collection development that included the integration of online resources. The information policy included remote users in the planning of library services. The aim was to ensure an all inclusive access policy. The collection development policy at Monash Library revolved around:

- i. License negotiations
- ii. User education guides,
- iii. Renewal of journal subscriptions and
- iv. Seamless access to resources and support services

At Monash Library, the access policy provides that all enrolled students and staff require log in identity and a password to be able to access and benefit from a variety of services and resources available in the library (Ho 2004). These same issues are addressed in the ACRL (2004) as well as in CHE (2007) guidelines for libraries in higher education institutions. These provisions are corroborated in other studies (for example, Kavulya, 2004; Lebowitz, 1997; Moyo & Cahoy 2003). Web-based reference service enables students and faculty to get 24/7 seamless access to relevant information resources. Reference service is customer focused as assistance is provided to individuals seeking specific information to complete an assignment or research. As reference librarians provide reference service to students, they begin to identify the need to provide training and advice on understanding information resources, their use, and how to select appropriate databases to search for information, hence the relationship between reference service and information literacy. It is important that provision of information literacy be part of the reference information services so that the training or instruction is linked to student information need.

Several authors (for example, Kavulya, 2004; Lebowitz, 1997; Moyo & Cahoy 2003) discuss aspects related to bringing services to users who are limited by their geographical locations or workday schedules and who also desire 24/7 availability of the resources and services. Johnson, Trabelsi & Tin (2004) argue that this will depend on the reliability of the service provider offering connection to remote users, broadband as well as library access policies.

An access policy is required to control or restrict access to systems (authorisation) or to track or monitor behavior within systems (accountability). Authentication is an implementation feature of using trusted systems for security or social control. International Federation of Library Associations and Institutions (IFLA) (2008) offers that 'access' as a term has many connotations, it is the freedom or ability to make use of a resource. In libraries, the concept is stretched somehow as it can be used to refer to different aspects of library work such as library lending services; information retrieval from all types of collections. However, access, in information technology parlance, is consistent with the looseness of the above interpretations of the concept. Internet access today means having a working computer with appropriate hardware and software, and access to a telecommunications link adequate to reach the Internet

IFLA (2006) principles and access to information through the internet stipulates that libraries and information services have a responsibility to facilitate and promote public access to quality information and communication. Users should be assisted with the necessary skills and a suitable environment in which to use their chosen information sources and services freely and confidently in order to provide maximum intellectual and physical accessibility to the library and its resources. The standards for libraries in higher education (ACRL, 2004), stipulates that academic libraries should do the following in regard to access:

Access to library resources should be provided in a timely and orderly fashion. Library collections and the catalogue for accessing them should be organized using national bibliographic standards.

Further, central catalogue of library resources should provide access for multiple concurrent users and clearly indicate all resources.

Provision should be made for interlibrary loan, consortia borrowing agreement, access to virtual electronic collections, and document delivery to provide access to materials not owned by the library.

Furthermore, distance-learning programs should be supported by equivalent means such as remote electronic access to collections, the provision of reliable network connections, and electronic transmission or courier delivery of library materials to remote users. Policies regarding access should be appropriately disseminated to library users. Hours of access to the library should be reasonable and convenient for its users. Reference and other special assistance should also be available at times when the institution's primary users most need them.

Apparently, as witnessed by information in library guides, manuals, and websites (for various public universities), most of the current library services were meant for sit-in users. Cooper *et al.*, (1998) suggests that librarians should take into account the changing learning environment and the changing user needs, preferences, and expectations and understand the peculiarities and demand patterns of the user. These factors assist in working out strategies to satisfy a variety of user needs and expectations as a basic standard for performance of the service.

2.6.2 Infrastructure for provision of information services

When planning services, it would be unwise to assume that a significant proportion of those who require library services use a computer and that telecommunications are in place to support extensive connectivity and seamless access to electronic resources. As library professionals review their service delivery programmes, there is need to ensure that those who require remote access also make those services provided on-campus available in digital format for use.

The library online catalogue includes the holdings of the local library and those nearby, and of distant libraries using the Z39.50 protocol. The protocol allows users of one system to search and retrieve data from another system using local search and retrieval commands (Deegan & tanner 2002). This is in line with Buckland and Florian (1997) argument that the kinds of services provided in the Paper Library should be made available for use by those who now use the new information technology. Buckland and Florian (1997:6-7) offer that, from a computer anywhere a library user should be able to:

- i. Search the library catalog, including all cataloged holdings, without need to refer to additional catalogs on card or on microfiche. The library "catalog" is best seen as a series of concentric circles that include the holdings of the local library, of nearby, and of distant libraries. Within each catalog category, the searcher should have the option of expanding a search to associated files: circulation records, incompletely cataloged materials, and files of materials that are on order.
- ii. Be able to search in bibliographies and to be able to find the items listed, whether on paper, on microform, or on-line.
- iii. Search in directories and reference works.
- iv. Search for numeric data in social, technical, economic, and scientific databases--and to retrieve conveniently, whichever datasets are needed.
- v. Search for images and moving images--pictures currently on slides, movies, photos, videotapes--and to retrieve copies for use.
- vi. search for texts, whether texts that were already known or those discovered in a catalog or bibliography

Users require clear directions to search within the bibliographies and to be able to find items listed, whether on paper or on microform, or on-line data on the individual items. Information on the catalogue should be well defined to ensure retrieval and dissemination of relevant information

Buckland (1992) and Wendy (2003) indicate that information technology has resulted in online library catalogues, computerized information retrievals, electronic data transmission, and information sharing and electronic e-mails, among others. Wendy's concern however is on whether or not public university librarians have fully adopted the technology-enabled services in changing the service delivery landscape.

Information communication technology (ICT) involves computing and networking facilities. ICT covers all the hardware and software used in storing, processing, or communicating information. Aspects that constitute ICT include, but are not limited to-

- i. Computers
- ii. fixed lines telecommunications,

- iii. Mobile phones
- iv. Wireless networks,
- v. Broadband,
- vi. Specialized application devices,
- vii. Internet,
- viii. Satellite communications
- ix. Other networking technologies (i.e. fibre optics, dial-up etc)

Daniels and McDonald (2006) discuss the new library paradigms developed in the above demonstration for supporting the library services using web 2.0. The system stores content in a content management system (CMS), using structured query language (SQL) database structure that enables access to content using different access gateways and tools, such as the websites, rich site summary (RSS) feeds, podcasts, and learning objects such as flash tutorials.

2.6.3 Procedures and processes in provision of information services to remote users

According to the University of Tasmania (2008) and Flinders University (2009), the process of using flexible or remote library services starts with aspects of licensing and subscription to resources. The next step is to define the access process through authentication and authorization. Managing the remote access and authentication issues involves making digital resources available. This constitutes crucial areas of support to remote users of the electronic library (Hulshof 1999).

Johnson, Trabelsi and Tin (2004) argue that;

“Librarians may be called upon to respond to questions concerning log-in and password information, browser configuration, software installation, and a range of troubleshooting needs. Access problems are hugely frustrating for e-learners, and must be resolved quickly. Ensuring that front-line library staff are adequately trained, providing clear instructions on the library's Web site, and coordinating support activities with computing services personnel can contribute to effective technical support”

Remote users should be guided to conduct search strategies. A user is required to click on a link as directed by the liaison librarian. Following the link, one finds a list of electronic resources or services as recommended by the liaison librarian. To access these resources remotely, one requires an authentication name and a password. Further help is available by contacting the liaison reference librarian depending on the terminology employed by each service. Moyo and Cahoy (2003) compare the traditional procedures in course delivery notes that all World Campus courses follow the same stringent procedures and requirements applied to on-site course.

Studies at Penn State Libraries and the World Campus identified the use of online tutorials to provide guidance to remote users. The links are labeled in a way that allow users to navigate through resources using direct or indirect links guiding the depth of the resources (e.g. tutorial link labeled 'Information Literacy & You' linked to a library web page:

www.libraries.psu.edu/crsweb/infolit/andyou/infoyou.htm 1 , listing Web-based modules that guide students through the research process). A series of modules provide remote users with the opportunity to learn and develop their research skills and competencies (Moyo & Cahoy 2003).

The University of South Africa's library is a good example of libraries that largely provide services to remote users. The students are required to register with the library in order to have access to the library online service MyUnisa is a website that gives students and staff direct access to important information and allows them to change their password to participate in discussion forums. It also gives them access to information about their courses, submit assignments and get access to all sorts of resources. All students registered and enrolled for a course at Unisa can join MyUnisa by clicking on the "Join MyUnisa" link at <http://www.unisa.ac.za>.

Moyo and Cahoy (2003) discussed the procedures for delivering services remotely, that to access any of Penn State's Web-based resources, and that student may also request home delivery of printed books and journal articles via the libraries' Distance Learning Delivery Service. The who students request for home delivery of library resources, their requests are to their address and accompanied by a stamped and addressed return envelope to assist in sending materials back. Additionally, World Campus students may take advantage of the university's interlibrary loan services, including electronic delivery of PDF format journal articles.

2.7. Challenges and opportunities in meeting remote user needs

Libraries are faced with challenges and opportunities in meeting remote user's library services. Advances in information and communications technology continue to mould and challenge the library world. The continuing and rapid shift from print to electronic resources is dependent on the ability to ensure that robust infrastructure is sustained to support the university goals (Ho 2004).

Research (e.g. Amakuende 2005; Kavulya 2003; Okon 2005) has shown that rapidly changing environments always provide both opportunities and challenges. Technology based instruction has resulted in an emerging growth market in higher education. As a result, academic libraries are supposed to develop service models and staffing patterns to meet this new demand. Conceivably, the greatest challenge librarians face in relation to managing print collections and traditional resources is to ensure that they remain valuable to students and staff.

A study by King (2000) identified a significant number of challenges that universities in Australia face. Shrinking government funding, increased globalization of higher education and universities facing competition from not only other traditional institutions but also commercial entities, which had entered the higher education arena, are some of the challenges. The study acknowledges the opportunities offered by advances in technology on education and service delivery. These have resulted in the emergence of virtual institutions with no physical boundaries or constraints, and the development of online teaching. These developments have led to changes in the student market and their needs which are, largely, numerous and varied. The emergence of the life-long learning concept, mature age learners, and part-time participation make the provision of services more challenging.

King (2000) observes that in response to the technological advances, universities have developed campuses in strategic locations; forged alliances with other institutions not restricted by national boundaries; carved niche markets; and promoted specialist courses. King concludes that advances in technological capabilities and the resulting organizational adaptation to technological change by institutions, are likely to have significant effects on the academic library, its services and enabling physical facilities.

The increasing number of remote users in public universities has posed a challenge in library planning effective information service to its users. Library workers have less direct connection with the users and must anticipate and plan for their needs. Reliance on technology becomes more critical in planning library services for remote users. Besser (2005) has outlined a number of societal trends that have the potential of severely affecting libraries, particularly in the online information delivery environment. These issues include the following (Besser 2005)

a. How to charge for services to support connectivity

The movement towards pay-per-use models is likely to affect user's habits, particularly to penetrate web-based delivery systems. Pay-per-use models tend to discourage exploration and encourage a viewer/reader to examine items that others have already deemed popular favoring best-sellers over more esoteric works.

b. Aspects of collection development

Economies-of-scale and online publishing made mass-distributed resources much cheaper to manage. Such resources are made available through various information gateways accessible beyond the library walls. It has led to an environment where smaller-audience of information seekers visits the library shelves. It becomes more expensive and harder to identify user needs using traditional methods. User interests have shifted from local collections to online sources; over time, this favors the electronic access over physical delivery of information (Besser, 2005). This scenario calls for support systems to ensure users access credible and reliable sources of information.

c. Issues of cooperation and resource sharing

As institutions expand their capacity to admit more learners, and fail to upgrade resources, it leaves librarians with a question on how to deal with the effect of such developments. The changes have direct effect on the present as changes in education on service delivery. These apply mostly to access to adequate learning materials. Libraries world over have not been spared by shortages and this impacts heavily on Library cooperation.

At Monash University, consultation with the library takes place at the earliest onset of planning as a critical step in ensuring library support services. The library in liaison with overseas partners ensures support for the academic programmes for both on-campus and off-campus learners (Ho 2004).

d. Privacy and integrity of data

As people begin to pay for the information they receive electronically, what kind of privacy issues does this raise? Will reading and buying habits be traced and sold as demographic data? Can libraries continue to take their strong traditional privacy stand when providing pay-per-view information, the libraries should be able to respond to these questions considering that remote users pay fee to access some of the services.

e. Access versus ownership

Collection development is normally based on the print-based materials. Where a huge amount of money has to be used to buy licenses to digital contents, various questions plague the librarian. Who will guarantee access in an era when someone must pay for each byte of information that is accessed? Can libraries continue to provide free or flat-fee access to all their constituents in a pay-per-view era? Will society become divided between information haves and have-nots? Accessibility to a certificate of copyright clearance; the relationship between libraries and creators, publishers and aggregators of e-resources, as well as those who use the resources; are among the issues that surround ownership and access. Unstable universal resource locators (URLs) also affect the library support services (Sharifabadi 2006).

f. Cultural and economic diversity

Will the world of online digital information lead to more or less diversity in that information? Will the best-seller phenomenon take hold and make available only *least-common-denominator* information (as in broadcast television)? Will the information needs of the less affluent be met in ways that they can afford?

In Kenya, Were (2004) observes that the following problems facing Kenyan universities may influence the quality of library services to the academic community: -

- i. Shrinking budgets
- ii. Access to Information to support Teaching and Research Programmes
- iii. Project management and funding
- iv. High cost of resources
- v. Distance from Publishers and Suppliers
- vi. Feasibility of indigenous research
- vii. Lack of negotiating skills/power for affordable information
- viii. Inefficient traditional methods of accessing information
- ix. Low level of publishing (indigenous research)
- x. Inefficient application of the concept of resource sharing

In a related study Thompson (2002) as cited in Moyo and Cahoy (2003), argues that, meeting the information needs of students in an electronic environment represents the greatest obstacle to creating a complex and comprehensive set of distributed learning offerings. Thompson, discussing findings of ACRL's *Academic Library Trends and Statistics* survey of the year 2000, reports an increase in the numbers of students participating in distance education programs. It was found out that of the responding libraries (90 percent) offered services to remote students as part of the main library, rather than administering them as a separate unit. Libraries are using a mix of newer technology and traditional methods of delivery of reference services, instruction, and documents delivery. Libraries rely heavily on e-mail (86 percent) and telephone (81%) as primary methods for providing reference service to distance users.

2.8 Chapter summary

According to studies reviewed, the effectiveness of serving remote users depends on the professional preparedness of the librarians, policies and procedures, marketing approach and techniques backed with a healthy infrastructure. Issues of collection development and creating awareness to remote users were found to work for Penn University, Monash to mention a few. The review revealed that if libraries identified their users and their needs as a framework for service development, they are likely to retain their relevance in an electronic environment. It

emerged that Librarians are not the only sources of information. These revelations therefore call for a redefinition of how of how libraries services should be developed and delivered effectively in Public universities in Kenya. The study intends to explore the issues raised in this section as they apply to public universities in Kenya.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design, study area, target population, sample and sampling procedures, research instruments, validity and reliability of the instruments, and data collection and analysis procedures.

3.2 Research paradigm

The adoption of a research method depends on the nature of the investigation and the type of data and information that are required (Naoum 2007; Mugenda and Mugenda 2003). There are generally three paradigms of research namely qualitative, quantitative and mixed methods research. Fidel (2008) observe that the use of mixed method research (MMR) increases validity and reliability of research findings. MMR is an approach that applies multiple methods of data collection. It uses both qualitative and quantitative techniques in the approach of a single study to improve validity and reliability of the collected data. Kombo and Tromp (2006) add that qualitative and quantitative approaches could be combined to maximize strength and minimize limitations of each approach. Many qualitative research approaches include exploratory research, grounded theory ethnography, phenomenology, and case studies (Saunders, Lewis & Thornhill 2009; Naoum 2007).

According to Naoum (2007), qualitative research is subjective in nature; the emphasis is on meaning and experiences. The information gathered can be classified as exploratory or attitudinal. This study largely adopted a qualitative approach. The qualitative approach was used to seek for opinions of the respondents in regard to whether public university libraries provide support to remote users or not. However, quantitative data needed to investigate the issues under study was obtained through a quantitative approach. For example, the study gathered quantitative data about the number of electronic databases, number of computers dedicated for remote access in order to seek in-depth knowledge on the state of services and resources for remote users. The principal difference between exploratory research and other research studies is that, the raw data

provided is based on what people say, or description of what is observed as opposed to discreet numerical data, generated in quantitative research (Naoum 2007).

Qualitative research concentrates on words and observations to express reality and attempts to describe people in natural situations. The key element here is the involvement of people where their disclosures are encouraged in a nurturing environment. Qualitative research taps into human tendencies where attitudes and perceptions are developed through interaction with other people. During a group discussion, individuals may shift due to the influence of other comments. Alternately, opinions may be held with certainty. Krueger (1994) suggests that the purpose is to obtain information of a qualitative nature from a predetermined and limited number of people.

The strength of the qualitative approach is that it permits research to go beyond the statistical results used in quantitative research. Human phenomena that cannot be investigated by direct observation such as attitudes, competencies and other emotions are studied using qualitative methods (Mugenda & Mugenda 2003).

3.3 Research design

A research design is defined as an overall plan for research undertaking (Saunders, Lewis & Thornhill 2009). The study was of exploratory in nature and adopted descriptive survey research design. Several studies have adopted quantitative survey designs to conduct exploratory studies. For example, Alotaibi, Reed, and Nadar (2009) adopted a descriptive survey research design to conduct an exploratory study on the assessments used in occupational therapy. Silverman (2006) and Brannen (2004) infer that statistical data is used in order to gain in-depth understanding and add new meaning to the aspects of a study. Silverman (2006:50) states that statistical data proves useful in establishing patterns that inform certain behavior and outcomes in qualitative studies.

Descriptive survey research designs are used in preliminary and exploratory studies to allow researchers gather information and summarize, present and interpret data for the purpose of (2003), the purpose of descriptive research is to determine and report the way things are and it helps in establishing the status of the population under study. Borg and Gall (1996) note that descriptive survey research is intended to produce statistical information about aspects of a study

that interest policy makers. Gay (1992) says that surveys are self-report study that requires the collection of quantifiable information from the sample. They are useful for describing, explaining, or exploring the existing status of two or more variables (Mugenda and Mugenda 2003).

3.4 Area of Study

The study was conducted at selected Kenyan public universities. A “public university” means a university established by an Act of Parliament and maintained or assisted out of public funds (Universities Act 1989). This section provides a brief background of each of the selected public universities for the study.

3.3.1 University of Nairobi (UoN)

The University of Nairobi is the oldest university in Kenya. An Act of Parliament set up the University of Nairobi in 1970, after the dissolution of the University of East Africa. It has its main campus in Nairobi, the capital city of the Republic of Kenya. It has a number of campuses and research sites spread across the country. The main campus offers many academic discipline while the other campuses tend to specialize in particular Disciplines.

Two constituent colleges of the University of Nairobi (UoN) were established under the University Act of 1970 and 1985. These were Kenyatta University College and Egerton College, which have since been elevated to full-fledged universities through Individual University Acts of Parliament.

The University of Nairobi Act of 1985 also established six colleges:

- i. College of Education and External Studies, at Kikuyu Campus, 24 kilometers from the main campus
- ii. College of Architecture and Engineering, on Nyerere Road
- iii. College of Biological and Physical Sciences, at Chiromo campus on Msonga Wai road
- iv. College of Health Sciences at Kenyatta Hospital
- v. College of Agriculture and Veterinary Science at Upper Kabete campus

- vi. College of Humanities and Social Sciences at the main campus on University Way
- vii. Lower Kabete campus for Faculty of Commerce
- viii. Faculty of Law and the Institute of Development Studies (IDS).

The University of Nairobi offers a number of courses to its students. Students can pursue Certificate, Diploma, Bachelor, Masters, and Ph.D. studies at the university. The library of the University of Nairobi provides access to various resources and services such textbooks, reference books, and resources for research work. Jomo Kenyatta Memorial Library is the main library. Besides the main library, there are 12 branch libraries serving the university's colleges and campuses. Most library activities (e.g. general administration, technical services such as acquisitions and cataloguing, union catalogues, bindery and the archives) are carried out or coordinated at the main library. The entire library system has a total stock of approximately half a million resources, which include books, periodicals and other non-print materials. The stock is divided into a general lending materials and specialized research collections. The library uses the Library of Congress Classification Scheme (LC) to classify books

The tasks of the university library towards the accomplishment of the functions and objectives enlisted in the University of Nairobi Act 1985 (UoN 1985) include: to carry out basic functions of acquiring, organizing and disseminating information in support of the university mission. More specifically, it is to provide reading, reference, research materials, and other library services to the students, academic staff, and non-academic staff and to a limited number of qualified outsiders.

