

**Moi University 3rd International Conference to be held
between 31st July and 4th August 2007**

Conference theme: Technology for sustainable socio-economic development

**The Impact of the Internet on Academic Library Use:
perception of Chepkoilel community**

by

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Keywords: Academic library, Information Communication Technology, Internet, Librarians, User satisfaction (information), Moi University

Abstract

It is becoming increasingly apparent that academic libraries will no longer be able to meet information needs of their users using the traditional library services due to diminishing government funding, increased number of academic programs and the ever increasing number of users. Yet the demand for information appears undiminished. Since information is at the heart of all library collections and services the challenge for libraries lies in the utilization of the opportunities offered by the Internet because ultimately the success of the library will be measured in terms of the ability to exploit the new technology. The purposes of this research were to find out Internet awareness, frequency and reasons of use and perception of the users towards traditional library services as compared to the Internet so as to set a platform for establishing future trends in library services.

The researchers used a modified model (D'Elia and Rodger, 2000) based on the Chepkoilel campus community use of the library and use of the Internet. They defined the segments of this market as follows: Segment 1) People who use the library but do not use the Internet; Segment 2) People who use the library, and Internet; Segment 3) People who do not use the library, and do not use the Internet; Segment 4) People who do not use the library but use the Internet.

The authors conducted a campus wide survey through self administered questionnaires that were designed to estimate the size of each of the segments identified above; and to describe the behaviors of the people in each segment of the model as these behaviors related to their use or nonuse of the library and their use or nonuse of the Internet. The analysis of the data presented in this research paper provides estimates of the size of each of the segments identified above; describes why people are currently using the library and the Internet; identifies those areas in which the library and the Internet are competing and those areas in which they are complementary; identifies the criteria people use when deciding to use either the library or the Internet; and identifies the reasons why people chose not to use the library and not to use the Internet.

The outcome of the research suggests the development of appropriate and complementary services in the library that will incorporate traditional library services and emerging services that have been made possible by the rapid new developments in ICT. Training is suggested as an appropriate means of enabling library staff to run and manage a digital library and also assist and teach students and staff on how to efficiently and effectively use the internet. But widespread usage of this powerful information resource depends not only on the innovativeness of the library but more on the efforts made by the university management to promote its access, advantages and ease of use.

1.0 Introduction

1.1 Background to the study

The Internet is increasingly becoming an important source of academic information that need to be integrated within the overall services that are offered in the library. Some people have expressed the fear that the Internet will preclude the need for the Academic library, which will enter a period of decline and eventually cease to exist (D'Elia and Rodger, 2000; Lewis, 1998).

Apparently there are profound changes going on in the university education system. These changes are necessary because of the ever growing pressure in the university education system themselves, partly because society itself is changing into one in which knowledge work is becoming ever more important and partly because of the very information and communication technologies which are transforming our economies. Some of the changes that have had an impact in the university education include the following: ever growing number of students; different students bring different experiences with them that call for different learning styles, customization and alternative learning routes; increasing work and study leading to the need for more flexible learning arrangements in which the campus is no longer central to the education process; trends towards life long learning; and constant budget pressure and continued legislative scrutiny, thus the need for more efficient and effective education (Roes, 2001).

Information forms the basis of any sound education system thus; there is an increased demand for all sorts of information goods and services. Implications for the library is bound to be overwhelming bearing in mind that this changes have a direct and equal effect on its services. On the other hand information and communication technologies (ICT) have the potential to offer a solution for some of the demands for information goods and services brought about by these changes. According to Twigg and Miloff (1998), this can be achieved through the following: the Internet, course material can be offered independently of time and place. Modularization makes it possible to offer different and flexible learning routes; an ever-increasing number of students have access to the Internet, a major information source, whether at home or on campus. Costs of Internet access will continue to drop; more and more information is made available through the Internet. Search engines assure the accessibility of this material; online market research is quick and easy, and this market information can be combined with transaction log data allowing institutions to monitor consumer (i.e., student) response on an ongoing basis; and increasing