3.3.2 Moi University (MU)

MU was designed and built in conformity with university requirements. It is located about 300km from Nairobi and 35 kilometers South East of Eldoret Town in the Rift Valley Province. An Act of Parliament established it in 1984. Unlike other universities, which began as colleges, Moi University has a unique background. It was established as a result of a recommendation of a presidential working party responding to the rapid population growth putting pressure on the only university in the country; and the need to establish a second university to absorb more students and expand the disciplines offered then to meet the country's need for qualified work

force (Government of Kenya 1981). The university was set in part of the country far removed from the nation's capital city on single-site model, which was cheaper to run as opposed to multi-site model as was Nairobi University. The university's first phase had six faculties, two schools and one institute and a student population of about 3200. More faculties were added in the second phase such as the faculty of health. The university has since transformed from a single site model to multi-site in response to demand for more places, programmes in accessing higher education. The need for profit and expansion for self-sustenance in all public universities has also contributed to the growth in enrollment (Nyaingoti-Chacha 2004).

Moi University has since expanded and currently has the following campuses and centers:

- i. Chepkoilel Campus² formerly the Moi Teachers College became a campus college of Moi University in 1990
- ii. Town Campus (KPA)
- iii. Town Campus (Annex)
- iv. Town Campus (Health Sciences)
- v. Nakuru Campus
- vi. Kitale Satellite Campus situated in Rift Valley Province
- vii. Kericho Satellite Campus situated in Rift Valley Province
- viii. South Nyanza Satellite Campus situated in the Nyanza Province
- ix. Nairobi Satellite Campus
- x. Mount Kenya campus in Nyeri

The university library services comprise seven branch libraries. The main library, which is known as Margaret Thatcher Library, is located at the main campus. The branch libraries have been established to serve clientele with special information needs or those persons who are geographically located away from the main campus. According to the information obtained from

² Chepkoilel Campus is now a full-fledged university called the University of Eldoret.

the University Library's website (MU 2009), privately sponsored students have three libraries located in Eldoret town.

3.3.3 Kenyatta University (KU)

Kenyatta University is located about 16 kilometers from the city of Nairobi, along the Nairobi-Thika Highway. It began its journey to a university status in 1965 when the British Government handed over the then Templer Barracks to the Government (KU 2009). Part of Templer Barracks was made an institution of higher learning and was renamed Kenyatta College following an Act of Parliament in 1970. The College became a constituent college of the University of Nairobi and was renamed Kenyatta University College (KUC). It acquired university status by an Act of Parliament in 1988 and was able to acquire the Jomo Kenyatta College of Agriculture and Technology (JKCAT) as a constituent college. JKCAT has since 1994 become a full-fledged university named Jomo Kenyatta University of Agriculture and Technology (JKUAT).

Kenyatta University (KU) has grown tremendously since its inception. It has campuses in Ruiru, Parklands, and Mombasa. It acquired the Pwani University College (formerly Kilifi Agricultural College) in 2007. Kenyatta University has fourteen schools offering various certificates, diploma, and degree programmes. A recent newspaper advert (Daily Nation 2009) indicated that courses are delivered using a variety of platforms -

- i. Full-time residential
- ii. Part-time
- iii. School-based
- iv. Open and distance learning (ODL)

The student population of KU was 24,484 by 2009 (Kenyatta University 2009). The mission statement is 'to provide quality education and training, through knowledge generation, research, innovation, creativity and community service' (Some 2008). The library at KU is meant to provide information and library services and resources for the entire University community including those in Ruiru, Parklands, and Mombasa campuses and ODL. The library has a rich collection of information resources in both print and electronic formats. These include over

300,000 volumes of books and bound periodicals, current journals, magazines and dailies (Some 2008).

3.3.4 Egerton University (EU)

This was the second institution to be named as a constituent college of the University of Nairobi. The institution is located 180 kilometers North West of the city of Nairobi and 30 kilometers from Nakuru Town. It started as an Agricultural School in 1939. It acquired university status by an Act of Parliament in 1987. The university has other campuses across the country, namely: -

- i. Laikipia College located near Nyahururu Town
- ii. Kisii College³ campus situated in Kisii Town
- iii. Chuka campus situated near Meru in the Eastern Province

The university has seven faculties and 42 departments. Recently, in 2007, Egerton University has acquired a facility in Nakuru Town, which offers courses to self-sponsored students in Computer Sciences, Business Studies, Commerce, Health Professions, Economics, and Education.

The library is a full-fledged department within the university and has eight branch libraries. The main library at Njoro stocks books mainly in education, sciences, agriculture, computer Science, engineering, business management, and home economics. The university librarian has mandate over the branch libraries.

3.5 Population

A study population is an aggregation of elements from which the sample is selected (Babbie and Mouton 2002). Kombo and Tromp (2006) define a target population as a group of individuals, objects or items from which samples are taken for measurement. Given that the study is

³ Kisii College Campus has since become a full-fledged University called Kisii University

specifically exploring library resources and services for remote users from the library's perspective, the target population constituted the following:

The researcher considered all the seven public university libraries in Kenya. They are University of Nairobi, Kenyatta University, Moi University, Egerton University, Jomo Kenyatta University of Agriculture and Technology, Maseno University and Masinde Muliro University libraries. Each of these libraries is responsible for decision making on provision of services to all their campus libraries (see table 1).

(b) The study population comprised of library workers who manage resources and services for remote users This staffs includes Chief librarians (University librarians), the technical staff, ICT staff, reader's service librarians, Subject librarians and all Section heads (including circulation librarians, systems librarians, periodical librarians, reference librarian, etc). These groups of people have got a bearing on how services and resources for remote users can be provided.

3.6 Sampling procedures

This section discusses basic considerations in sampling techniques, sampling frame, and sample size.

3.6.1 Sampling techniques

Depending on the size of the population and purpose of the study, a researcher may study the whole population or subset of the population, which is referred to as a sample (Ngulube 2005; Mngadi 2007). Probability and non-probability sampling are the major types of survey sampling techniques. Probability sampling comprises simple random sampling, systematic sampling, and stratified sampling. Non-probability sampling includes purposive sampling, quota sampling, convenience sampling and snowball sampling (Babbie and Mouton 2002; Mugenda and Mugenda 2003; Welman & Krueger 2001). Probability or random sampling describes sample selection in such a way that all members in the population have a known chance of being selected (Brewerton and Millward 2001), whereas in non-probability sampling, units are deliberately selected (Babbie and Mouton, 2002).

Probability samples are preferable, because they are more likely to produce representative samples and enable estimates of the sample's accuracy to be made (Brewerton and Millward 2001). According to Welman and Krueger (2001), the advantage of non-probability samples is that they are less complicated and more economical, in terms of time and financial expenses, than samples generated through probability sampling. Mugenda and Mugenda (2003) argue that in some situations, a sampling frame does not exist and in such cases, the researcher decides on any other method of selecting a sample. This argument is on the premise that the population may be so small that sampling would be meaningless. Mugenda and Mugenda (2003) advise that, in such a case, a researcher may consider studying the whole population.

As mentioned above, only the public university libraries belonging to seven universities in Kenya were targeted in this study. The researcher adopted a non-probability sampling approach and more specifically the purposive sampling technique to select university libraries to be investigated. Purposive sampling allows the researcher to choose a case or cases because they illustrate certain features or processes of the area of interest. Silverman (2006:306) and Denzin and Lincoln (1994) opines that purposive sampling “seeks out groups, settings, and individuals where the process being studied is likely to occur”

Non-probability sampling requires careful assessment of the information required and sufficient knowledge of the population for identifying those instances capable of providing the breadth and quality of information required to address audit objectives (Office of the Auditor General of Canada 1998). Silverman (2006:307) offers that sampling in qualitative research is neither statistical nor purely personal as opposed to sampling in quantitative research, which is interested, in statistical results.

Purposive sampling is confined to specific types of people who can provide the desired information, either because they are knowledgeable in the matters under study, or conform to some criteria set by the researcher (Sekaran 2003:77). Purposive sampling falls into two categories: judgmental sampling and quota sampling (Sekaran, 2003). The researcher selected the former as the subjects were selected based on their level of responsibility in service delivery decision-making chain. The approach was judged as the only significant method to explore support for remote user services in public university libraries.

3.6.2 Sample frame

A sampling frame is the list of all members in the population who are eligible for inclusion in a sample (Glossary 1999:483; Dennis 2007). According to the information obtained from the Council for Higher Education (CHE 2007), at the time of going to the field, Kenya had seven public universities⁴, namely:

University of Nairobi (UoN)

- i. Kenyatta University (KU)
- ii. Moi University (MU)
- iii. Egerton university (EU)
- iv. Jomo Kenyatta University of Agriculture and Technology (JKUAT)
- v. Maseno University (MU)
- vi. Masinde Murilo University of Science and Technology (MMUST)

These universities have constituent colleges and campuses distributed throughout the country (see table 1).

3.6.3 Sample size

Naoum (2007) defines a sample size as finite part of a statistical population whose properties are studied to gain information about the whole. Orodho (2003); Kombo and Tromp (2006) say that sampling means selecting a given number of subjects from a defined population as representative of that population. Any statements made about the sample should also be true of the population. It is however agreed that the larger the sample the smaller the sampling error (Mugenda and Mugenda, 2003). Where there are no estimates available for the proposition in the target

⁴ The number of public universities in Kenya has since increased to 22. Majority of these universities were chartered in 2012.

population, Mugenda and Mugenda (2003) proposes that 50% of the total population should be used.

It is upon this background, using purposive sampling, that four public university libraries were selected on the basis of the parent organizations' geographical locations that are unique in their technological development. Two university libraries from the University of Nairobi and the Kenyatta University were selected from the City of Nairobi, being an urban area. The other two, namely Egerton and Moi universities were selected from Nakuru and Eldoret towns respectively to represent the rural setting. The four selected university libraries, the researcher observed possessed the characteristics that would provide information needed for the study.

The number of university librarians was few (i.e. 7) and given that emailed questionnaires were to be used to collect data from them, it was deemed unnecessary to sample at the stage of selecting the librarians. Therefore, all chief librarians were included in the study.

3.7 Instruments of Data Collection

Silverman (2006) and Kombo and Tromp (2006) identify questionnaires, interview guides, observation and focus group discussions as instruments of data collection. Silverman (2006) identifies interviews and observation as key instruments in qualitative research design, and adds that questionnaires can be used to infer meaning to a situation under study

For purposes of this study, interviews and questionnaires were identified as data collection tools. Questionnaires were used to collect information from the librarians while focus group interviews were conducted to gather data from the technical staff, ICT/systems librarians, readers' service librarians, subject librarians and all Section heads (including circulation librarians, periodical librarians, and reference librarians). Documents both print and online were also examined and analyzed to find out whether the studied library has support services for remote users.

3.7.1 Questionnaires

A written questionnaire (also referred to as self-administered questionnaire) is a data collection tool in which written questions are presented that is to be answered by the respondents in written form.

According to Mugenda and Mugenda (2003), questionnaires are commonly used to obtain important information about a population under study. Each item is developed to address specific themes of the study. In qualitative research, data generated by questionnaires is useful in achieving greater validity (Silverman, 2006). It also helps to locate the results in broader context.

According to Ngulube (2003:34), the term ‘questionnaire’ refers to “a technique of data collection in which each respondent is asked to give answers to the same set of questions and statements in a predetermined order, in the absence of researcher.” Powell (1999) emphasized that the advantage of questionnaires, compared with other data collection tools, is that it is relatively inexpensive and it allows a large number of respondents to be surveyed in a relatively short period. In addition, Ngulube (2003:206) stated that questionnaires allow respondents to answer questions at times that are convenient to them.

Questionnaires have limitations however, such as low response rate, reporting errors, completion of the questionnaire by the wrong person and lack of control over how respondents interpret questions or opportunity to correct misunderstandings (Ngulube 2003:206). Despite these limitations, questionnaires have remained popular with many researchers. In this regard, the present study used a self-administered questionnaire to collect data on the identification of research competencies, research capacity needs and research support.

In this study, both open-ended and closed-questions were asked (see Appendix A). The questionnaire was distributed to respondents using the conventional mail system. According to Ngulube (2003:208), closed-ended questionnaires are easy to code and do not discriminate unduly because of how articulate the respondents are. However, closed-ended questions are criticized in the sense that they can create artificial forced choices and rule out unexpected responses. Open-ended questions provide a frame for the respondent to answer without any restrictions (Ngulube 2003:211).

The questionnaire solicited general and administrative information relating to the services and resources for remote users such as consortiums, licensing, ICT infrastructure (equipment, networking, staff etc), methods and tools of creating awareness, challenges that are faced in providing support to remote users as well as the suggestions for improvement of the internet services. The seven questionnaires targeted university librarians as the chief executives in

provision of library and information services in universities. The rationale for using the whole population at the administrative level when the target population comprised 4 universities is that this would improve the validity of the research findings as well as provide another perspective besides that held by section heads and other library workers. Furthermore, the coding process often requires that the researcher interpret the meaning of the responses (Ngulube 2003:211).

3.7.1.1 Administering written questionnaires

A written questionnaire can be administered in different ways, such as by sending them through mail or email with clear instructions on how to answer the questions and asking for mailed responses; gathering all or part of the respondents in one place at one time, giving oral or written instructions, and letting the respondents fill out the questionnaires; or the researcher would hand-deliver questionnaires to respondents and collect them later (Moyane 2007). The researcher used email method to post the questionnaires to all the seven university librarians with clear instruction on how to respond to them.

3.7.2 Focus group interviews

According to the Bureau for Social Research (n.d.) and Moyane (2007), focus groups are carefully planned discussion groups designed to obtain perceptions on a specific area of interest. The focus groups constitute of six to eight participants and the interview is conducted by a skilled moderator. Bryman and Emma (2004) elucidated that focus groups emphasize a specific theme or topic that is explored in-depth. The discussion allows participants to share their ideas; no consensus is determined. Instead, focus group members respond to each other and build upon each other's comments. Walden (2004) affirmed that focus group interviewing could be successfully employed in a wide range of endeavors within librarianship. Compared with other social sciences, the field of library and information science has underutilized the method.

Patricia Cavill, president of Pat Cavill Consulting (Taher 2006), observed that focus groups are an under-utilized market research tool in many libraries; besides that focus groups are cheaper than questionnaires; and that the results tend to have a greater influence on decision makers because they use the words and feelings of library supporters. Lewis (2000) acknowledged that

focus groups are a particularly good method for data collection, to understand how people feel or think about an issue, product, service, or idea.

Stewart and Shamdasani (1990:15) as cited in Walden (2006:15) have summarized the more common uses of focus groups as follows:

- i. Obtaining general background information about a topic of interest;
- ii. Generating research hypotheses that can be submitted to further research and testing
- iii. Using more quantitative approaches;
- iv. Stimulating new ideas and creative concepts;
- v. Diagnosing the potential for problems with a new program, service or product;
- vi. Generating impressions of products, programs, services, institutions, or other objects of interest;
- vii. Learning how respondents talk about the phenomenon of interest which may facilitate quantitative research tools;
- viii. Interpreting previously obtained qualitative results.

Kombo and Tromp (2006:95) observe that focus group comprises of 6-8 individuals who share certain characteristics, which are relevant for the study. Lewis (2000) observes that most focus groups consist of between 6-12 people. Merton, Fiske & Kendall (1990) and Lewis (2000) suggest that "the size of the group should manifestly be governed by two considerations. It should not be as large as to be unwieldy or to preclude adequate participation by most members nor should it be so small that it fails to provide substantially greater coverage than that of an interview with one individual. Lewis (2000) explains that the number of participants will depend on the objectives of the research giving an example of smaller groups (4-6 people) as preferable when the participants have a great deal to share about the topic or have had intense or lengthy experiences with the topic of discussion (Kreuger 1994). The focus group should be made up of homogenous members of the target population (Kombo & Tromp, 2006).

Based on the above background, the researcher adopted focus groups as a way of collecting data in the study. It was deemed helpful in gaining an in-depth knowledge that cannot be accessed using other methods.

The subject librarians, circulation librarians, periodical librarians, reference librarians, acquisition librarians, ICT librarians/E-resource librarians formed the focus groups. The target was to have a group of six respondents in each library investigated in this study. A total of four focus groups, each representing one university, were interviewed. The researcher with the help of a library assistant guided the discussions at the libraries of the discussants/interviewees. This was in line with focus group interview time as discussed by Lewis (2000) and Krueger & Casey (2000) that the time taken per session ranged between 1-2 hours.

3.7.2.1 Advantages and disadvantages of focus groups

Krueger & Casey (2000) while describing in detail the advantages and disadvantages of focus groups, advice on when to use focus-group interviews and when not to use them. The uniqueness of a focus group is its ability to generate data based on the synergy of the group interaction (Green et al. as cited in Rabiee, 2004). The members of the group should, therefore, feel comfortable with each other and engage in discussion.

Krueger & Casey (2000) believes that rich data can only be generated if individuals in the group are prepared to engage fully in the discussion and, for this reason, advocates the use of a homogenous group. Krueger (1994) and Krueger & Casey (2000) suggest that participants should share similar characteristics: gender group, age-range, and ethnic and social class background.

Unfortunately, the focus group method has one major disadvantage; it is labor intensive, expensive to carry out on a large scale (Higa-Moore 2002). The gathered information reflects the views of only a small number of individuals. To judge the trustworthiness of the focus group, findings are compared with other supporting data approaches, such as surveys, environmental scan, brainstorming sessions, benchmarking, and literature reviews. For the purposes of this exploratory study, the researcher chose to use questionnaires for this purpose (Higa-Moore 2002)

3.7.2.2 Focus group interview schedule

As recommended by Lewis (2000), this guide was developed directly from the research questions that were the impetus for the research. When formulating questions for the interview, a guide was ordered from a more general to the more specific view on the kind of services and

resource such as service delivery models, the kind of support provided to students, methods of creating awareness; aspects of ICT support for the library; questions of greater importance are placed early, at the top of the guide, while questions of lesser significance are placed near the end. Stewart and Shamdasani, as cited in Lewis (2002), say that, the questions should grow directly from the research questions.

3.7.3 Secondary sources

This method involves getting information from documentary evidence. It includes textbooks, magazines, journals and organizational records. The researcher gathered information from the university web pages, policy documents and work plans to gain insight into aspects of policies, processes and procedures of serving remote users. The information found was subjected to content analysis to draw inferences and conclusions of the study based on the research objectives and questions. Content analysis examines the intensity with which certain words have been used Kombo and Tromp (2003:121). Content analysis is a research technique used to determine the presence of words or concepts in collections of textual documents. Onyancha and Ocholla (2007:) citing (Berelson in Palmquist [n. d], defined content analysis as a “research technique for the objective, systematic, and quantitative description of manifest content of communications” the concept is used to determine the presence of certain words, concepts, themes, phrases, characters, or sentences within texts or sets of texts and to quantify this presence in an objective manner”. He defines texts as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theater, informal conversation, or effectively any occurrence of communicative language. The uses of content analysis are many and varied (Onyancha and Ocholla 2007). The method may be used to reveal whether the public university libraries in Kenya are prepared to meet the needs of remote users.

3.8 Pre-testing of instruments

Pre-testing is the administration of the data collection instrument with a small set of respondents from the population for the full-scale survey. If problems occur in the pre-test, it is likely that similar problems will arise in full-scale administration. The purpose of pre-testing is to identify problems with the data collection instrument and find possible solutions (Mugenda & Mugenda

(2003); Naoum 2007; Babbie & Mouton 2007). The validity of data collected in the study was guaranteed by conducting a pilot study at Jkuat Library. Before putting to use the questionnaires, a pre-testing of the questionnaires was undertaken using 5 colleagues with whom the researcher worked. The pre-test helped the researcher to bring to light the weaknesses of the questionnaires. At the same time, questions, which were vague, were revealed in the pilot study because respondents interpreted them differently, giving room for the researcher to rephrase the questions until they conveyed the same meaning to all subjects, therefore enhancing the validity of the results.

In addition, comments and suggestions made by respondents during the pre-testing were seriously considered and incorporated, therefore helping to improve the questionnaires. In the pilot study differences in the questionnaire were revealed for example unclear directions, insufficient space to write the response, clustered questions, wrong numbering were revealed and corrected. With the guidance of the researchers' promoter it was possible to deal with all the grey areas in the preparation of the questionnaires

3.9 Triangulation

Triangulation is a way of assuring the validity of research results using a variety of research methods and approaches (Silverman 2006; Denzin and Lincoln 2006). Mngadi (2007) citing Ngulube (2005) observe that the rationale for using multiple methods is that, although no single method is perfect, if different methods lead to the same answer, then greater confidence can be placed in the validity of the conclusions of the study. It is a means of overcoming the weaknesses and biases, which can arise from the use of only one of the methods we have described above, e.g. observation, and questionnaires. For example, a researcher might choose to begin their research with an unstructured interview. This would allow them to identify key issues and appropriate terms which they can then use as a basis for more formal interviews, questionnaires etc. Triangulation is employed primarily in qualitative research (Fidel 2008). Patton (2002:556) identified four types of triangulation:

- i. Methods triangulation: Checking the consistency of findings generated by different data collection method

- ii. Triangulation of sources: Checking the consistency of different data sources within the same method
- iii. Analyst triangulation: Using multiple analysts to review findings
- iv. Theory/perspective triangulation: Using multiple perspectives or theories to interpret the data.

Triangulation also allows researchers to collect both quantitative and qualitative data from both primary and secondary sources. In the current study, it was possible to use both questionnaires and interviews to explore as well as observe the aspects and areas related to support services for remote users from several perspectives involving university librarians, library section heads, system librarians, and periodical librarians. This researcher adopted Patt's second type of triangulation whereby several sources of information were used as outlined in 3.7 (i.e. chief librarians, section heads, subject librarians, etc).

3.10 Ethical considerations

A letter of introduction was obtained from the University of South Africa to facilitate access to the institutions of the study. The researcher duly informed the respondents about the purpose of the study. The researcher assured the respondents that the information they provided would be used for the purpose of this research only. The respondents were not required to indicate their names in the schedules. Fair use was observed by citing consulted sources. To ensure credibility in focus group interviews, the researcher chose to use voice recorder to record all conversations. In that way, during analysis it was played back and forth for clarity; and the researcher ensured that the findings were correctly reported.

3.11 Data Analysis and Presentation

The data obtained was summarized in order of themes. Main themes based on the objectives of the study to include library services and resources, tools used to create awareness, available policies, and infrastructure.

The summarized information was subjected to descriptive statistical analysis by use of Excel Computer Application Programme. Key characteristics of the population were discussed in form

of percentages. The foregoing was represented by the following tools frequency tables and Charts.

Findings on the library services were captured in form of percentages, while means were used to discuss number of employees serving remote users in the seven public universities in Kenya. Key policy adoption was also discussed in form of percentages, standard deviation.

3.12 Summary of the chapter

This chapter presented a methodology that was used to gain an understanding in the exploratory study of the support services for remote users in selected public university libraries in Kenya. The researcher adopted a qualitative approach to conduct the study. The target population included all the public university libraries in Kenya as at August 2008. Additionally, two groups of respondents were identified, namely: chief librarians, on the one hand and senior librarians who deal with services and resources for remote users. In the case of chief librarians, the researcher chose to survey the entire population while senior librarians belonging to four universities were surveyed. Data collection methods were discussed and explanations were given why each instrument for data collection was selected. To supplement the study, a descriptive survey research design was described as the main research procedure employed by the study. Ethical standards, which informed the research process, were presented. The units of analysis and the methods used for data collection and analysis were discussed. The next chapter covers data presentation and analysis.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

This chapter presents data under the following two broad headings namely, findings based on the questionnaire and findings based on the focus group interviews.

4.1 Findings based on the questionnaires

This section presents data under the following subheadings; background information, services for remote users, marketing services to remote users, infrastructure to support remote user services, policies and procedures, challenges faced by information providers in serving remote users, and recommendations.

4.1.1 Background information

The background information focuses on the general information about the rate of response, the number of library workers in public universities in Kenya, resources in public university libraries, number of staff by qualification, staff distribution on key functional areas, library staff knowledge of computer related technologies and training of library staff for effective service delivery to remote user.

4.1.1.1 Response rate

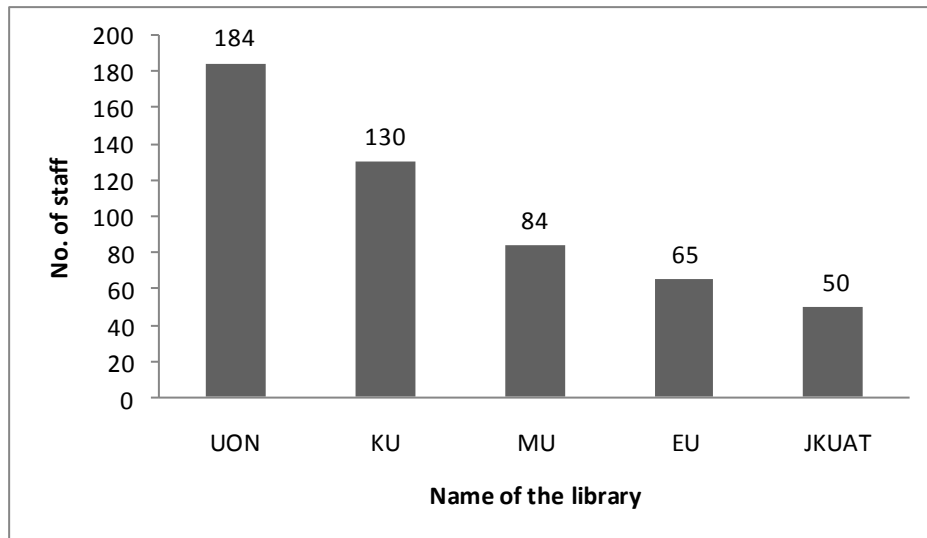
As explained in Chapter Three, a total of 7 library directors were targeted by the study in regard to the completion of the questionnaires. Five responses were received from the University of Nairobi (UoN), Kenyatta University (KU), Moi University (MU), Egerton University (EU) and Jomo Kenyatta University of Agriculture and Technology (JKUAT). This response rate accounted for 71% of the number of public universities in Kenya. The university libraries, which did not respond, are Maseno University and Masinde Muliro University of Science and Technology (MMUST).

4.1.1.2 Number of library workers in public university libraries in Kenya

Table 4.1 provides the number of staff members in each of the libraries that participated in this study. The findings indicate that the UoN had the majority staff (i.e. 184) followed by KU (130), MU (84), EU (65) and JKUAT (50). The total number of library workers in the five university libraries was 513. The figures include the staff on temporary employment and those who hold

other qualifications but were not considered for the current study. Only permanent staff was considered for this study.

Figure 4.1: Number of staff in public universities (N=513)



4.1.1.3 Resources in public university libraries in Kenya

The question that sought to find out the types and number of resources available in university libraries in Kenya focused on print books, e-books, print periodicals, e-periodicals, CD-ROMs, international full-text databases, citation databases, microfiche films, and local databases. The resources identified by the public university libraries are tabulated in table 4.1 and include the following.

i. Print Books

In this regard, the UoN indicated that it had 750,000 volumes of print books while KU reported that its total number of print books was 300,000. MU has 768,000 print books while the EU and JKUAT posted a total of 70,000 and 80,000 print books, respectively.

ii. E-books

In terms of the e-books, the study found that KU had the highest number (i.e. 600) followed by UoN (47) while JKUAT had 2 volumes. MU and EU did not indicate whether they have any e-books or not.

Print Periodicals

A majority of the respondents (that is, 60%) did not provide figures for print journals, and only (40%) had a total of 400 print journals. KU indicated that it has 300 titles while EU has 100 titles.

E-Periodicals

All the 5 public universities said that they subscribe to the *Kenya Library Information Services Consortium (KLISC)* for enhanced access to electronic journals and periodicals through the International Network for the Availability of Scientific Publications (INASP)/Programme for the Enhancement of Research Information (PERii) initiative which brings together 28 member libraries in Kenya (See appendix 4). The UON indicated that the library had access to about 25,000 E-periodicals including e-journals while KU reported an approximate figure of 20,000. MU and JKUAT have approximately 20,000 e-periodicals each, respectively.

CD-ROMs

The exact number of CD-ROMs in public universities is not known and therefore only an approximate number of provided by each library. On its part, EU indicated that it has several CD-ROMs, one of which is 'The Essential Electronic Agriculture Library (TEEAL) online' which is available on the Local Area network (LAN). KU indicated that the library has approximately 2000 CD-ROMs while MU has approximately 1000 CD-ROMs. The UoN, EU and JKUAT did not indicate whether the resource was available as they did not give any figures.

International Full Text Databases

The libraries explored in this study indicated that they access full text databases via the INASP/PERii Initiative. The data available in table 4.2 shows that the UoN and KU have access to over 33 journal titles and a host of free online resources. MU indicated that it has access to all PERi products as well as Procite bibliographic databases. When asked to state the number of databases subscribed by their libraries, respondents from EU and JKUAT did not respond to this part of the question.

Citation Indexes

Most respondents did not provide statistical responses on this type of resource. However, the UoN, MU and KU indicated the availability of a few citation indexes although they did not have exact numbers of the same.

Microfiches

The study revealed that a minority 1 (20%) of the public universities (that is, the UON), had 6 microfiche films in the laboratory and that the laboratory was heavily used by students taking history and anthropology courses. KU said they had a few (no statistics provided) while there was no response from MU, EU and JKUAT.

Local Databases

Respondents were asked to state whether or not they had any other resources and to specify which ones. Three (60%) respondents indicated that they are contributors to the national database, namely Kenyaresearch.org in terms of theses and dissertations and therefore they do have access. MU revealed that the library had developed an Institutional repository (IR) for most of its publications. The participants from MU indicated that the IR was hosted in the university web site until such a time when the library gets its own URL (Uniform Resource Locator) address.

Other resources mentioned by the responding university libraries include electronic theses and dissertations, which are available at the UoN, KU, MU, EU and JKUAT. All libraries indicated that they had special collections. The library at KU has in its store 'talking books' and Braille resources for special user needs.

Table 4.1: Resources in public libraries in Kenya

Print Books	750,000	300,000	76800	70,000	80,000
E-books	47	600	-	-	20
P-Periodicals	-	300	100	-	-
E-Periodicals	25,000	20,000	20,000	20,000	28,000
CD-ROMS	-	2000	1000	-	-
Full Text databases	30	30	-	-	28
Citation Indexes	Available	Available	Available	-	-
Microfiches	6	-	-	-	-
Local databases	KIPs	Datad	dSPACE	-	KIPS
Any other, please specify	T&D	Braille/talking book	T&D	T&D	T&D

4.1.2 Library Staffing

This section presents data on the number of staff members available in public academic libraries in Kenya according to qualification, functional areas, knowledge of computers and related technologies, and their training for effective service delivery to remote users.

4.1.2.1 Number of Staff Members According to Qualifications

Results in Table 4.2 indicate that 428 (83%) of the 513 (100%) staff serving in the public university libraries had received formal training at various levels. 53 (10%) staff was on temporary employment. Twelve (2 %) had a doctorate degree, 63(12%) were Master's Degree holders, 85(17 %) had a first degree while 180 (35 %) had a diploma and 35 (7%) held a library certificate. 53 (10%) were members on temporally employment. The UoN had the highest

number of trained staff numbering 168(33%) followed by KU with 90 (18%) while MU followed closely with 69 (13%) members and EU which posted a total of 56 (10%) staff members. JKUAT had 45 (9%). 85 (17%) of the total 513 staff members comprised the holders of non-library qualifications.

Table 4.2 Number of staff members according to their qualifications (N = 513)

Qualification	UoN- n=184	KU- n=130	MU.n- 84	EU- n=65	JKUAT- N=50	Total n=513	%
PhD	8	0	3	1	0	12	2
Master's Degree	25	8	15	3	12	63	12
Bachelor Degree	42	7	8	18	10	85	17
Diploma	80	33	26	28	13	180	35
Library certificate	2	7	17	6	3	35	7
Casual members with qualifications	11	35	0	0	7	53	10
SUB-TOTAL of Staff with qualification	168	90	69	56	45	428	83
Percentage	32	18	13	11	9	83	
Staff with no library qualification	16	40	15	9	5	85	17
GRAND TOTAL	184	130	84	65	50	513	100%

4.1.2.2 Staff distribution in key functional areas

Results in table 4.3 show that, out of 413 members of staff, 234 were distributed in key areas of library functions and services. The results show that majority of library workers are placed in cataloguing 72(30%) and circulation 56 (23%). Library workers providing reference services

numbered 45 (19%) while those working in the periodical sections were 23(10%). Only 20 (9%) are involved in ICT related key area for remote user services while acquisitions had 18 (8%) staff members. The UoN had the bulk of staff numbering 118 (50%) in key service areas followed by JKUAT with 34 (15%), MU with 31 (13%), KU with 27 (12%) and EU had 24 (10%) of the staff distribution in key support service areas.

Table 4.3 Staff Distribution in Key Functional Areas (N = 234)

University	ICT	Acquisition	Cataloguing	Reference	Circulation	Periodicals	Total staff	%
UoN	10	10	33	20	30	15	118	50
KU	3	4	19	2	3	-	27	12
EU	3	3	4	4	6	4	24	10

4.1.2.3 Library Staff's Knowledge of Computers and Related Technologies

The librarians were asked to rate in a 3 point scale their library workers in terms of their knowledge of computer application software used in the library, online information searching, online cataloguing, and troubleshooting. Findings in table 4.4 indicate that four universities (that is UoN, MU, EU, and JKUAT) said that their library workers' knowledge of computer application software was satisfactory while KU said the employees' knowledge was fair. 3 (60%) said the employees' online information searching skills was satisfactory, while 2 (40%) of the respondents said that the staff were fairly skilled. In terms of online cataloguing skills, 3(60%) respondents indicated that the employees' knowledge in cataloguing was satisfactory and another 2 (40%) said the employees knowledge was fair. 1 (20%) library said the employees needed more training in troubleshooting knowledge, 2 (40%) said the knowledge was satisfactory and another 2 indicated that the employees were fairly skilled.

Table 4.4 Library Staff's Knowledge of Computers and Related Technologies

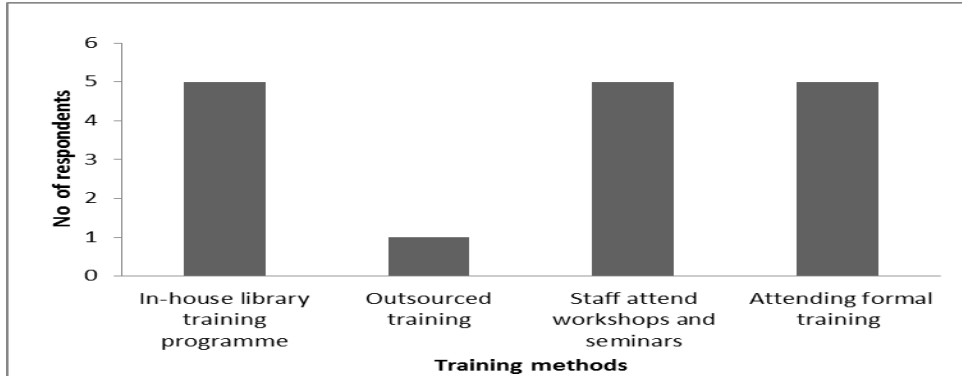
	Satisfactory	Fair	poor	Training needed	Total responses
Knowledge of computer application software used in the library	4	1	-	-	5
Online information searching skills	3	2	-	-	5
Online cataloguing skills	3	2	-	-	5
Troubleshooting skills	2	2		1	5

Key: Satisfactory (1); Fair (2) and Training needed (3)

4.1.2.4 Training of Library Staff for Effective Service Delivery to Remote Users

The study revealed that public university libraries that participated in the study (i.e. 5) employed various methods in training their staff. These methods include: in-house library training programmes, workshops, seminars and attending formal training. All libraries indicated that they have adopted the aforementioned methods to train their staff while one library indicated that it outsources training for its workers.

Figure 4.2 Training Methods for Library Staff



4.1.3 Services for Remote users

This section presents the services available for remote users in public university libraries in Kenya.

4.1.3.1 Services available to Remote Users in Public University Libraries

Respondents were asked what services were available for remote users in their libraries. The list of services was provided in the questionnaire and the respondents were asked to select as many services as they offered. The services included: Search the library catalogue, Request for a source through an interlibrary loan , Classes and tours on registration, Online book renewal, Online search request forms, Document delivery services, Post, Email, Personal delivery, Current awareness services, Selective dissemination of information, Web-based reference services, Online searches, help guides, Information browsing and Information about library services

The findings in table 4.5 indicate that 5 (100%) of the responding libraries offered OPAC and interlibrary loan services; 4 (80%) offered e-resources and theses and dissertations while 3 (60%) of the libraries said that they offered the following services: request an interlibrary loan; classes and tours on registration; current awareness services; information browsing; information about library services and classes and library tours on registration. 2(40%) libraries indicated that they offered the following: personal delivery; document delivery services; online searches help guides; digital collections. Online book renewal, online search request forms, post, email, selective dissemination of information, web based reference services institutional repository and subject databases all accounted for 1 (20%) response each.

Table 4.5 Services available in Public University Libraries (N=5)

Services	Frequency	%
Online book renewal	1	20
Online search request forms	1	20
Post	1	20
Email	1	20
Personal delivery	2	40
Selective dissemination of information	1	20
Web based reference services	1	20
Institutional repository	1	20
Subject Databases	1	20
Document delivery services	2	40
Online searches help guides	2	40
Digital collections	2	40
Request an interlibrary loan	3	60
Classes and tours on registration	3	60
Current awareness services	3	60
Information browsing	3	60
Information about library services	3	60
E-Resources	4	80
Theses & dissertations	4	80
Search the library catalogue	5	100

4.1.3.2 The most commonly used avenues of serving remote users

A question was posed on the most commonly used method for serving remote users. As indicated in table 4.6, five (100%) libraries said they used the central library and the campuses, while 3 indicated that they used regional centers, web based and collaboration with other institutions. Two libraries reported that they use introductory letters for students who would wish to use facilities in other libraries. Further analysis of the data that was listed in the option ‘any other, please specify’ revealed that the UON used college librarians who are members of the library management board, emails, and Internet protocol network through the Local Area Network (LAN). While a question was asked on any other please specify, respondents indicated use of introductory letters to use other facilities.

Table 4.6 Methods commonly used to serve remote users (N=5)

METHOD	Frequencies	%
Central library (Main campus)	5	100
Campuses	5	100
Regional centers	3	60
Collaborating institutions	3	60
Web based	3	60
Introductory letters to use other facilities	2	40

4.1.3.3 Coordinating External Services from Main Library

A question was posed to the respondents in regard to who coordinated the remote user services in the libraries. The respondents at KU indicated that they used the open learning coordinator and the circulation information sections to coordinate services for remote users. The EU and JKUAT use the circulation information sections while UoN and MU use college librarians to coordinate services for remote users as well as all other external services.

4.1.3.4 Demand for Remote User Services and Resources

The respondents were asked on whether or not there was a demand by their users to access library services and resources remotely. A majority of the respondents totalling 4 (80%) (i.e. UoN, MU, EU and JKUAT) indicated that there was demand for remote use of services and resources while 1 (20%) respondent (i.e. KU) indicated that there was no demand.

4.1.3.5 Statistics on Remote Use of Public Libraries in Kenya

Table 4.7 shows that 2 respondents said that they kept statistics on access to specific databases and online search requests while statistics on access to journal articles were kept by 3 libraries. One library (20%) maintained statistics for online document delivery.

Table 4.7: Maintenance of statistics for remote user services (N = 5)

Type of statistics	Freq.	%
Access to specific databases	2	40
Access to journal articles	3	60
Online reservation	-	-
Online search requests	2	40
Online document delivery	1	20

4.1.4 Access to Library Services and Resources by Remote Users

The question that sought to find out how remote users accessed library services and resources was open-ended and therefore it was expected to yield varied answers. However, the findings in table 4.8 shows there were only three answers to the question. It was revealed that all the 5 (100%) respondents said that users accessed services through the emails while four (80%) libraries indicated that remote users accessed the library services through campus librarians and two (40%) indicated that users were able to access the library services through LAN IP address..

Table 4.8: Access to services and resources for remote users (N=5)

Access Mode	Freq	%
Through campus librarian	4	80
LAN IP address	2	40
Emails	5	100

4.1.4 Marketing Services to Remote Users

This section presents findings on marketing library services and the methods and tools used in promoting the services to remote users.

4.1.4.1 Methods and Tools for Creating Awareness for Remote User Services

Respondents were presented with a list of possible methods and tools for marketing library services and asked to tick whichever services applied to their individual libraries. All the respondents indicated that, in creating awareness about their library services and resources for remote users, they use the catalogue titles on OPAC as well as provide the information when individual users come to the library as well as through departmental liaisons. Four (80%) respondents selected the list of titles on the web, sending information by mail and conducting training sessions in the library as the means they use to create awareness about library services and resources while 60% selected lists on the web by subject, use of, library manuals and guides and information provided during orientation programme. Lists on the web by 'what is new', online discussion/chat groups, intranet pop-ups reference services, brochures and flyers, course integrated path-finders, emails, direct mail, and use of institutional library magazine were selected by 20% each as reflected in table 4.9.