competition in the delivery of information services for higher education, implying that libraries might lose their monopoly position in information services to their parent institutions. On the other hand journals and references including research papers and thesis that used to be in CD-ROM are now being replaced by the Internet versions – a case in point is the Essential Electronic Agricultural Library (TEEAL) made up of more than 140 scientific journals used to be distributed in 146 CD-ROMs is now available online through the Internet. It is possible to access it through many terminals unlike previously. Therefore in order to keep up with changes that are taking place in the university education system and offer solutions to the changing formats and demands for information goods and services, the library must change in the way it delivers its services. Younis (2002) stated that:

“The increased demand for online information has forced libraries to question the role of the Internet in their individual institutions. Academic libraries face the challenge of exploring the information super-highway to provide reference services to their clients.”

He goes further to state that “Internet access is viewed by users (faculty members, staff, and students) as a core resource and a basic right, similar to a library catalogue.” Luambano and Nawe (2004) have also observed that:

“The presence of the Internet at the University of Dar es Salaam has changed the learning environment. It is playing a vital role in meeting information and communication needs of the university community.”

Therefore the library should strive to get an alternative route to support teaching and learning by embracing the Internet as a major resource because ignoring it the library might risk not fulfilling their function adequately.

1.2 Statement of the problem

The growth in amount of information that is accessible through the Internet is staggering, and coupled with new opportunities for rapid communication and access to information worldwide, the library cannot continue to pretend that it can continue offering all the information that users need via the traditional library services. Currently the Internet has become: a mechanism for information dissemination; a tool to access other libraries catalogues (OPACs); an information resource; a medium for collaboration and interaction between individuals and their computers regardless of geographical location; a medium for library cooperation and resource sharing; a

medium for training opportunities on the use of the web; and a marketing tool in both industry and academia. But as with any new technology, the development of Internet brings potential problems as well as opportunities. The greater danger is that as new technologies develop, our users could become divided into those that are information rich and the information poor. There is some evidence to suggest that this is already happening (Bundy, 2000). Moreover, this new division often combines with existing inequalities in our society with devastating results. It is our contention that this research will determine the future of the Academic library in the presence of the internet and perhaps will lead to the adoption of policies by the university management to promote Internet access, advantages and ease of use.

1.3 Aim of the study

The aim of this study is to examine Chepkoilel campus user perception of the Internet and the library, the extent to which the Internet is being used and how the library can adjust its services in order to meet the needs of the user.

1.3.1 The objectives of the study

In specific terms, the study sought to:

1. Explore what proportion of users are actually making use of the Internet/library
2. Investigate the characteristics of the library and Internet users.
3. Identify the criteria that users use when choosing between the library and the Internet
4. Identify the reasons for potential reluctance or dissatisfaction in using the library/Internet.
5. Measure the level of contribution that the library/Internet makes in meeting the information needs of users
6. Determine if the use of the Internet affects the use of the library
7. Identify and recommend the library services that need to change to keep up with new ICT trends.

1.3.2 Research questions

For these objectives to be achieved, the study sought to answer the following questions:

1. To what extent are students and faculty members using the library/Internet?
2. What are the characteristics of the library and Internet users?

3. Is there a significant relationship between Internet use and category of users (undergraduate, postgraduate, teaching and non-teaching)?
4. What are the reasons for using the library or the Internet?
5. What criteria are used by users in deciding whether to use the library or the Internet?
6. What are the reasons for potential reluctance or dissatisfaction in using the Internet/library?
7. Are there any significant differences between the reasons given for not using the Internet and the library?
8. In what areas are the library and the Internet competing or complementing?
9. What are the effects of the Internet on library usage?
10. Are there any significant changes that the library needs to undertake in order to improve on its products and services?