Table 4.9: Tools for creating awareness (N=5)

Methods	Freq	(%)
Lists on the web by title	4	80
Lists on the web page by subject	3	60
Lists on the web page by 'what is new'	-	-
Maintain online discussions/chat groups	-	-
Intranet pop-up reference service	1	20
Catalogue titles on OPAC	5	100
Library manuals and guides	3	60
Information provided during orientation programme	5	100
When individual users come to the library to ask	5	80
Create brochures and flyers	1	20
Use email to inform users	1	20
Use of direct mail	1	20
Conduct training sessions in the library	3	60
Create course-integrated path finders	1	20
Use the institutional/library magazine	1	20
Departmental liaisons	5	100

4.1.4.2 Effectiveness of Methods of Creating Awareness

A follow-up question to the above question was posed to respondents to find out the most effective methods and tools used by libraries to create awareness of library services and resources to remote users. All the 5 (100%) respondents identified the following as the effective methods and tools; catalogue titles on OPAC, library manuals and guides, information provided during orientation programme, conduct training sessions in the library, and departmental liaisons. Lists on the web were considered as being effective tools by 3 (60%) respondents while those who also considered individual users' physical visits to libraries and the use of institutional or library magazines as the most effective methods/tools were one (20%) each. As table 4.10 also reveals, a total of ten items were noted as effective methods of creating awareness to remote users.

Table 4.10 Most effective method/tool for creating awareness in public universities (N=5)

Methods	Freq	%
Lists on the web page by subject	-	-
Lists on the web page by ‘what is new’	-	-
Maintain online discussions/chat groups	-	-
Intranet pop-up reference service		
Sending information by mail to student emails	-	-
Create course-integrated path-finders	-	-
When individual users come to the library to ask	1	20
Create brochures and flyers	1	20
Use the institutional /library magazine	1	20
Use email to inform users	2	40
Lists on the web by title	3	60
Catalogue titles on OPAC	5	100
Library manuals and guides	5	100
Information provided during orientation programme	5	100
Conduct training sessions in the library	5	100
Departmental Liaisons	5	100

4.1.5 Infrastructure to Support Remote Users’ Services

This section presents data on the infrastructure (including specialist offices) available to support remote user services. It covers the availability of a special unit that serves remote users, academic qualifications of the person in charge of that unit, electronic resource coordinators and their responsibilities, type of support that libraries get from the parent institution, and types of ICTs that support remote user services.

4.1.5.1 Special Unit Serving Remote Users

Respondents were asked to indicate whether or not their libraries have established a special unit that deals with remote users. UON, KU, MU and EU indicated that they do not have such a unit while JKUAT indicated that they have such a unit.

Findings in Table 4.11 show that one did agree that there is a special unit serving remote users while 4 (80%) respondent indicated that their library does not have a special unit for purposes of serving remote users. One (20%) JKUAT indicated they have such a unit. A further question was posed to find out the highest qualification of the person serving in the special unit. Respondents said that a master's degree was the highest qualification for the person in charge of the unit. The functions of the unit were to computerise and develop online access services for the library collection.

4.1.5.2 Availability of an Electronic Resource Coordinator

The respondents were asked whether or not their libraries have somebody responsible for coordinating or managing electronic resources and if so, what the coordinators responsibilities were. There were however varied answers in regard to the responsibilities of the electronic coordinator as reflected in table 4.11. The common duties and responsibilities of the coordinator were listed as follows ; research on products, selection of materials, training staff and users on e-resources use , coordinating free trials of databases, negotiating consortia agreements, and suggesting resources to be considered for purchase. A total of 4 (80%) respondents indicated that the coordinator is also responsible for maintaining trouble shooting and statistical reporting, while 3 (60%) respondents each indicated that the role of the coordinator was to approve final purchase, install product, and hardware maintenance.

Table 4.11 Responsibilities of electronic resource coordinator (N=5)

Responsibilities	n	%
Approve for final purchase	3	60
Install products	3	60
Hardware maintenance	3	60
Trouble shooting	4	80
Statistical reporting	4	80
Research on products	5	100
Suggest materials	5	100
Training staff and users on e-resources use	5	100
Coordinate free trials	5	100
Negotiate consortia agreement	5	100
Selection of materials	5	100

4.1.5.3 Type of support the library gets from the parent organization's ICT department

Three options were provided as examples of the type of support that libraries receive from the parent organization's ICT departments. The options were: technical support in terms of networking, uploading of data/information, and software and hardware configurations; managerial and financial. An option labeled 'others, please specify' was also provided in case there was some other type of support that libraries got from their respective universities' ICT departments. Table 4.12 shows that 5 (100%) libraries indicated that they received technical support; 3(60%) agreed that they got managerial and financial support.

Table 4.12: Type of ICT support the library gets from the university (N=5)

Type of Support	Responses	%
Technical (such as networking, uploading data, configurations etc)	5	100
Managerial and financial	3	60
Others (specify)...	--	--

Respondents were further asked which ICT infrastructure supports service delivery in their library, UoN, KU, EU and JKUAT (80%) said they had wireless network, KU, MU and JKUAT (60%) said they had an independent library server, while UoN, KU, MU and EU had a power

backup generator. All 5 respondents said their libraries had both fiber optic cable and wireless networks as shown in table 4.13.

Table 4.13: ICT infrastructure that supports remote user services (N=5)

Connection	Respondents	Response rate (%)
Wireless network	4	80
Independent library server	4	80
Power backup, generator	4	80
Fiber optic cable networks	5	100

In a follow up question, respondents were presented with a list of 10 items and an option to include any other, please specify and were asked to tick what access facilities that applied to their libraries. The responses were as shown in table 4.14. 4(80%) indicated that their libraries had an OPAC, UoN, EU and JKUAT (60%) said they had help using the libraries as well as help for distant learners respectively while Mu (20%) indicated the libraries had discussion and chat groups and UoN selected ask a librarian option as applying to their library.

Table 4.14 ICT facilities' that supports remote user services in libraries

Service	Respondents	Response rate (%)
Online registration	-	-
Login Passwords	-	-
Online public access catalog (OPAC)	4	80
Web based reference form	3	60
Discussion and chat groups	1	
Ask a Librarian	1	20
Help using other Libraries	3	60
Help for distance learners	3	60
Subject guides and experts tutorials	-	-

The respondents were further asked what type ICT facilities were available to support remote user services. The facilities included an independent library server, power backup generator, fiber optic cable network and wireless network. 80% indicated that they had an independent library server and a power backup generator. All respondents said their libraries had both fiber optic cable network and wireless network.

4.1.5 Policies and Procedures on remote use of libraries

This section presents data on the availability of policies and procedures followed in serving remote users in public universities in Kenya.

4.1.5.1 Availability of policies on remote use of libraries

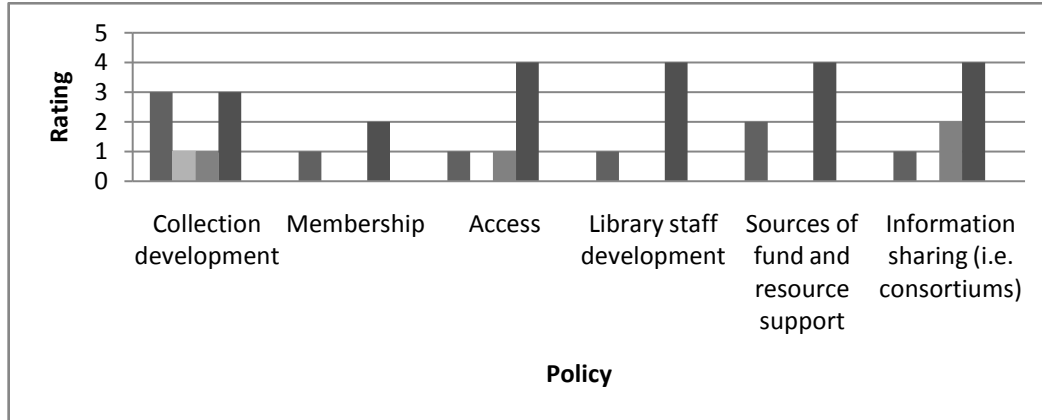
Respondents were asked whether or not their libraries have specific policies on remote use of the libraries and to indicate which type of policies were in place. 2 (40%) respondents (i.e. UoN and MU) said they had a policy on collection development, membership and access to resources, and on information sharing (i.e. consortiums) while 3 (60%) librarians from the universities of EU, MU and KU said that their libraries do not have any specific policy on remote users.

4.1.5.2 Policies on activities, services or resources specific to remote users

A follow-up question was posed to librarians who had indicated that their libraries have policies on remote use of resources and services to state the services, activities or resources that are affected. The findings (see Fig 4.3) were as follows: 2(22%) respondents each indicated that they have policies on collection development, library staff development, and access to resources while 1(11%) respondent each said that their policies were in regard to membership.

Furthermore, the respondents were asked to rate their policies on remote use using four measurements, namely: satisfactory, fair, poor, or not applicable. Results in figure 4.3 show the responses from the field. On collection development policy ratings, MU said the policy was satisfactory while UON and EU indicated that the policy was poor. Regarding membership policy, only the UoN said that the policy was satisfactory while EU indicated that it was not applicable; KU and JKUAT did not respond. Access policy rated satisfactorily at UoN and MU while at UE it was not applicable. KU and JKUAT did not respond to the question. The policy on library staff development was rated satisfactorily at UoN while EU said it was not applicable. MU, KU and JKUAT did not respond to the question. However they said policies regarding sources of fund and resource was fair. UON said that the information sharing (i.e.) consortiums) policy was satisfactory; MU rated it fair while EU said it was not applicable. KU and JKUAT did not offer any response. Figure 4.3 illustrates the findings.

Figure 4.3 Rating of library policies (N=5)



Key: Satisfactory (4); Fair (3); Poor (2); Not applicable (1).

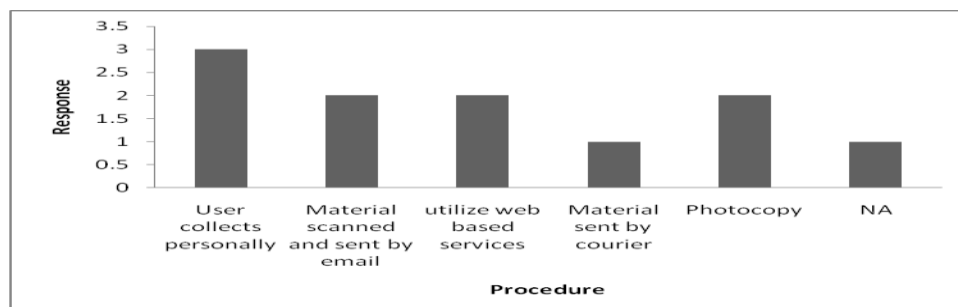
Finally, the respondents were asked to offer any suggestions on the improvement of the existing policies. The UoN and MU suggested that collection development policy should be expanded to include E-books; UoN offered that the membership policy should include remoter users; UoN suggested that the policy should include different type of users. UoN and MU also proposed collaboration with departments to create web content. UoN said that library staff training should include ICT skills to enable them to provide adequate support. All five the universities indicated the need to improve funding and the infrastructure for remote user services.

4.1.5.3 Procedures serving remote users

Respondents were asked to describe the procedures followed in meeting the needs of remote users when (a) the materials requested by users were available in the user's library and (b) when the materials requested by users are not available in the user's library. Figure 4.4 shows the methods by which remote users' request for materials are met. As can be seen, very little information was offered by respondents in regard to this question on procedures. The respondents provided information on only delivery methods and not the whole procedure of satisfying requests for materials. The methods included personally collecting the materials, scanning and emailing, materials sent by courier and use of web based services. Results in figure 4.4 indicate that 3(60%) respondents said that they photocopied the materials and users collected them from the library this were UoN, UoN added that they used courier services to deliver materials to users. Two (40%) libraries (that is the UoN and MU) indicated that they scanned

and forwarded the requested materials to users by email. However, the two libraries reported that users are referred to use the information service facilities and the libraries that are close to them when materials were not available in their libraries. Figure 4.2 shows these results.

Figure 4.4 Methods of meeting remote users' requests for materials



4.1.6 Challenges faced when providing services to remote users in public university libraries

This section presents data on the challenges faced by librarians in providing library services and resources in public university libraries. The respondents were asked to outline the challenges in regard to: provision of library services; provision of library resources; facilities and technological developments; creation of awareness of library services and resources for remote users.

Provision of library services

Respondents were asked to identify the challenges they faced in relation to the provision of services to remote users. All the respondents (i.e. 5) concurred that the following posed challenges in providing services to remote users:- library staff's skills in handling new technologies, changing user characteristics, increased user demand and lack of strong linkages between library workers and the academic staff. A minority of respondents numbering 2(40%) (that is, the UoN and KU) cited inadequate staff as the major challenge.

Provision of library resources

In relation to the Provision of resources to remote users, A minority of 2(40%) that is UoN and MU indicated that the availability of few resources in libraries vis a vis the increased number of users was a big challenge. The UoN, MU, EU and JKUAT respondents cited insufficient funds to develop new services and lack of enough staff as key challenges while, UoN cited logistical issues as a major challenge in provision of resources for remote users. Other issues discussed in

the FDGs that presented a challenge in the provision of resources were lack of a definite policy statement for remote users in relation to collection development, membership, access, collaboration with other institutions, document delivery models. In the questionnaire they rated poorly.

Facilities and technological developments

When 1 respondents were asked about what challenges they faced with the facilities and technological developments, UoN, MU, EU and JKUAT (80%), indicated insufficient number of computers while KU, MU and JKUAT (60%) indicated challenges with software aspects, while UoN and MU indicated frequented power outages. UoN (20%) singled out the challenges of poor connectivity, low bandwidth and limited wireless connection. Creation of awareness of library services and resources for remote users

The study sought to identify the challenges librarians faced when creating awareness of the services the library provides to remote users. All (100%) respondents indicated that lack of skilled workforce posed a major challenge. Time needed for advocacy is limited due to competing responsibilities; poor user response to library efforts particularly by faculties; inadequate policy guidelines the define service delivery and collaboration between faculties as well as minimal staff involvement in the processes of creating awareness.

4.1.6.1 Suggestions for improvement of service provision to remote users

When respondents were asked which areas required improvement in terms of service provision to remote users, all the five respondents identified 24/7 Internet connectivity, provision of a reliable proxy server for authentication and authorization for unlimited access as the most important. Out of the five universities, 4 (80%) each indicated that facilities and technologies needed improvement in terms of automation and digitization of processes and resources, respectively, in order to allow the use of e-resources conduct online renewals. The 4 respondents also indicated that increasing bandwidth will greatly improve the services for remote users. Table 4.15 reveals also those 3 (60%) respondents each pointed out that extended opening hours and increasing wireless Internet hotspots are other means of improving service provision for remote users.

Table 4.15 Suggestions for improvement of remote user services (N=5)

Suggested area of improvement	Frequency	Percentage
Provision of services and resources		
24/7 server connection to the Internet	5	100
Provide access by e-proxy to ensure bona fide users can have unlimited access remotely	5	100
Extended opening hours	3	60
Expand wireless hotspots	3	60
Facilities and technological developments		
Complete automation process and digitization to allow e-reserves and renewals	4	80
Increase the bandwidth	4	80
Expand wireless connection	3	60
Negotiate consortia agreement	5	100
Selection of materials		
Creation of awareness of library services and resources for remote users		
Extend information literacy and advocacy to faculties	4	80

4.2 Findings based on the Focus Group Interviews

This section presents the findings from the focus group interviews. The data is discussed in line with the objectives and research questions of the study. As explained in the methodology section, the focus group interviews targeted section heads only. The data is presented in the following main themes: respondents' profiles, services for remote users, resources for remote users, staffing, facilities, and marketing services to remote users, and the policies and procedures as well as challenges of serving remote users.

Table 4.16 Focus group memberships

Respondent Title	UoN	KU	MU	EU
Circulation Librarian	X		X	
Reader Service Librarian			X	X
ICT Librarian		X		
System Librarian	X		X	
E-Resource Librarian				X
Acquisitions Librarian	X	X	X	X
Information Librarian				X
Periodical and Special Collection In-charge	X			X

Reference Librarian	X			X
Subject Librarian	X			X
Education In Charge		X		
Social Science In Charge		X		
Head Humanities		X		
Cataloging Librarian	X	X	X	X
Total group members	7	6	5	7

4.2.1 Respondents Profiles

This section presents data on the profile of the focus group respondents as stipulated in table 4.16. The respondents were the section head in charge of key service areas in four public university libraries. Each library had a different title for the in charge. An analysis of the staff titles who participated in the focus group discussions is shown in the table. UoN and EU had 7 group members each. UoN group comprised of Circulation, ICT System, Acquisition, periodicals and reference librarian Reference librarian, Cataloguing librarian. KU group comprised of six members; ICT, education librarian, social science librarian, head of humanities and cataloguing librarian. MU had 5 members composed of the circulation librarian, reader service librarian, system.

4.2.2. Services and resources for Remote Users

This section presents data obtained from focus group discussions and covers services and resources for remote users in the following sub themes; services, resources and staffing (human resource).

4.2.2.1 Services for remote users

Questions were posed to respondents on how remote users were served, how the libraries ensured that users got what they sought for, whether users could reserve and renew loans online, and how access to services was provided. It was noted that librarians were not aware of the exact meaning of ‘remote users’. For instance, a member in the UON discussion group commented thus: “we do not have remote users in our library and all we have is an online catalogue where once an item is identified, a user has to make a personal visit to the issue counter with the book for fresh borrowing or renewal.” The other libraries reported this.

They also added that only when an item was available on the shelves that a user was contacted by email. The staff at MU and EU commented that they did not address the issue of off-campus users due to inadequate resources and lack of infrastructure to meet these needs. Discussants at the UoN, KU, and MU did not identify services for remote users but indicated that the library offered traditional services while discussants at EU reported that book loans were supported by AMLIB NetOpacs system (Amlib NetOpacs allows Patrons to dynamically search your Amlib catalogue via the Internet or configured using an organisation's Intranet in real time). However, users had to come to the library to borrow and renew books.

On how the groups ensured that users got what they sought, all the participating focus group discussants said that the resources were organized using the Library of Congress Classification scheme (LC) and shelves are well marked; while web-based resources depended on the keyword used to query the system. Remote users could call the librarian for assistance. Discussants at MU said that the users presented themselves for print-based materials, and visited the Internet at the campus and also used the provided passwords to access e-resources. At EU the discussants said that the library, collection was mainly print-based and the library staff ensured that books were shelved properly for ease of identification. However users had access to e-resources which were available on the Local Area Network. They were provided with the passwords. The passwords were posted at the library entrance for HINARI, OARE and AGORA.

During discussions after clarifying who a remote user was in the context of our discussions, the following services were identified i.e. book reservation, online loan renewal, online reference service and online information delivery as features that supports remote users. The group at UoN said that remote users could reserve items online since the catalogue was web based and could be accessed by any registered user by login in into the website; the respondents further indicated that users could identify whether or not the items are available and thereafter place a reservation request where applicable. However, users have to personally present the books at the issue counter for initial borrowing and renewal. The discussants at KU revealed that although the term remote user was not quite understood before , after discussion, it was noted that KOHA an open source Integrated Library System(ILS) had the ability to provide remote services, the library had not activated the system, and therefore not able to determine and provide services to remote users.

MU indicated during discussions that the remote users services would be possible upon conversion of TINLIB (an open-source library for creating Triangulated Irregular Networks) to a web-based software namely: ABCD ("*Automatización de Bibliotecas y Centros de Documentación*" (*Spanish*), which means: *Library and Documentation Centers Automation*) that supports online information services. At EU where they use a web-based library system called AMLIB NetOpacs, they said that they did not offer online reserve and renewal services.

The issue of access protocols was considered in the discussions. Discussants from UoN, KU and EU indicated that their libraries had websites. At MU the website was being upgraded and in addition, the OPAC was being converted into a system that would allow web-based user services as earlier mentioned. At EU, the discussants reported that the campus provided access to resources through the LAN and users could request for information search by Email from the Librarian or visit the campus and use any computer lab to access resources. Tutorials on how to access the resources were available on the university website.

Using the e-resources requires authentication and authorization which in turn requires that on registration, users are provided with user IDs and password. The UoN group reported that their users were required to register with the library to gain full access rights to e-resources. In addition, users use electronic identity or smart cards to access electronic resources at KU and MU campuses. At EU, passwords were issued for OARE, HINARI and AGORA while the rest of the electronic resources were accessed through the Internet.

The UoN, MU and KU focus groups said that users need not come to the university since they can access the library from outside the university where the campuses were interconnected through a centralized proxy server. However, users had to visit the university library in case there are problems accessing the system from off-campus points. At the UoN, all users have to present themselves during orientation and registration. At EU, the electronic resources and databases are used within the campus as the systems at the time of discussion were not accessible beyond the LAN network.

On the document delivery procedures, discussants at the UoN commented that “photocopying and scanning of requested pages was done and copies sent to the users by courier services or by email”. Similarly, email attachments were also common at KU and MU. In contrast respondents

from all the public universities said that users were encouraged to collect materials from the library by themselves.

The discussants were further prodded as to how the students request for resources and all the groups said that the students physically visited their libraries, call, or send emails to the designated librarian. The UoN focus group further said that the librarians used web help link on the library web page which users can use to send their requests. Any support service has its challenges and to these the discussants submitted that power failure, slow Internet, inadequate computers in the library, unmanageable user numbers against a shrinking staff base and lack of IT trained personnel were reported as key challenges by discussants from UoN while lack of IT specialists was a major limitation at KU. The discussants at MU identified lack of connectivity in some areas, limited resources, and increased enrollment of school based learners. On the part of EU, delays in document delivery due to lack of follow-up by the users on their requests and poor connectivity was cited as a major challenge.

4.2.2.2 Resources

To provide support services to remote users, a library must have the appropriate resources. In that regard, several questions were posed to identify the available resources. Discussants identified the following as the available information resources: print and electronic books; PERii e-resources; full-text journal databases; and CD-ROMs. In addition, the UoN has micro-fiche films while the EU discussion group reported that they also have the Essential Electronic Agriculture Library (TEEAL) online database.

The issue of the tools used to access various resources identified above was also addressed. When a question was posed regarding the type of tools that remote users use to access the resources, participating discussion groups' comments showed that users made use of all or any of the following methods: forms on the library link on the institutional website, personal visits to the library, the library OPAC, and E-mails sent to the librarian for assistance. Feedback forms were not fully exploited as this were mentioned by the UoN discussion group only.

A question was posed to the groups on the most commonly requested resources by remote users. The UoN discussants indicated that the majority users requested for online journal articles. However, KU discussants were not sure about the type of resources that are commonly requested

by users as the exact meaning of the concept of remote users was not clear to them. On the question of whether or not the libraries kept the statistics of requests placed by remote users, the discussants indicated that their libraries did not keep statistics at the time of the discussion. On the question of what resources were on heavy demand, discussions revealed that postgraduate students would normally seek for current journal articles in areas of interest.

4.2.2.3 Staff available to serve remote users

Human resource is critical for any undertaking. The need to have adequate qualified staff was of concern for effective remote user support services. When the discussants at the UON were asked whether they had adequate staff to handle services for remote users, they said that the remote users were served alongside the internal users and added that the number of staff available was inadequate to provide specialized services to special groups of users.. At KU, the human resource was not adequate to serve both remote and internal users. Discussants generally revealed that there was inadequate staff responsible for the general library service provision amidst an increase in the number of users.

A question was posed on the qualifications required of the staff serving remote users. To this question, the discussants indicated that all staff providing information service in the library required a minimum certificate level. In addition, the discussants were categorical that knowledge of ICTs and their usage was essential for staff to manage ICT related operations.

4.2.3 Facilities for Remote User Services

When the researcher sought to find out the facilities that support remote user services in the libraries under investigation, the discussants indicated that their libraries had computers with internet connection. Computers were also available in other buildings in the university campuses. Furthermore, the UoN, KU and MU have intranet connecting the constituent campuses which enables remote users to the OPAC and E-resources. All the discussants revealed that the libraries had printers, scanners, and fixed telephone lines.

On the question on whether the facilities were adequate, all the discussants indicated that the facilities were inadequate. However, discussants felt that improvement of the wireless technology would be more helpful in dealing with the inadequacy. One commentator said that

“...given the y-generation persons have accesses to laptops, cell phone or Portable data accessories PDA (Palm, Blackberry, Treo, iPhone, iPad, etc.) to access to wireless connection, the users can get information from the convenience of their space”.

At MU, the discussants said that an independent library server was a pre-requisite for effective support of the library services. When the question was posed on the availability of an independent server, all the focus groups confirmed that their libraries had servers which enabled their users to access e-resources. On the question of capacity of the server to handle the queries submitted by users, only the EU discussants provided the memory size of the server (that is, 32GB DRAM module server). The others did not mention the memory of their library servers due to the fact they may be sharing with the rest of the ICT infrastructure and did not have one independent for library services..

When the discussants were asked whether they received support for remote users from other players, discussants at the UoN said that they receive support from the department of open and distant education and departments which run school-based programmes which take place only when the regular programmes are on recess. At KU, the informants said that they receive document delivery support

to users who cannot come to the library due to the nature of their programmes support from open and distance learning (ODEL) programmes while MU and EU received support from ODEL and the College of Education.

4.2.4 Marketing Services and Resources to Remote Users

When discussants were asked how they created awareness of library services and resources to the remote users, they did not give the same answers as was the case in the previous questions. The UON discussants said that their library used class-based lessons, library user guides, brochures and emails to inform users of new products. KU indicated that they used the University website to market new information to users as well as the office of ODEL to pass on the information to users. MU markets their services through the Campus Librarians who in turn informs their users through such avenues as annual conferences, which are commonly used to promote library and information services. EU said that they organize a training session every Friday on the use of e-

resources, wherein one of the activities is to alert the users about the services and products available in the library for them.

In regard to the specific tools used to market library services and resources to remote users, the UoN discussants indicated that they use library guides, the OPAC, new books displays, and exhibitions while KU used the library website and institutional bulletin to inform and update users in the faculties of the services available in the library. MU uses brochures and the website to announce new items on the library services while EU uses the university notice board to announce training for users on new services and products.

When a question was posed on what tools were most effective in marketing library services, the discussants at the UoN said that the OPAC could do better on condition that the internet connectivity was up to standard and campuses and colleges were internetnetworked while KU, MU and EU groups said that all the tools mentioned above to some extent were effective. All groups concurred that library guides and brochures provided to users on registration as take-away-reference materials were effective. The website also was very effective as users could login from anywhere and gain access to sources of information. The discussants at the UoN and KU also suggested other tools such as electronic media and radio shows organized events through other faculties and departments within the university and its campuses, such as exhibitions and public talks . MU, on the other hand, posited that the use of radio advertisement and book talk shows would help reach more people. Finally, EU indicated that forums like Commission for Higher Education (CHE) exhibitions for all Kenyan Universities which takes place once a year in all counties on rotational basis, and Deans and Senate Committee meetings would be vital in marketing and promoting library services.

4.2.5 Policies and Procedures for Remote User Services

Discussants were asked whether there were written policies on remote user services and resources and the UoN indicated that they have general policies governing access to resources, membership and ICT policy but none of the policies specifically addresses remote users. KU, MU, and EU said they did not have policies for remote users.

The study also sought to find out if the resources and services were updated regularly and all the groups answered in the affirmative. All the discussion group members indicated that as

members of the Kenya Library and Information Services Consortium KLISC, they renew subscription for PERii-based resources on a regular basis as required. In respect to the OPAC, all groups said that the catalog was updated as regularly as possible. When they were asked how their libraries monitored and evaluated user satisfaction, the discussants said that they used suggestion boxes. They also said that they used customer satisfaction questionnaires.

When discussants were asked about the procedures followed when a user submits a request to the library, the UoN reported that users would normally send their queries through the online help desk, either to the circulation librarian or the ICT librarian who reviews the requests and responds accordingly. KU and MU groups said that the ICT librarian receives the requests and forwards them to relevant information desk while the EU group said that the requests are directed to the Reference and Reader Service librarians.

On the question on how the remote users' requests were administered within the library, the UoN discussants said that a search is conducted using different access tools within the library. In case of searches on print sources, the information is then scanned or photocopied and forwarded to the user by email or by courier services.

4.2.6 Chapter summary

Chapter four presents the findings of the study and discussed the findings in the context of the purpose of the study. The themes of the objectives of the study are used as a foundation of the analytical framework. The study was conducted to explore the support services for remote users in selected public universities in Kenya. The findings based on questionnaire were presented and the focus group results were also presented. Some of the major findings were:

The pattern revealed a more traditional library system, which used technology as means to improve service and information management. The librarians were not aware that there was need to address remote users. The questions that addressed remote user services returned negative results

The study established that there were no written policies governing remote user services in public university libraries.

That the infrastructure was not sufficient to address remote users issues like online registration, renewals and book reservations

The connectivity infrastructure did not support proxy access for most of the campuses which had centers scattered across the country as users had to physically visit the library for a given service. The online services were limited t the Local Area networks.

CHAPTER FIVE: DISCUSSION OF THE FINDINGS

5.1 Introduction

The purpose of this chapter is to provide an interpretive discussion of the findings and relate them to the objectives of the study, as well as the literature reviewed in Chapter Two. The overall objective of the study was to explore the support services for remote users in public universities in Kenya. In this study, remote users are defined as any library user who needs to access and use the main services from the university from within and without the library premises (Debowki 2003; Moyo & Cahoy 2003). The paradigm shift in which this study was undertaken is the changing education delivery methods, the increased student enrollment changing user behavior and the impact of ICT infrastructures militating against the traditional provision of library services in public universities in Kenya. This scenario has produced a caliber of users who may not use the traditional library services but nevertheless demand the services from their convenience. Academic Libraries, being what they are in higher education, need to find appropriate means in providing support to continue meeting library remote user needs. One of the respondents at EU commented that “remote services are quite undeveloped by the Egerton University Library but it is a good idea”

In retrospect, the research endeavored to answer the following five questions derived from the objectives of the study.

1. Which are the types of library services and information resources available to remote users in public university libraries in Kenya?
2. What tools are used to create awareness of the available services and resources?
3. What policies, procedures and infrastructure are in place for remote user services?
4. What the challenges faced do librarians face when providing services to remote users in public university libraries?
5. Which measures can help improve library service delivery to remote users?

5.3 Library services and resources available for remote users in public university libraries in Kenya

Questions were asked to explore the type of library resources available for remote users in university libraries in Kenya. This covered the resources available in the libraries in terms of human and materials resources. The aim was to find out whether or not there are adequate resources for remote users just as there are for contact users.

Given that the human resource plays a key role in the development, organization and execution of any service, it was imperative to assess the number of staff members, their qualifications and distribution in key library sections in order to provide an in-depth understanding of the quality of staff available to provide services and resources to remote users. The next area of concern in regard to the identification of the library resources available to remote users was the types of the information resources. Also included in the investigation to fulfill this objective was the staff's knowledge in computers and related skills useful in providing support for remote users.

5.3.1 Number of Staff in public University libraries

As mentioned above, human capital is a critical element when it comes to the provision of services and resources to library users. The Associations of College and Research Libraries (ACRL) standards for higher education state that the staff members should be sufficient in quantity and quality to meet the programmatic and service needs of its primary users. The ACRL standards further stipulate that librarians should have a graduate degree from an American Library Association (ALA)-accredited program. In addition, there should be other professional staff that will have appropriate combinations of training, experience, and/or degrees. All library professionals should be responsible for and participate in professional activities in assisting users to maximize their experience in information search, access and use. It is argued that the gross national staff-student ratios (SSR) for universities in Kenya should be pegged at a ratio of 1:15 (Kinyanjui, 2007, Mendelson, 2011). Kavulya (2003), too, submits that the national ratio for professional staff per students is 1:250. At the UoN he found that the ratio was 1 staff member to 575 students while at the KU the ratio stood was 1:475. The current study found that the number of students available in all the 5 universities of the study (Ngare & Muindi 2008) was 101,302 with a staff base of 513 (field data), which implies that on the

overall, the ratio of the personnel to students is 1:197. According to Mwiria et al (2007:57) the situation of teaching staff was assessed better than that of non academic staff. The CHE stipulates 1:12 for academic staff and 1:3 for non academic staff. Comparatively, for commonwealth countries, the staff-student ratio is 1:18. This is far below the requirement that the ratio should be 1:15 per institution. This pattern can be explained by the fact that between 2007 and 2008 when Mwiria et al (2007) and Kavulya (2008) carried out their studies, the number of students seeking higher education in public universities had escalated and the staff base had not adjusted to the same level, thus the picture reveals inadequate number of staff in the public universities. The situation may worsen as the government intends to have a double intake in the year 2012 based on considerations other than accommodation, which earlier informed the intake to government sponsored slots. The implication of this development is an equal increase escalation of remote users who too would demand more attention and resources from libraries. This will call for additional staff members, who may be a panacea for the escalating number of students in public universities in Kenya, to provide adequate support to the users.

The guidelines prepared by the Commission for Higher Education (CHE, 2007) in regard to staffing at higher institutions of learning in Kenya stipulate that all public universities should hire qualified and adequate staff in all departments including the university library. Fig 4.1 reveals that a total of 513 employees were engaged in library services in all the public universities investigated in this study. The study revealed that the UoN had 184, KU posted 130, MU had 84, EU had 65 and JKUAT posted a total of 50 library personnel. It was observed that the number of staff per university was very much associated with the age of the university. For instance, the UoN, which is the oldest public university in Kenya, had a majority of staff while JKUAT the youngest had the least number of staff.

5.3.1.1 Number of staff members according to qualification

Another area that is critical in the assessment of the personnel charged with serving the library users is their qualifications. Literature (e.g. Agee & Antrim, 2003, Gadd 2002, Amekuedee 2005; Kavulya 2003; Shiri 2003 and Spink 2004) shows that modern librarians need to be educated in the use of new technologies and the web. In addition, they must have certain competencies in handling print based resources as well as digital resources. According to the

new laws of library science by Gorman and Crawford (2007), in regard to technology changes, the staff and the users need to learn new skills on how to navigate the modern databases and digital resources. Information literacy techniques should include computer-aided instruction to train users in navigating the rich resources in peer-reviewed electronic journals and full-text databases.

A question was posed to the respondents to indicate their qualifications as well as the qualifications of the staff working under them in order to determine their abilities and competencies to serve library users and more particularly, the remote users. Table 4.2 shows that out of the 513 library workers in the public universities in Kenya, a majority (i.e. 428, 83%) of staff have at least a certificate level of professional training as follows: twelve (2%) had a doctorate degree, 63 (12%) had a Master's degree, 85 (17%) had a first degree, 180 (35%) had a diploma and 35 (7%) held a library certificate. The UoN led with the highest number of trained library staff who totaled 168 (33%) followed by KU with 90 (18%), MU (69, 13%) and EU (56, 10%) while JKUAT had 45 (9%). The findings in Chapter Four further revealed that 53 (10%) qualified members were on temporally employment and that 85 (17%) of the total staff comprised of non-LIS qualification holders who were serving in the libraries in other support services such as cleaning and clerical work. These findings reveal that the majority staff serving in the public university libraries was fairly qualified to offer services to remote users. As attributed by Moyane (2007), highly qualified staff would possibly be more productive and adaptive than less qualified staff. It was worth noting that a substantive number of the library workers held doctorate and Masters Qualifications in LIS.

5.3.1.2 Staff distribution in key functional areas

A question was posed to establish the distribution of the qualified staff in the key functional areas. This examination or assessment is particularly important for the current study as it sought to explore whether or not there is adequate staff members in areas that are directly linked to serve remote users. The study found that the bulk of the staff was deployed in cataloguing 72 (30%). This area covers key activities which enhance the retrieval of information, which for a long time was carried out manually using printed card catalogues. Currently, most university libraries have installed computerized catalogues, commonly known as the Online Public Access Catalogues (OPACs). The study also found that 56 (23%) library

workers were deployed in circulation section where lending constitutes the major activity; reference services were carried out by a total of 45 (19%) workers; the periodicals section comprised of 23 (10%) staff members; and only 20 (9%) workers were deployed in ICT related key area. The pattern witnessed as far as distribution of staff is concerned, reveals that majority of the libraries' staff was situated in the cataloguing sections. Given that most libraries' cataloguing services are increasingly becoming automated and therefore faster in processing the books, perhaps the libraries need to revisit the distribution of the technical staff in libraries so that the sections dealing with reference services can be beefed up (IFLA 2008). This is more so given the increasing number of virtual or remote users. As suggested by Han and Goulding (2003:261) to improve information and reference services in networked environment, libraries should:-

- i. Increasingly enhance the functionalities of the digital library in order to serve the users automatically and support the self-help mode. Greater attention should be paid to the **design of user interfaces or library portals** on the basis of good user studies and high quality selected resources, a function which has always been part of the role of information professionals.
- ii. Provide **well-organized user education programmes** and online tutorials to improve users' information skills and ensure they make full use of the available technologies, resources and services within the digital library. Although digital library technology will make it simpler to access resources, it is still necessary for library staff to induct users so they make the most of the changing technologies. It is also important to train users to identify and evaluate the resources properly on their own. After all, this has become an important skill in an information-overloaded environment.
- iii. Offer **enquiry support** and point-of-need help to users promptly when needed. A range of types of media can be used to meet individuals' different needs, representing a mix of on-demand support systems.

5.3.1.3 Library workers' knowledge of computers and related technologies

The researcher sought further to explore the library workers' knowledge in computers and related technologies. As Lamont (1999) argues, specific computer skills are necessary as libraries move from the automation stage to digital content. Debowski (2003), too, observes that understanding electronic links may result in quality service.

Table 4.4 showed that in all the public university libraries the employees were knowledgeable in computer related technologies. However, in terms of online information searching skills, a majority of 80% had the required skills, while a minority (20%) was fairly skilled. Eighty percent (80%) of the employees were skilled in cataloguing practices. Additionally, 60% were skilled in troubleshooting and 40% needed more training in this area. It should be noted that IT skills in the modern library environment are necessary. IT-related technical skills mean those skills which are required to handle information technology based tools and routines used for library services like computer troubleshooting, knowledge of software, telecommunication media, creation of online databases, content management, and information retrieval techniques through internet, among others. Mishra (2009) observes that a skilled person has the ability to perform any task successfully. One of the main tasks for librarians and other information professionals is to provide access to information for those who need it. This therefore, implies that librarians and other information professionals involved in information gathering, storage, retrieval and dissemination on one hand and on the other hand the computer specialists who support the library and informational professionals should be partners in this endeavour.

5.3.1.4 Training of library staff for effective service delivery to remote users

The question on the types of training methods employed by libraries to impart skills in their staff members was posed to respondents. The areas of concern were: in-house library training programme, workshops and seminars, formal training and outsourced training services. The study found that three methods were common in all the libraries while outsourcing was only practiced in one institution. It was observed by the focus group discussants that training is capital intensive and therefore, there was a tendency to maximize on in-house staff training as opposed to formal training. The latter involves the spending of money as study fees, a situation that makes it a little bit untenable according to the discussants. Nevertheless the discussants

were all in agreement that staff training was very important as libraries increasingly become technologically intensive.

The importance of training the staff has also been underscored by various authors (e.g. Agee & Antrim, 2003, Gadd 2002, Amekuedee 2005, Kavulya 2003, Shiri 2003, Spink 2004) who argue that academic libraries are involved in capacity building, provision of a consistent and comprehensive training in electronic technical skills, instructional delivery, system design, managerial supervisory skills, and continuing education for library staff. Konnur and Bhandi (2004), too, argue that there was a need to cultivate a new workforce of electronic resources librarians, information managers, and system administrators who can competently conceive, build, and implement a wide array of user-oriented applications using innovative information technology.

5.3.2 Resources in Public University libraries in Kenya.

Library information resources can be categorized according to various characteristics including the format in which they are produced. There are different types of information resources that can be found in libraries. The sources can be classified into two categories, namely print and non-print information sources. Print sources are sources printed on paper and include the following: Diaries, Letters, Speeches, Patents, Photographs, Newspaper articles, Journal articles, Theses and dissertations, Survey Research (e.g., market surveys, public opinion polls), Proceedings of Meetings, conferences and symposia, original documents (i.e. birth certificates, wills, marriage licenses, trial transcripts), Records of organizations, government agencies (e.g. annual reports, treaties, constitutions, government documents (Rowley & Hartley 2008, Deegan & Turner 2002)

The non-print sources of information are defined as anything that isn't on paper and include the following: Internet, E-mail communication, Communication in Listservs, Interviews (e.g., telephone, e-mail), Video recordings (e.g. television programs), CD-ROMS ,Audio recordings (e.g. radio programs), Website, Communications through social networking applications (e.g. Face book, blogs, RSS, Youtube etc (Prudtikul, 1999; Schmidt 2007; Horo, 2006). The need to develop access tools and consortia geared towards serving the remote users in institutions of higher learning is well captured by Kinyanyui (2007:8) who observes that:

Universities should develop mechanisms of sharing resources within themselves and with other institutions in the country. A networked National Union Catalogue of journals, books and specialized publications should be set up and made accessible to students and staff from all the local universities, colleges and research institutes.

For information to be useful, Deegan and Turner (2002), Schmidt (2007), and Hsieh-Yee (2000) argue that information resources need to be discovered, identified, evaluated and selected to meet defined, perceived or specific needs. In this respect, libraries in Kenya have made progress to ensure speedy and efficient resource discovery and use in each institution investigated through the automation of the services and the provision of online or web-based catalogues as well as engaging themselves in consortia. These efforts have resulted in the availability of electronic publications and databases through such initiatives such as PERii as indicated in table 4.2

Table 4.2 captured the level of availability of the different information resources in Kenyan public university libraries. The total number of print books in the public universities was found to be 1.968 million. The UoN led with a total of 0.75 million while the book collection at UE was 0.07 million. Although the print books, just as is the case with all print resources, are not convenient sources as far as the remote users are concerned, they nevertheless serve the purpose of informing and educating the library users. The other type of resources that the study investigated was E-books. The focus group discussants observed that the majority of the public universities did not have direct access to E-Books. Instead, the libraries subscribe to e-books through a consortium and also select and create links to free/open access sources and databases. This implies that users access the e-books through the use of specific “passwords” provided by the university libraries. It was also revealed in the study that older institutions stocked a larger number of books (both print and e-books). However, this does not necessarily mean that the older universities had better services than the newer ones.

In terms of Print Periodicals, KU and MU (that is, 40%) of the libraries investigated had a total of 300 and 100 volumes of complete sets, respectively. The majority of the libraries did not respond to the question on whether they have print periodicals or not. The study further found that in all public universities the CD-ROMs available were mainly accompanying textbooks.

For instance, EU prided that the library had access to “The Essential Electronic Agriculture Library (TEEAL)” made available online within the local area network (LAN). However, this type of resource is getting obsolete as the modern machines do not have slots or ports for them; instead, the machines such as laptop computers have slots for USB hardware. In most of the libraries, CD-ROM readers are mounted on the desktop computers, which may not be accessible to remote users.

All public universities reported that they have access to several full-text databases via the INASP/PERii Programme. The INASP/PERii initiative is a cost effective consortia meant to ensure availability and resource sharing of electronic scientific publications, journals and databases to libraries and research institutions in Kenya, through a pool where each institution pays a certain percentage of the total subscription cost for e-resources. Members of the consortia later activate resources that meet their user needs and make them available through the institutional IP address. Some resources require users to have authentication passwords while in others, a user only need to be logged on the institutional website. This is a very supportive feature for remote users (Cahall 2002).

An exploration on the availability of local databases in the public universities revealed that the majority (that is, 60%) libraries were contributors to the national database *KenyaResearch.org* which contains theses and dissertations produced in Kenya. The resource is maintained by the Kenya Information Preservation Society (KIPS) which has undertaken the task of bringing together the records held mainly by universities and research institutions, which reflect the post-graduate research that has been completed on all aspects of Kenya. The result of this endeavour is the database titled *The union list of theses and dissertations held by universities and research institutions in Kenya*. This database also includes details of theses and dissertations that reflect research undertaken in Kenya but held by institutions located outside of Kenya. Currently, the database holds about 12,243 records. There are 24 contributing institutions (includes 12 universities, 8 research bodies, the Kenya National Archives, the Kenya National Library Service, the National Museums of Kenya, and the University Microforms International, USA) (KIPS 2012).

In addition to the aforementioned resources, public university libraries in Kenya have institutional repositories (IRs) which have collections spanning most of the publication types. Most of the IRs use Dspace software to support their collections. Wrenn, Mueller, and Shellhase (2009) posit that Institutional repositories (IRs) are authoritative directories of academic open access repositories among others that support research activities in academic libraries. On his part, Onyancha (2011:57) regards IRs as a self-archiving strategy where digital documents are deposited in a publicly accessible website often an open access initiative (OAI). The IRs provide a means of making full-text peer-reviewed research output of scholars/scientists and institutions increasing visibility access and citation. The list of the IRs can be found in the Directory of Open Access Repositories (DOAR) (www.Dspace.Org, www.Opendoar.org). In Kenya this concept is yet to be embraced. It was also found in this study, through the focus group discussions, that MU was at an advanced stage in developing an IR to be hosted on the library webpage once the library acquires a Universal Resource Locator (URL) address. MU's endeavour should be commended as IRs, besides creating access to e-resources by remote users, they also help in a variety of ways as opined by Onyancha (2011), namely through the IRs, authors assume higher or wider circulation as well as receive comments about their articles from their peers; and finally authors' visibility is enhanced and posterity assured.

This means that to support remote users libraries need to build their electronic/digital resources. A study by Mclean and Dew (2004:265-303) found that electronic resources were favored by users due to their advantages as postulated by Lees (2002). These advantages are:

- i. Speed of access to the latest information
- ii. Ability to incorporate multimedia elements
- iii. Quick searching
- iv. Linking from and to other sources (hypertext capability)
- v. Security (no fear of loss)
- vi. Multi-user capability
- vii. Downloading and printing the article is very easy.

5.3.3 Information services for remote users in public university libraries in Kenya

The objective of investigating the information services for remote use in public libraries in Kenya was to find out the availability of remote user services, methods commonly used to serve remote users, how external services were coordinated, whether there was demand for the remote user services, whether there were statistics on the usage of remote services, and how remote users accessed the services.

Initially, the list of user services were identified from the reviewed literature (that is, Franklin and Plum, 2004; ACRL 2000; Oladukun, 2002; IOWA state University, 2008; and Kansas State University 2008). Franklin and Plum (2004) define remote services as activities that enable library users to have access to information resources electronically from off-campus. An information service may include traditional library and information services comprising of books, archives, standards, patents, research reports whereas electronic materials comprise of CD-ROMs database, software, electronic documents, multi-media and video (CHE 2007:8). The study found that this school of thought although the applicable was somehow skewed toward acquiring and organizing the resources as opposed to successful access and use. From the focus group discussions, it was evident that the service providers assumed once items are made available online and passwords and log-ins provided, users should be able to access the services. The support level was not very pronounced from either questionnaire responses or in the focus group discussions.

Related studies such as Debowski (2003) emphasizes on redesigning library services for the benefit of the remote users and their different needs while Amekuedee (2005) advise on the need for continued performance and quality control of the information and library services. Kavulya (2003), Juma (2001) and Lebowitz (1997) concur that the quality of academic achievements in any educational facility is pegged on the quality of information services available to the students and the teaching staff.

The type of services generally offered in libraries include lending services, inter-library loan service, document delivery, preservation services such as binding and repair of material resources, provision of seating and study facilities, reference services, current awareness services, exhibition and displays, user education and information literacy programmes (ACRL

2002; CHE 2007; Wayne, Butters & Brophy 1997). According to ACRL (2002) and Oladukun (2002), these services should be available equitably as a necessary measure to meeting the university informational and learning objectives. In responding to the need to provide alternative library support, Johnson, Trabesti & Tin (2009: 350) observe that “librarians have worked at translating what they do in a traditional library into virtual or digital environments, while customizing their services and resources for e-learners”. In his comment about online access tools for e-learning purposes, Hulshof (1999) observes that catalogues, indexing and abstracting services provide e-learners with convenient access to bibliographic information about valuable scholarly documents. When those documents are not available online in full-text form, a demand is generated for delivery from a library’s print collection or from the collections of other libraries through interlibrary loans. Ani, Esin and Edem (2005) and Gorman and Crawford (2007) conclude that the provision of online public catalogs (OPACs) at all service points and access to the Internet are imperative in a seamless and timeless connectivity for successful remote user.

In connection with the foregoing, the current study explored the availability of services for remote users in public universities in Kenya. The findings as illustrated also in Table 4.5 revealed that 3 (60%) public university libraries’ catalogues had links on the respective institutional website and was therefore accessible from remote locations, while 2 (40%) (that is, MU and EU) at the time of data collection were in the process of creating a library web page to be hosted on their university servers. MU was also migrating to a web-enabled information management system to ensure the catalogue is available on the Internet.

At JKUAT the library had an online feedback request form. Other services mentioned by the focus group discussants were document delivery services, current awareness services, selective dissemination of information, web based reference services, and online search help guides. However, the study did not find evidence that these were active for remote users’ support. The connectedness of library catalogues and other services on the Internet is in line with Amekuedee’s (2005) observation that the capacity to remain connected and content relevance stand out in the list of remote user services. Compared to universities in developed countries, public universities in Kenya seem to offer minimal services to remote users. For instance, remote users at Kansas State University (2008), receive the following service: interlibrary loan,

delivery of photocopies, delivery of books and materials within United States. While at IOWA State University (2008) remote users have access to online catalogs, document delivery service, e-journals, e-books, and other full-text databases, electronic reserve, e-mail, listservs, instructional services, interlibrary loan, library hours, media services, online reference assistance, reference services, research in primary resources/special collections; training in the use of resources and services. Similarly, Ho (2004) lists services for remote users available at Monash library as comprising access to electronic reserve, digitization exam paper database, lectures online, databases and online document delivery.

It was also noted in this study that there were no remote user designed library services in the public university libraries. However, there were services that were provided electronically to users enrolled in each institution. The online public library catalogue was available in all the institutions studied.

The findings did not show evidence of support for online reference services although in most universities there was an email contact on the web. Reference services were largely provided through the traditional means as a minority (that is 20%) of libraries indicated that they have web-based reference services. Related studies such as Gust (2006) and Ho (2004) reveal that with the availability of electronic access to services, libraries are transforming and acquiring skills to address and enhance service delivery.

5.3.3.1. Commonly used avenues to serving remote users

In regard to the question on the most common avenues used by libraries to serve remote users, respondents said that they did not have services dedicated to remote users although the researcher identified some service delivery avenues that linked the remote users to the services. It was observed that in most library networks (that is, the main library and their branches), the main library used the campus branches to serve those within the campuses. For example, KU and the UoN use regional centers through the open and distant learning offices. It was also found that whenever users required using facilities nearer to where they are located, an introduction letter was an option. Web-based strategies were also found to be in use.

Studies (e.g. Cassner and Adams 1998 and Unwin, Stephens & Bolton 1998:92) have shown that library users tend to consult libraries close to their places of stay. For instance, Cassner and Adams (1998) found that the libraries of other institutions were used more frequently than the library at their respective institution because the latter's location was not convenient to students in terms of distance. Unwin, Stephens and Bolton (1998) too, observed that part-time students and faculty were using the public libraries more frequently than the libraries of their institutions. Among the reasons provided are time, distance, convenience and lack of institutional collaboration (Pestel 2009; Besser 2005; Were 2006). The results of this study show 60% of the respondents considered collaborating institutions as appropriate avenues of serving remote users. However, findings from focus group discussions showed that this is a subject for further investigation to evaluate the efficacy of this process in regard to increased user population and local demand for resources and services.

5.3.3.2 Coordinating external services from the main library

On the question on how libraries coordinated remote user services, most libraries indicated that they coordinated the services through university campuses and regional centers which also served as points of access for resources by other users. The results also revealed that other avenues used by libraries include college librarians (for example, at the UoN), Open and distance learning offices (for example at KU) and the circulation sections in various libraries and their branches. These avenues or offices/officers were the same that were used to serve on-campus users. Seemingly, therefore, there is no difference in the avenues that are used to serve the two categories of library users in public universities in Kenya, a situation that may imply that remote users' expectations are the same as those of learners who are on-campus as suggested by Cooper *et al* (1998) and ACRL (2004). This implies that there is need to coordinate the activities of the library to achieve equitable access to resources and services by all current and potential users (CHE 2004).

5.3.3.3 Demand for remote user services

A question was asked to explore the demand level of remote user services. The assessment of the demand for library services is crucial as it is the manifestation of what happens in the library. Buckland (1999) argued that a demand mechanism to determine the patterns of the use

of library services are not well understood with some of the effects being observed empirically. The characteristics of demand warrant attention because they are manifestations of user behavior and, as such, deserve to be central in the design of library services. According to Dourgarian (2011), customer demand drives product development and as such the latter is informed by statistics on user demands.

It was noted that 80% of the respondents indicated that there was demand for the services while 20% said that there was no demand. It was observed that this response was, to a large extent, dependent on the understanding of the remote user concept. While some librarians did not quite understand the meaning of the concept, some showed a degree familiarity. At UoN ODEL section, the librarian indicated that the library catered for students in remote areas and received services from the library through the branch. Other results show that although the respondents were not explicit about the availability of services to remote users, the focus group interviews revealed that there were email requests and desk enquiries on how to access some services such as e-resources from off-campus.

5.3.3.4 Access to library services and resources by remote users

According to Johnson, Trabesti & Tin (2009), remote users require more than just access to services and resources; they also require expertise in making sense of library systems and research tools, and to offer a helping hand along that often slippery path known as the research process. As stipulated in the Central Texas College (2003) document on policies and procedures, access to library services and resources is essential for students to achieve their academic goals, for faculty and staff to pursue their instructional and research goals, and for students, faculty, and staff to acquire and enhance lifelong learning skills. The document further spells out the library's commitment to provide remote users with services and resources that are relevant. Cooper et al (1998) citing Kalin (1991) identified two problems associated with the access of the OPAC by remote users, namely: (1) problem involving the technology required to provide access; and (2) problems involving search protocols and OPAC interfaces. The former constitute challenges faced when helping the user to master equipment and telecommunications software in order to deal effectively with situations such as line noise, telecommunications problems, and incompatibility of equipment or software. The second category involves more conventional problems such as system structure and commands. The

second category often has online help available to assist the user, while the first category requires commitment; either through provision of technical support from a staff member or the user's own resourcefulness to resolve problems. Problems relating to technology often are due to factors beyond the library's control (Cooper, Dempsey, Menon and Millson-Martula 1998; Jennifer & Hartley 2008). This is an area in which library staffs need to communicate clearly to users the extent of library responsibility. Creating appropriate help links either to sites offering help or provide an email feedback process, will provide solutions to access problems.

Based on the above introductory remarks, the current study sought to find out the mechanisms that have been put in place to necessitate easy access of resources and services by remote users. The study found that although some respondents had indicated that they do not have remote users, there were mechanisms in place through which remote users accessed the services and resources. All the respondents indicated that users accessed library services and resources by sending their requests through emails while four (80%) libraries indicated that access was through the campus librarians. A further 2 (40%) respondents indicated that users can access the library services through the LAN's IP address. Apparently, public university libraries in Kenya have embraced the technological developments and endeavored to support the users using the ICTs. As Gopakumar and Baradol (2009: 61) submit, the web has opened new windows of opportunity to provide information support to distance learners by ensuring that electronic documents can be made available anywhere and anytime through inter-connected computers. What makes this possible is the ubiquitous World Wide Web. With the technology of the Web, library documents can be viewed and printed by any person who has a web connected computer, whether that person lives nearby or in another remote location. E-mail also makes it easy to contact anybody at anytime in the world in few seconds.

5.4 Tools used to create awareness of services and resources for remote users

Awareness creation is a marketing component aimed at informing the potential user of the existence of a given product that identifies with their needs and expectations (Kenneway 2007; McNamara 2010). The use of communication channels such as newsletters, brochures, e-mail or the World Wide Web are some of the tools useful for public relations activities. Libraries could also sponsor special events in the campus and participate in public shows and exhibitions

(Marshall 2001:8). Such exhibitions have been useful in creating awareness of university library services in Kenya (CHE, 2011). Kenneway (2007) lists tools for creating awareness such as blogs, podcasts; Rich Site Summary (RSS) feeds text messages, message board and forums as a way of digital marketing. Agee & Antrim (2003) and Were (2004) suggest that marketing strategies such as advertising and public relations constitute some of the methods of creating awareness of the library resources and services for users. The strategies may include both print and online methods. Marketing strategy is about telling the actual and potential library users what collections and services are being offered (Madhusuman 2008).

In order to explore how libraries created awareness of their resources and services to remote users, the study focused on different methods and found 100% of the public universities in Kenya use a combination of strategies to create awareness among remote users. Notably, all the public universities use the catalogue titles available in their OPACs and on circulation desks at the library to create awareness. Only 20% apply lists on the web page using 'what is new'. Other available tools identified during focus group discussions were online discussions/chat groups, Intranet pop-up reference service, course-integrated path-finders, institutional/library magazine, departmental liaisons brochures and fliers as means of creating awareness to remote users.

5.5 Policies, infrastructure and procedures for remote user services in academic libraries in Kenya

The researcher was aware that policies as well as adequate and appropriate infrastructure are important in remote user services. Questions were asked to explore their availability in the public university libraries in Kenya. These focus areas of the investigation in regard to policies and procedures were on collection development, membership and access. These areas were identified as those that would impact on support services for remote users.

5.5.1 Policies and procedures

According to principles formulated by the International Federation of Library Association (IFLA) (2006) one of the key responsibilities of the libraries is to facilitate and promote public access to quality information and communication. Hence, users should be assisted with the necessary skills and provided with a suitable environment in which they can use their selected information sources and services freely and confidently (IFLA 2006). According to the American Library Association (ALA 2008), a sound access policy provides services such as interlibrary and document delivery, consortia agreements, and access to virtual electronic collections.

In exploring the availability of policies in the Kenyan public university libraries, it was found that a majority (that is, 60%) did not have any clear policies for remote user services. However, 40% of the public university libraries had policies on collection development, library membership, access to services and resources, and library staff development. The UoN discussants indicated that the library has a written ICT policy document which at the time of data collection was yet to be rolled out. Seemingly, most libraries do realize the importance of having policies on access as suggested by Ho (2004). According to Ho (2004), an access policy is required to control or restrict access to systems' (authorization) to track or monitor behavior within systems (accountability). Access policy provides that all enrolled students and staff require login identity and a password to be able to access and benefit from a variety of services and resources available in the library while the policy on collection development includes the integration of online resources (Ho 2004). The necessary policies have been highlighted by ACRL (2004) as well as by CHE (2007) in their guidelines for libraries in higher education institutions.

It was saddening to note that only 40% of the public university libraries have a documented policy frame work. The situation could be due to the fact that the concept of remote users is new in the public university libraries in Kenya. For instance, the focus group discussants expressed that there were no remote users in the libraries but instead, the librarians indicated that they serve distance learners and continuing education students. Nevertheless, some of the respondents, accounting for 80%, indicated that they serve remote users and have even put

strategies in place to do so. The libraries are called upon to heed Cooke's (2004:47) advice that librarians must create policies and procedures specific to distance learning; they must coordinate programme correspondents such as document delivery and reference services; they are supposed to market their services; they need to continually evaluate the best information resources; they must create and maintain websites, and they should collaborate with faculties, administrators and other librarians to ensure an all inclusive service development and delivery..

5.5.2 Infrastructure

When planning services, it would be unwise to assume that a significant proportion of those who require library services use a computer and that telecommunications are in place to support extensive connectivity and seamless access to electronic resources (Deegan & Tanner 2002). According to Daniels and McDonald (2006), key infrastructure requirements include but are not limited to

- i. Computers
- ii. Fixed lines telecommunications,
- iii. Mobile phones
- iv. Wireless networks,
- v. Broadband,
- vi. Specialized application devices,
- vii. Internet,
- viii. Satellite communications
- ix. Other networking technologies (i.e. fiber optics, dial-up etc)

The findings in the current study revealed that Kenyan public university libraries did not have adequate computers, experienced poor connectivity and low bandwidth problems. It was established that although they had wireless technology, it was not well distributed to support a wide section of remote users. At the UoN, for instance, the wireless connection was very limited while at KU and MU, the laptop computer wireless service was available within the library building only. At JKUAT, wireless connection was available both in and around the library building as well as some parts of the university compound.

The study observed that EU, MU, KU and the UoN each had a power generator dedicated to the library which implied 40% of the libraries investigated have power backups. As demonstrated in Table 4.8, all the public university libraries indicated that they are served by the Optic Cable Network, 80% had wireless connectivity while 60% had independent library server and power backup generators. Apparently, Kenyan libraries have followed in the footsteps of other libraries in the international arena. For instance, Buckland (1992) and Wendy (2003) indicate that information technology has resulted in online library catalogues, computerized information retrievals, electronic data transmission, and information sharing and electronic e-mails, among others. Wendy's concern however is on whether or not public university librarians have fully adopted the technology-enabled services in changing the service delivery landscape.

The study revealed that some facilities were more available than others from one library to another. This may reveal the level of support libraries receive from the parent organization, understanding of the role played by the library in a particularly set up as well as availability of ICT technical support. Variantly, it emerged that most libraries lack a dedicated server except for the OPAC. The power generator and main server for the internet are shared with the rest of the institution, leading to overload and consequently low connectivity. Human skills in ICT related tasks may affect the level of availability of facilities in some libraries. Poor knowledge base and funding, sporadic technical support i.e. cabling, troubleshooting and power supply coupled with non committal institutional support has adverse effect on how libraries will adopt methodologies to address new needs in spite of readiness to take off.

5.6 Challenges faced by librarians in meeting the needs of remote users

Previous studies (for example, Amekuedee, 2005; Kavulya, 2002; Okon, 2005; and Wolpert, 1998, Kenneway 2007) have shown that rapidly changing environments always provide both opportunities and risks to a process. Academic libraries are supposed to develop service models and staffing patterns to meet this new demand. Conceivably, the greatest challenge librarians faced in relation to managing collections and resources is to ensure that they remain valuable to students irrespective of their geographical locations. Space and ownership are no longer measures for information service provision as the user community becomes more informed

with adoption of technology in the quest for information. This study focuses on the challenges faced by public university libraries in Kenya in their efforts to serve remote users.

5.6.1 Challenges faced in the provision of support Services

In spite of libraries saying that they were satisfied with library workers' knowledge and skills, in addressing challenges, it nevertheless emerged that the skills in handling new technologies, changing user characteristics, increased user demand and lack of strong linkages were major difficulties that face libraries in their quest to provide support services to remote users. According to Larsen (2006), Librarians should be qualified to offer high quality services to those users, who are visiting the physical library and also a substantial knowledge and skills needed for developing and maintaining electronic services and disseminating relevant services that match the Web-user's needs and expectations. It was nevertheless encouraging to note that only one library reported inadequacy in staffing as a key challenge to the provision of services to remote users.

The responses were confirmed during the focus group discussion with four libraries, the Section Heads expressed the same concerns that IT skills as a new area was not emphasized in library training hence the need to re-equip the staff to deal with the new developments. They also said that the students joining higher education are IT compliant and expect to gain all they need over the internet. They were also concerned with the number requiring library services as programmes are growing daily as seen by more numbers joining the higher education in public universities Kenya.

Going by the responses on the skills and competencies of the library workers, it appears that respondents either were unaware of their staff capability in managing remote user services or their IT skills. Related works (for example, Johnson, Trabesti & Tin 2009) state that most of these challenges can be overcome through instilling a culture of sharing, motivation, equity, and active partnering which in turn will encourage library staff to respond positively to the changing roles, responsibilities, and skills that the integration and use of technology requires. A well-designed, ongoing training program enables library staff to upgrade their skills to their new assignments, and helps them understand and control fear of change.

Fig 4.5, for instance, reveals that all the respondents (that is, 5) concurred that library staff members' skills in handling new technologies, changing user characteristics, increased user demand and lack of strong linkages between library workers and the academic staff posed key challenges facing public university libraries as far as the provision of services to remote users was concerned. This scenario was also confirmed during the focus group discussions as an impediment to service delivery to remote users. A minority of respondents numbering 2 (40%) cited inadequate staff as the major challenge.

The quality of staff and the availability of digitized collections have an impact on service delivery beyond the traditions of library practice. In a networked environment it is not the number of staff but the quality of staff is desirable. Their performance; and their ability to run a one stop service effectively from technical to readers information services. Following the argument by Han and Goulding (2003) with regard to and increased the number of staff that are needed in each level of designing a digital reference service, first level is least labor-intensive and the enquiry system is most labor-intensive, while the second level is targeted at a group and lies in the middle between the other two. There is need for not only adequate staff levels but also those skilled in customer approach practices such as marketing. It calls for not only an intelligent digital library system but is also coupled with highly skilled staff for effective personalized assistance.

5.6.2 Challenges in the provision of resources

Eighty percent of the respondents identified lack of sufficient funds to develop the services as a hindrance to provision of resources and services to remote users while (40%) cited lack of information resources against the increased number of users as a major challenge, and only twenty percent (20%) cited logistical issues as a major challenge to provision of services to remote users. It emerged that funds posed the greatest challenge for libraries since remote user services will require online subscription, enough computers and software development and subsequent maintenance of online resources. Horo (2006) intimated that an inadequate budget affected the use of electronic resources. According to Verzosa (2010), talking on library standards on book collection the recommended ratio of volumes to student population and teaching faculty should be 10:1. This should have an annual growth maintenance rate at five

percent. Borrowing from this contribution, in the number of books available in all the five libraries was far below this provision

5.6.3 Challenges in provision of Infrastructure

Eighty percent of the public university libraries investigated in this study cited inadequate number of computers as the major challenge associated with infrastructure while 60% of the respondents indicated that software aspects were a major challenge. Frequent power outage was cited by 40%. Other challenges cited by the respondents included poor connectivity, low bandwidth and limited wireless connection hotspots. The results showed that most of the institutions were not networked sufficiently to provide services to satellite campuses, nor were there needed services available to users who could make a personal visit to the library after identifying resources on the OPAC from the Internet. Inadequate number of computers has also been pointed out by Mwiria et al (2007:52) as one of the key challenges facing universities. This researcher observes that most of the universities lack adequate computer facilities. On his part, Kiondo (2008:54) reveals that access and availability of PCs influence the use of e-resources but notes that while most of the staff access computers directly from their offices, most students access the computers from internet cafes, the university library or public access rooms or computer labs in the university. This implies that in spite of the availability of e-resources and e-services, access to a networked PC is also a challenge. Lack of appropriate software was, however, identified as a major challenge by 60% of the respondents.

Power backup was highlighted as a major problem in the universities. Notably, Kenya power and lighting corporation (KPLC) the public utility vested with the responsibility of power supply is unable to provide adequate and reliable power supply (www.kplc.co.ke/). This is occasioned by voltage fluctuations, insufficient power generation, inadequate transmission and intentional rolling blackout causing frequent power outages. Other problems of power failure are vandalism and illegal connections causing overload. The effect may cause physical damage to equipment or lead to loss of data. This would hamper service delivery due to lack of connectivity. The solution is for libraries to generate alternative power supply to compliment the national power supply. The cost may again be affected by fuel cost given that libraries do not generate income to support its recurrent expenditure.

5.6.4 Challenges in creating awareness

In terms of the challenges associated with the creation of awareness of services and resources for remote users, eighty percent of the respondents cited lack of skilled workforce, limited time for advocacy due to competing responsibilities, poor user response to library efforts – particularly by faculties – and lack of policy guidelines and staff involvement as major threats to the provision of services to remote users.

Discussants also indicated other areas that affected awareness creation such as lack of funds to develop newsletters, and brochures; some of the tools useful for creating awareness; funds to sponsor special awareness events such as exhibitions in the campus (Marshall (2001:8). The university does not involve the library as a partner in academic affairs while holding career days and such marketing activities provide avenue for creating awareness of university library services in the role of the library.

Poor ICT related skills on the use of tools such as blogs, podcasts, RSS feeds, text messages, and poor utilization of social network forums was also rated as hindering digital marketing. Results revealed that staffs are yet to embrace new technologies. The need for the staff to embrace the importance of providing a certain service motivates the desire to send a word out to inspire potential customers (McNamara 2011, Kumar 2011). Noting that most of the library work is mainly traditional, the limited number of staff are involved in manual procedures and assume users will come to find the resources somehow. The Focus group discussions a revealed a disconnection between library services and the faculty as far as development and the introduction of new teaching and programmes were concerned. The importance of this would be lack of emphasis on faculty based resources in collection development.

In conclusion, the findings outlined above concur with authors such as Amekuedee (2005); Kavulya (2004); and Okon (2005) who noted that rapidly changing environments always provide both opportunities and challenges; and that Higher Education Institutions (HEIs), worldwide, have been confronted with many challenges and changes driven by the unprecedented global, social, economic and technological forces of the knowledge economy in the information or knowledge society (Mngadi 2007:1). Other challenges facing Kenyan

universities as reflected in the published works such as Were (2004) and which were identified by respondents in the current study include:

- i. Shrinking budgets
- ii. Access to Information to support Teaching and Research Programmes
- iii. Project management and funding
- iv. High cost of resources
- v. Distance from Publishers and Suppliers
- vi. Feasibility of indigenous research
- vii. Lack of negotiating skills/power for affordable information
- viii. Inefficient traditional methods of accessing information
- ix. Low level of publishing (indigenous research)
- x. Inefficient application of the concept of resource sharing

5.7 Measures that will help improve library service delivery to remote users

In terms of the recommended measures for improvement as offered by the respondents, the findings in Table 4.12 highlights three main areas, namely Internet connectivity, provision of a proxy server for authentication and authorization for networked and unlimited access. Suggestions on the improvement revealed that 100% of the public university libraries cited provision of access by proxy to ensure unlimited access remotely. Sixty percent of the respondents concurred that extended opening hours would significantly help improve remote user support services. Notably, 80% of the respondents agreed that complete automation process and digitization to allow e-reserves and e-renewals as well as increased bandwidth would enhance provision of remote user services. Furthermore, most of the respondents in the questionnaires expressed the need to increase the number of the wireless hotspots as a means of improving access to remote users. The same were echoed in the focus group discussions at KU, UON and MU. All the public university libraries cited negotiation of consortia agreements as key to improving remote user services. To follow up on this, the focus group discussant at UoN commented the need to expand KLISC activities to improve access in remote places. The strategy would improve collaboration between Kenya National libraries with institutions of higher learning to reap the benefit from its network advantage, which spreads out in the county

regions in the country. Similarly, 80% suggested that extended information literacy and advocacy to faculties would ultimately boost remote user service.

5.8 Summary of the chapter

The introduction of flexible learning models in the public universities in Kenya is impacting on library services in ways that call for redesigning of policy and service delivery processes to ensure accessibility and use of the resources. Remote users desiring to access libraries has had far-reaching effects on every day practices and on librarianship as a profession.

While routine tasks have been removed, additional work in running the computer systems is necessary, and many libraries have created a post of Systems Librarian for this purpose. Processing, implementing and running systems have meant that librarians need to develop appropriate policies and infrastructure that ensures equitable access to information services and resources for their populace, especially where remote users are concerned.

Reliance on the belief that users will come to the library should be reduced. The level of networking within and among university libraries is very low especially where a campus has spread across the country. None of the libraries evaluated has an OPAC where users could not only identify resources but also borrow reserve and renew on-line. University libraries should get their various university administrations to purchase an OPAC software for them, develop infrastructure as a matter of urgency and finally, more computers should be purchased for the libraries because there can be no on-line library service that is user friendly without increasingly becoming computer literate. As more information seeking is carried out by end-users on their own computers, the librarian's role is additionally becoming that of an Information advisor.

Librarians need to become missionaries and consider how best they can serve their remote users in the wake of ongoing technological developments and increased enrollment, coupled with the dynamic user characteristics in search of information in Higher education institutions. The public university libraries in Kenya have to do a lot to fully support remote users. The need is more than ever for libraries to collaborate not only with other libraries for resource sharing but pursue goodwill for the university administrations in providing sufficient funds to design services in

such a way that they meet the goals of the parent organization in providing quality information services to the programmes offered therein.

The chapter discussed the major findings in relation to the objectives of the study. The results focused on those responses that directly influenced the remote user services. Traditional support services were not discussed in this chapter. However, questions were asked in the latter stage to help underscore the level of services and how much attention was given to the needs of remote users support services to benefit from the information resources equitably. The results from the questionnaires and focus group discussions raised some major findings as follows

- i. The pattern revealed a more traditional library system, which used technology as a means to improve service and information management. The questions that addressed remote user services returned negative results.
- ii. There was no evidence that remote users were considered separately from the users on campus for purposes of awareness creation. The methods in application targeted all users as confirmed by the focus discussion that indicated all the library-registered users were treated the same way.
- iii. The study established that there were no written policies governing remote user services.
- iv. The infrastructure was not sufficient to address remote user issues like online registration, renewal were not supported by the available infrastructure.
- v. The connectivity infrastructure did not support proxy access for most of the campuses which had centers scattered across the country as users had to physically visit the library for certain services. The on line services were limited to the internet or the LAN networks.
- vi. The results of the study have created more questions than answers as to whether there are services and resources developed specifically to meet remote user needs, and the role of the librarian in the policy development in a changing library system. Such as information sources and services, methods of creating awareness, policies guiding remote user serves, facilities supporting remote users services as well as the challenges facing librarians in serving remote users

in public university libraries in Kenya. The next chapter will provide the conclusions, recommendations and the suggestion for future studies.

CHAPTER SIX SUMMARY, CONCLUSION, AND RECOMMENDATIONS

6.1 Introduction

This chapter summarizes the findings of the study and offers conclusions and recommendations based on the objectives and findings of the study. The Chapter is also intended to suggest recommendations in areas recommended for further study and finally, the Chapter gives the conclusions accruing from the study.

6.2 Summary of the findings

The purpose of this section is to provide the summary of the findings of this study. The aim of this study was to explore the support services for remote users in public university libraries in Kenya. The following objectives were formulated in line with the aim of this study.

1. Identify and describe the type of library services and information resources available for remote users in public university libraries in Kenya.
2. Find out the tools used to create awareness of the services and resources available for remote users
3. Evaluate the available policies, infrastructure and procedures for remote user services in academic libraries in Kenya
4. Establish the challenges faced by librarians in meeting the needs of remote users
5. Provide measures that will help improve library service delivery to remote users.

The research endeavoured to answer the following four questions derived from the above five objectives.

1. Which are the types of library services and resources available to remote users in public university libraries in Kenya?
2. What tools are used to create awareness of the available services and resources?
3. What policies, procedures and infrastructure are in place for remote user services?

4. What are the challenges faced by librarians in providing services to remote users in public university libraries?
5. Which measures can help improve library service delivery to remote users?

6.2.1 Library services and resources available for remote users in public University Libraries

The study found that the remote users were not known in public university libraries. In fact, all the studied libraries were contact based and therefore the researcher clarified who the remote users are in order to help the respondents identify the variable of the study in the selected public university libraries. In terms of the resources and services available for remote users, the respondents were asked about the staff serving their libraries and the information resources the libraries have in terms of availability and numbers.

The study found that there were no specific resources for remote users. Discussants also confirmed that all the resources were available to all bonafide members of the university and library users irrespective of their location.

The study also found that the following resources were available in the five libraries investigated in this study: print and electronic books; PERii e-resources; full-text journal databases; and CD-ROMs. In addition, the UoN has micro-fiche films while the EU discussion group reported that they also have the Essential Electronic Agriculture Library (TEEAL) online database.

In regard to the services available for remote users, the study identified the following: the libraries studied provide online public catalogue (OPAC) to all its users. At the time of data collection two libraries' (i.e. MU and EU) catalogues were not accessible from the Internet but MU was in the process of acquiring a URL to host their OPAC on the web. The study found out that UoN, KU and JKUAT provided the OPAC through the Internet.

The results revealed also that access to e-resources was mainly available within the institutions and some through the use of passwords and user IDs that were made available through the library's ICT section/ electronic service sections. Other services identified in the study were;

interlibrary services, current awareness (CAS) and selective dissemination of information (SDI), Internet services which was available only at the UoN library, which also offered e-mail services to broadcast information to the users.

The results of study revealed that there was high demand for online services in public libraries in Kenya; but remote users were not known as a user group. Libraries created content online to supplement their processes other than targeting the end user. Even where there were resources available for online access, users still needed to present themselves physically at the library building. It was found that 40% of the libraries maintained user statistics for specific databases and online search requests; 60% of them maintained statistics on journal article requests while 20% indicated that they maintained statistics for online document delivery. The findings showed that the following methods were used to facilitate the delivery of services and resources to users: forms on the library link on the institutional website, personal visits to the library, the library OPAC, and E-mails sent to the librarian for assistance. The study found, through focus group discussions, that feedback forms were not fully exploited as they were mentioned by the UoN discussion group only.

6.2.2 Staff available to serve remote users

A question on the number of staff serving in the responding libraries was posed to respondents. A total of 513 staff members in public university libraries engaged in providing library services in all the public universities libraries investigated. The study revealed that the UoN had 184, KU posted 130, MU had 84, EU had 65 and JKUAT posted a total 50 library personnel. The study found that the number of staff available was inadequate to provide specialized services to special groups of users. Discussants generally revealed that there was inadequate staff responsible for the general library service provision amidst an increase in the number of users. A question was posed on the qualifications required of the staff serving remote users. To this question, the discussants indicated that all staff providing information service in the library required a minimum certificate level. In addition, the discussants were categorical that knowledge of ICTs and their usage was essential for staff to manage ICT related operations.

6.2.3 Tools used to create awareness of services and resources for remote users

The study found that all the public university libraries in Kenya use a combination of strategies to create awareness among users. Notably, the OPAC, circulation desk, lists on the web page using ‘what is new’, discussions/chat groups, Intranet pop-up reference service, course-integrated pathfinders, institutional/library magazine, departmental liaisons brochures and fliers were mentioned as the means of creating awareness to users.

6.2.4 Policies, infrastructure and procedures for remote user services in public university libraries

The study found that there were no specific policies governing remote user services in any of the libraries investigated in this study. In regard to procedures, it emerged that they were based on traditional practices although using the networked environment. Regarding the infrastructure, the study found that all the public university libraries are served by the Optic Cable Network, 80% of them had wireless connectivity while 60% had independent library server and power backup generators.

6.2.5 Challenges faced by librarians in meeting the needs of remote users

The major challenges faced by librarians in meeting the needs of remote users were explored from three perspectives; provision of services and resources, facilities and technological developments as well as creating awareness. The greatest challenge was that remote users were not known and hence no specific services were identified. Increased user demand and lack of strong linkages among the university libraries were outlined as major challenges. There was also lack of information resources to satisfy the increased number of users.

Other challenges found were limited skills in handling new technologies, changing user characteristics, lack of sufficient funds to develop the services, inadequate number of computers, poor networking infrastructure. Frequent power outage, poor connectivity, low bandwidth and limited wireless connection hotspots were also identified in the study.

6.2.6 Measures that will help improve library service delivery to remote users

There were three main areas which were identified for purposes of improving services to remote users. These were reliable Internet connectivity, provision of proxy servers for authentication and authorization for networked and unlimited access to the e-resources. Other suggestions in the findings included extended opening hours, libraries to complete automation process and digitization to allow the provision of e-reserves and e-renewals. Infrastructure to support more patrons as well as to improve services through such measures as increased bandwidth and wireless hotspots coverage were also mentioned as possible solutions to the challenges. Librarians also desired a deliberate move to encourage negotiation of consortia agreements as key to improving remote user services in the public university libraries.

6.3 Conclusions

In terms of the resources available in the libraries for remote users, it was found that some of the resources available were amenable for remote user services. The provision of e-books and e-resources is the way for libraries in public universities to go in order to accomplish their goals and objectives. Notwithstanding the cost of wear and tear of printed resources, limited space and shrinking funding as well as the number of users per item, the e-books are cost effective, widely distributed and remotely accessible for anyone using a networked system.

All the studied university libraries do have access to some full-text electronic databases as well as their own internal databases which host information from other university sites and research institutions such as Kenya Information Preservation Service (KIPs), Database for African Thesis & Dissertations (DATAD) and other strategies for accessing full-text institutional repositories such as Dspace.

The study concludes that some of the resources available were no longer desirable by users who are increasingly becoming interested in e-resources downloadable from the Internet (Okello-Obura and Ikoja-Odongo, 2010; Joshi and Nikose, n.d.; Karcherki and Thombare, 2010).

6.3.1 Services available for remote users

It was found that there exists a variety of services, which include book reservation, online loan renewal, online reference service, and online delivery of information resources. Other services included the Online Public Access Catalogues (OPACs), and electronic access to e-resources through passwords. It also emerged that user registration was electronic using smart identity cards. These indicated that libraries offered electronic lending. The library software was capable of supporting online book reservations and book renewals yet these functions were not activated for use. Users still needed to present themselves at the issue counter. The explanation offered by discussants was that the loan system was barcode controlled and therefore users required physical contact, present the item and their student smart card for identification by the system.

Apparently, users employ almost all forms of electronic communication to get in touch with the libraries. Some of the communication tools missing from the list are fax, mobile phones (call-ins); landline telephones, and telegraphs; although the last two are seldom used. The study concludes that though there appears to be services open to remote users, the libraries studied do not have deliberate support systems dedicated to remote user services. All users were expected to use the available services within the library building or in the main campus.

6.3.1.1 Staff available for remote user services

In serving remote users the personnel should be adequately skilled to adopt new strategies to meet the needs of a changing user terrain. It has been commented that rapid technological changes and advances require an even more adaptive and sophisticated workforce, able to conceive, build and implement a wide array of user-oriented applications using innovative information technology. The librarians investigated were fairly satisfied with the knowledge and skills of their staff members and therefore one can only conclude that the staff personnel available are competent to serve remote users. The libraries studied in this study have the capacity to see that resources are accessible to users at their point of convenience. The Libraries have the opportunity to provide these services off-site via E-proxy servers, which would allow users in remote places to log in and access the resources.

6.3.2 Tools used to create awareness of the services and resources available for remote users

In regard to the marketing of the library services, a handful of methods and tools are being used by university libraries in Kenya. These include class-based lessons, library user guides, brochures and emails, University website, Campus Librarians, annual conferences, training sessions, library guides, the OPAC, new books displays, and exhibitions, institutional bulletin, and university notice board. It is illustrative that the libraries have not taken advantage of the Internet's features and applications to market their library services and resources. For instance, despite the fact that social networking sites are the most commonly visited sites on the Internet by users (Onyancha, 2012) none of the universities indicated that they have or make use of them to create awareness of the services and resources. It is important that the libraries assess information needs and seeking behaviour of their clients and formulates appropriate guidelines/policies for marketing or creating awareness about their services and resources through such social media sites as Facebook and Twitter.

6.3.3 Policies, infrastructure and procedures available for remote user services in academic libraries in Kenya

As mentioned in section 3.3, there are a number of facilities that libraries can and use to serve remote users. These include computers, printers, scanners, and fixed telephone lines. It was also notable that the libraries do have Internet connectivity, which has continued to draw unprecedented interest in the whole world. As at 31 December 2011, the Interworldstats.com (<http://www.internetworldstats.com/stats.htm>) reported that there were a total of 2.3 billion Internet users in the world, accounting for 32.7% of the world's total population of 6.9 billion. It is worth mentioning that Africa has continued to experience the highest growth rate in terms of Internet penetration. For instance, the East African region had the highest growth rate of 2,988.4% between 2000 and 2011. With the emergence of multipurpose ICTs (e.g. smart phones and iPads), libraries will be faced with complex challenges on how to serve their clients. Already, some university libraries such as the University of South Africa library have implemented what they have called

AirPAC, a wireless catalogue which gives users access to the library's catalogue and documents via their cell phones (<http://oasis.unisa.ac.za/airpac>).

6.3.4 Establish the challenges faced by librarians in meeting the needs of remote users

The introduction of flexible learning models in the public universities in Kenya is impacting on library services. This calls for redesigning of policy and service delivery processes to ensure accessibility and use of resources by all users irrespective of distance or mode of access. Most resources and services found in the study were initially designed for on-site users. Recent developments as identified in the background of this study have brought about some unique challenges. Remote users' desire to access libraries has had far-reaching effects on every day practices of libraries as well as on librarianship as a profession. While routine tasks have been removed, additional work in running the computer systems is necessary calling for computer literate staff. As a result, many libraries have created a position of systems librarian for this purpose. The results of this study show that there were some efforts towards provision of competent staff to meet new technological developments. However, the staff members were not aware that they had users who need special support to utilize their resources. It therefore follows that the librarians are facing an uphill task of developing an elaborate and an all-inclusive policy and strategy that meet the ever changing user community. Processing, implementing and running systems have meant that librarians need to develop appropriate infrastructure that ensures equitable access to information services and resources for their populace, especially where remote users are concerned. Most of the libraries evaluated has an OPAC where users could not only identify resources but functions that supported users to borrow reserve and renew materials on-line were not activated on the integrated Library management systems in place such as KOHA and VUBIS. University libraries should operate an integrated OPAC module for purposes of developing infrastructure that supports remote users as a matter of urgency and finally, additional computers should be purchased to serve the libraries.

Although the study identified strategies that support remote access such as the Internet, e-resources, OPAC, the fact that there were no statistics that could inform whether or not there is

demand for the services was evident that remote users were not known.

6.4 Recommendations

The following recommendations are made based on the objectives, research questions and the findings of the study.

6.4.1 Library services and resources available for remote users in public university libraries in Kenya.

It was found that the university libraries investigated had the resources and services that could support remote user needs. The problem identified was that remote users were not known and therefore no specific services were specifically tailored for them. This study therefore recommends that libraries in public university libraries recognize the remote users; and their right for equal access to information resources and services as well identify the areas that can be improved or re-designed to meet the remote users' needs. The library personnel need to appreciate their new role and those of the teaching staff and be more proactive in reaching to their users. The study recommends the adoption of e-reference services to effectively support the remote users' information needs.

6.4.2 Tools used to create awareness of the services and resources available for remote users

The role of libraries in their support of teaching, learning and research processes cannot be overemphasized. The changing user information seeking behaviour as well as their dynamic needs require public university libraries in Kenya to adopt a market driven approach so as to fully support remote users in their quest for information services. Reliance on the belief that users will always come to the library for information should be discouraged as there are other competing players who would easily fill the gap and condemn library services to irrelevance.

To mitigate upon the inadequate number of staff required to serve remote users, librarians could exploit strategies like online tutorials, social network platforms such as face book, twitter, igoogle and google+ among others. Given that majority of the library users frequently make use of the social networking sites such as the aforementioned, it will be imperative for libraries to market their services and products through such avenues.

6.4.3 Policies, infrastructure and procedures for remote user services in academic libraries in Kenya

It was found that the libraries investigated in this study did not have policies specific to remote

users. The study therefore recommends the formulation of policies that would guarantee quality service provision to remote users through appropriate information and communication technologies. A success story on this aspect is the UNISA system where users are provided with a portal that allows them to enjoy services equivalent to those of a contact patron.

With print collection still occupying a good percentage of the resources stocked in libraries, there still exists the need for libraries to collaborate with other libraries for purposes of resource sharing as well to pursue the university administration to provide sufficient funds to meet the remote user needs.

Finally, there is need for awareness creation among Librarians on their changing role, changing user characteristics and new paradigms through conferences, workshops, seminars, workshops and symposia.

6.5 Suggestions for future research

The current study focused on the library support services and resources for remote users in public universities. The study was limited to availability and type of resources and services, tools of creating awareness, and policies and the infrastructure available for remote users in public university libraries only. A study of the private university libraries would help to compare how remote users are served.

There is also a need for further research targeting specific faculties with the highest numbers of students in public universities and that offer flexible learning modules. The focus should be on remote users, their characteristics, and customer satisfaction in the use of library and information services.

The introduction of the concept of remote users in knowledge management is a relatively recent development and therefore there is need to popularize the concept among libraries which, for a long time, have known only one type of library users, i.e. users who physically visit libraries.

As at the time of completing writing this research, the researcher noted signs of increased level of promotion of e-resources through exhibitions and group instructions. There were consultation with ICT department on designing enabling infrastructure to improve accessibility, as was evident at the JKUAT library where the researcher works. Other university libraries are encouraged to engage stakeholders in discussions on how best to serve remote users.

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Appendix A: Letter of introduction

Dear Respondent,

I am a final year student at the University of South Africa (UNISA) taking studies in Master of Arts in Information Studies. The main aim of this project is to explore the support services for remote users in selected public university libraries in Kenya. The term “remote users” refers to “anyone who accesses library and information services from a place outside the library building either via telephone call, internet or any form of connection to the resources other than physical contact with the service provider”.

Your participation in this research, by completing the questionnaire, will result in a greater understanding of the area of study and possibly contribute to the development of more comprehensive and appropriate services and improvement of policies that would help improve access to information resources in the public institutions of higher learning in Kenya.

Your participation is voluntary. All answers will be treated confidentially. No identification of individual responses will occur, as responses will be aggregated. The information provided will only be used for the purpose of this research.

I should be grateful if you would complete and return this survey questionnaire by 7th August, 2010 to Mary Wachira at:

E-mail: mnwachira@gmail.com

or

JKUAT Library

P.O. Box 62000, Nairobi, Kenya

Should you have any queries regarding the study, please contact Mary N. Wachira on 0724 355 347: OR the study promoter; Dr. OB Onyancha- see attached letter for his contact details.

Yours faithfully

Mary N. Wachira (Mrs.)

Appendix B: Questionnaire for Chief Librarians (University Librarians)

SECTION A: Background information

1(a) Name of the library.

(b) How many staff do you have in your library?

2. What resources does your library have in terms of availability and numbers?

Resource	Available (Select (<input type="checkbox"/>) ALL that applies	No.
Print books		
E-books		
Print periodicals		
E-periodicals and journals		
CD-ROMs		
full text databases		
Citation indexes		
Microfiches		
Computers		

Any other, please specify

SECTION B: Staffing

3. How many staff members hold the following qualifications in your library?

- i. PhD []
- ii. Masters Degree []
- iii. Bachelor Degree []
- iv. Diploma []
- v. Library certificate []

vi. Levels of staff in key functional areas for remote services

Area	No. of staff
ICT	
Acquisition	
Cataloguing	
Reference	
Circulation	
Periodicals	

Of the staff serving in the library, how would you rate their knowledge of computers and related technologies?

	Satisfactory	Fair	Poor	Training needed
Knowledge of computer application software used in the library				
Online information searching skills				
Online cataloguing skills				
Troubleshooting skills				

4. How does library management ensure the training of library staff to effectively serve remote users?

- i. In-house library training programmed []
- ii. Outsourced training []
- iii. Staff attends workshops and seminars []
- iv. Attending formal training []
- v. Any other please, specify.....

SECTION C: Services for remote users

5. What services are available for remote users in your library? (Select () ALL that applies).

- i. Search the library catalogue []
- ii. Request an interlibrary loan []
- iii. Classes and tours on registration []
- iv. Online book renewal []
- v. Online search request forms []
- vi. Document delivery services []
- vii. Post []
- viii. Email []
- ix. Personal delivery []
- x. Current awareness services []

- xi.
- xii. Selective dissemination of information []
- xiii. Web based reference services []
- xiv. Online searches help guides []
- xv. Information browsing []
- xvi. Information about library services []
- xvii.
- xviii. Any other, please specify

6. What are the most commonly used methods and avenues of serving your remote users? (Select ALL that applies).

- i. Central library (Main campus) []
- ii. Campuses []
- iii. Regional centers []
- iv. Collaborating institutions []
- v. Web based []
- vi. Any other, please specify.....

a) How are the external services coordinated from the main library?

.....

Is there demand for accessing library services and resources remotely?

- i. Yes []
- ii. No []

7. Does the library maintain statistics for remote use of services and resources in the following areas? (Select ALL that applies).

- i. Access to specific databases []
- ii. Access to journal articles []
- iii. Online reservation []
- iv. Online search requests []
- v. Online document delivery []

Any other, please specify?

.....

8. How do remote users access the library services and resources?

.....
.....
SECTION D: Marketing services to remote users

9. Which of the following apply to your library in making remote users aware of the relevant services available in the library?

- i. Lists on the web by title []
- ii. Lists on the web page by subject []
- iii. Lists on the web page by 'what is new' []
- iv. Maintain online discussions/chat groups []
- v. Intranet pop-up reference service []
- vi. Catalogue titles on OPAC []
- vii. Library manuals and guides []
- viii. Information provided during orientation programme []
- ix. When individual users come to the library to ask []
- x. Create brochures and flyers []
- xi. Use email to inform users []
- xii. Use of direct mail []
- xiii. Sending information by mail to student emails []
- xiv. Conduct training sessions in the library []
- xv. Create course-integrated path finder's []
- xvi. Use the institutional/library magazine []
- xvii. Departmental liaisons []
- xviii. Others (please specify).....

b) In your view, which of the above methods are the most effective in creating awareness of library services and resources to remote users? Please prioritize them starting with the most effective one.

.....
SECTION E: Infrastructure to support remote user services

10 a) Does the library have a special unit that serves remote users?

- i. Yes []
- ii. No []

(b) If so, what are the highest academic qualifications of the person in charge of that unit?

.....
(c) What are his/her functions and duties?

.....
.....

(d) Does the library have search librarians?

- i. Yes []
- ii. No []

11 (a) Does the library have an electronic resource coordinator?

- i. Yes []
- ii. No []

b) If yes, what are the responsibilities of the electronic resource coordinator? (Select () ALL that applies)

- i. Research on products []
- ii. Suggest materials []
- iii. Approve for final purchase []
- iv. Install products []
- v. Maintain trouble shooting []
- vi. Training staff and users on e-resources use []
- vii. Statistical reporting []
- viii. Coordinate free trials []
- ix. Negotiate consortia agreement []
- x. Selection of materials []
- xi. Others (specify).....

.....
.....

12. What type of support does the library get from the university ICT administration to enhance remote user services?

- i. Technical (such as networking, uploading data, configurations etc) []
- ii. Managerial []
- iii. Funding []
- iv. Others (specify).....

13. Which ICT infrastructure supports remote service delivery in your library? (Select () ALL that applies)

- i. Wireless network []
- ii. Independent library server []
- iii. Power backup, generator []
- iv. Any other, please specify.....

.....

14. Which access tools are available for remote users in your library? (Tick () ALL that applies)

- i. Library catalog-OPAC []
- ii. Web tools i.e. search engines []
- iii. Identification and passwords []
- iv. Access to other libraries []
- v. Any other please, specify.....

.....

15. Which of the following apply to your library?

Service	Available [tick appropriately]	No of request received from users per annum indicate only where it applies	Adequate/not adequate indicate only where it applies
Online registration			
Login Passwords			
Online public access catalog (OPAC)			
Web based reference form			
Discussion and chat groups			
Ask a Librarian			
Help using other Libraries			
Help for distance learners			
Subject guides and			

experts tutorials			
Any other (please specify)			

SECTION F: POLICIES AND PROCEDURES

15. A) Does the library have any policy for remote users?

- i. Yes []
- ii. No []

b) If the answer to question 17 above is YES, which of the following policies and guidelines related to remote user services apply to your library?

- i. Collection development of resources []
- ii. Membership []
- iii. Access to resources []
- iv. Library staff development []
- v. Sources of fund and resource support []
- vi. Information sharing (i.e. consortiums) []

16. How would you rate the policies on remote use of services and resources in your library?

	Satisfactory	Fair	Poor	Not applicable
a. Collection development				
b. Membership				
c. Access				
d. Library staff development				
e. Sources of fund and resource support				
f. Information sharing (i.e. consortiums)				

17. What policy improvement would you suggest, if any.....

.....

18. Briefly, describe the procedures followed in meeting remote users' requests for library materials in the case of:

The requested material is available in your library

The requested material is not available in your library

SECTION E: Challenges and recommendations

19 a) what are the major challenges faced by the library in meeting the needs of remote users in terms of:

i. Provision of library services?

ii. Provision of library resources?.....

iii. Facilities and technological developments.....

Creation of awareness of library services and resources for remote users.....

b) Please, suggest ways that can help to improve service provision to remote users in terms of:

i. Provision of library services...

ii. Provision of library resources.....
.....

iii. Facilities and technological developments...

Creation of awareness of library services and resources for remote users.....
.....

Appendix C: Focus group interview schedule

Name of the university library-----

Title of respondents and section

1. -----

2. -----

3. -----

4. -----

5. -----

6. -----

7. -----

Section 1 Services

How do you serve the remote users in terms of lending of books, periodicals, and other resources? Do they use the OPAC to identify and request a book?

How do you ensure users get what they requested for? In case the request was by mail or Does the system in use support online reserve and renewals?

How do you provide access to online services to remote users? i.e. LAN or password controlled

Do they have to come to the university library to obtain passwords?

What is done to ensure that only the bonafide students use the passwords to access electronic resources?

How do you deliver documents (electronic by email or print) to remote users? Do they download to print or some other facility?

How do students place their requests for resources? That is do they call in, come personally or email?

What are the challenges faced in each case of request, i.e. electronic and post, etc?

How do you respond to these challenges?

Section 2 Resources

What resources are available to remote users in your library (for instance e-databases, e-books, e-journals, etc)?

How do remote users access the library resources?

What are the most commonly requested resources by remote users? Why is that the case?

Section 3 Staffing

Do you have adequate human resource capacity to handle services for the remote users?

Generally, what are the key qualifications of the staff serving remote users?

Section 4 Facilities

Which facilities do you have in place to ensure that remote users are served to their satisfaction?

Are the facilities adequate?

Among the facilities, do you have a server computer specifically meant to serve the library?

If you do, what is the capacity of the server in terms of memory?

In your opinion, is that memory adequate?

How would rate the Internet connectivity in your library? Is it slow or fast?

Which other departments within the university support services for remote users?

Do you have dedicated centers around the country from which students can access library resources?

If so, what are the facilities available in those centers? In your opinion, are the facilities in those centers adequate? If not, are there plans to create centers in different regions for remote users?

What challenges do you face in the provision of facilities?

Section 5 Creating awareness

How do you create awareness about library services and resources among the remote users?

Which tools do you use to create awareness of resources and services? E.g. how do we inform users of availability of a services and a resource

How effective are these tools?

In your opinion are there any other tools and methods you would suggest for creating awareness of resources and services to remote users?

Section 6 Policies, procedures and infrastructure

Are there written policies on remote use of services and resources? If so, what are the key contents of these policies?

How are the policies communicated to the remote users?

Do you have situations whereby the policies are misunderstood by the remote users? Please explain.

Do the policies and procedures encourage remote use of library services?

Does the library own a website?

Are the electronic resources made available on the library website?

Are there live links to services and resources?

Who authenticates and authorizes access to the resources?

Are the resources and services regularly updated?

How does the library monitor and evaluate user satisfaction? How often is this done?

When a user submits a request to the library, to whom does he/she direct the said request?

How are remote users' requests administered within the library? In other words, which path does that request follow to be answered?

On average, what is the turnaround time, i.e. how long does a request take to be attended to?

What recommendations would you suggest on remote user services in public university libraries in terms of policies, procedures and infrastructure?

Thank you very much for participating in the group discussion and also filling in this schedule.

Appendix D: List of Members of KLISC Institutions

Public Universities

- 1 University of Nairobi
- 2 Jomo Kenyatta Universities of Agriculture and Technology (JKUAT)
- 3 Kenyatta University
- 4 Maseno University
- 5 Egerton University
- 6 Moi University
- 7 Masinde Muliro University

NB: By the time of conducting field work for this study, the list of public universities had grown from 7 to 22 as constituent colleges were granted charters in 2012/2013

Private Universities and research institutions

- 8 United States International Universities (USIU)
- 9 Daystar Universities
- 10 Strathmore Universities
- 11 Catholic University of Eastern Africa
- 12 Africa Nazarene Universities (ANU)
- 13 Kabarak Universities
- 14 University of Eastern Africa, Baraton
- 15 Kenya Methodist Universities (KEMU)
- 16 Agakhan Universities
- 17 Great Lakes University of Kisumu (GLUK)

Non-University Academic and Research Institutions

18 Commissions for Higher Education (CHE)

19 ICIPE

20 ILRI

21 Kenya Agricultural Research Institute (KARI)

22 Kenya School of Professional Studies (KSPS)

23 Kenya College of Accountancy (KCA)

24 Kenya Institute of Management (KIM)

25 World Agroforestry Centre (former ICRAF)

26 African Population and Research Centre (APRC)

27 National Defense College (NDC)

28 African Medical and Research Foundation (AMREF)

29 Kenya National Library Services (KNLS)

30 Kenya Medical Research Institute (KEMRI)

31 Kenya Forestry Research Institute (KEFRI)

32 Nairobi Evangelical Graduate School of Theology (NEGST)

33 Institute François De rech (French Institute of Research)

34 Presbyterian Church of East Africa Pastoral Institute (PCEA)

35 Kenya College of Communications Technology (KCCT)

36 Tropical Institute of Community Health and Development (TICH) - Africa

37 Pan African Christian Centre

38 St. Paul Theological College

39 Central Bank

40 Australian Studies Institute (AUSI)

41 Kenya School of Monetary Studies

42 National Economic and Social Council (NESC)

EJournals

Acoustical Society of America (ASA)

African Journals Online American Institute of Physics

American Physical Society Annual Reviews

Beech Tree Publishing

British Library Document Supply Centre

British psychological Society

Cambridge University Press

Cochrane Library

Ebsco Host Research Databases

Edinburgh University Press

Emerald Group Publishing

GALE Cengage Learning: Expanded Academic and Health & Wellness Resource Center

Geological Society

Institute of Electronic and Electrical Engineers (IEEE)

Institute of Physics Publishing (IOP)

JSTOR

Mary Ann Liberty

Mineralogical Society

National Academies Press

Nature Publishing Organization for Economic Co-operation and Development (OECD)

Optical Society of America (OSA)

Oxford English Dictionary Online Oxford Journals (OUP)

Palgrave Macmillan Journals

ProjectMUSE

Royal College of Physicians

Royal Society of Chemistry Archives

Royal Society of Chemistry: RSC Journals Archive

SAGE Publications

Springer Journals

Symposium Journals University of California Press

University of Chicago Press

Wiley Blackwell –

InretScience Content

World Bank: Africa Development Indicators

World Bank: Global Economic Monitor

World Bank e-Library

World Data Bank