1.5 Significance of the study

Interest of the study was prompted by the large number of students both undergraduates and postgraduate using the Internet cafe situated within Chepkoilel library. It was also noted that there were many teaching and non-teaching staff that were experiencing considerable difficulties when using the Internet to find information. There is also the realization that the Internet is increasingly becoming an important source of academic information that need to be integrated within the overall services that are offered in the library. Uddin (2003) found that:

“A well-managed information flow in an academic institution can lead to the improvement of academic standards and can ensure greater equality. With the introduction of the Internet, information-seeking activities and information access have become much easier, faster, and more cost-effective for the intellectual community. “

Therefore the research would provide an interesting general insight into the user’s perception of the library and the Internet, the extent to which the Internet is being used, the effect this is having on the library and how the library can help in facilitating access to this global resource. This will enable the library to develop appropriate services that will incorporate traditional library services and emerging services that have been made possible by the rapid new developments in ICT.

1.6 Scope of the study

The study focused on Chepkoilel campus user perception of the Internet and the library, the extent to which the Internet is being used and how the library can adjust its services in order to meet its own objectives and also help the user. The study was restricted to undergraduate and postgraduate students, teaching and non-teaching staff of Moi University Chepkoilel campus. Non-teaching staff were restricted to those at middle and above scale, those that may need to use the library and the Internet. Junior staff was left out. Data was collected between the months of November and January 2006.

1.7 The Diffusion of Innovation and utilization of the Internet in Chepkoilel campus

Theoretically, Internet use can be regarded as technology diffusion, which is affected by the user's attributes and behavior as well as the environment. For example, the behavior of information seekers who use conventional media such as TV, radio, newspapers, magazines, and books can induce use of the Internet because of the need for media substitutes and supplements. This theoretical background for technology diffusion theory rests on the assumption that everyone has the same attitude toward various media, such as perceived benefits, perceived negative effects and perceived credibility of media. However, the surrounding environment can differ and vary for individuals. Infrastructure and social supports within the environment itself can reinforce or inhibit the adoption of new media. These concepts can contribute to our understanding of the development of diffusion theory.

In this paper, we will touch upon Internet adoption and usage on the basis of research data that examines the impact it has on library usage in an academic environment. We will examine certain aspects such as age, gender, attitudes toward the Internet, relative advantage and cost, and how they influence the adoption of Internet use and accessibility.

The study utilized Rogers (1995) theory of Diffusion-of-innovation that explains how an individual (or group) adopts technology into its society to answer some of the research questions. He defines diffusion as "the process by which an innovation is communicated through certain channels over time among members of a social system." "An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption." Adoption is defined

as “a decision to make full use of an innovation as the best course of action available” (Rogers, 1995, p. 21). Rate of adoption is defined as “the relative speed with which an innovation is adopted by members of a social system” (Rogers, 1995, p. 22). In this case Internet is the innovation and the process of deciding on whether to use it is explained by Rogers (1995) Innovation Decision Process theory.

This theory states that diffusion is a process that occurs over time and can be seen as having five distinct stages. The stages in the process are: "1) knowledge, 2) persuasion, 3) decision, 4) implementation, and 5) confirmation." In order to gain "knowledge" of innovation, one needs to learn the innovation and then test whether one likes or dislikes ("persuasion") the innovation so that he or she will make a "decision" to accept or reject the innovation. After the decision, the "implementation" stage is when he or she considers whether to continue or stop using the innovation.

The key question is why some people reject an innovation which is educationally sound and improves the teaching/learning experience at university level. The case of Internet use in Chepkoilel fits this situation. Literature shows that this innovation in universities offers a range of advantages which can open a number of significant improvements to the teaching and learning process (Adogbeji, and Blessings 2005; Younis 2002). However, just because an innovation is “good” its implementation cannot be taken for granted this being because even when a new idea has obvious advantages, it is often very difficult to get it adopted (Rogers, 1995).

Rogers (1995) theory is an on-going process of technology adoption, which explains the process of social change. For example, when an individual perceives a new idea one then determines how to react to it. It should be noted that adoption and implementation take place on at least two levels: organizational and individual. For instance, an institution may adopt the Internet and related technologies to access online journals. The institution may implement these technologies throughout the organization, but individuals within the university may choose not to use them. In other cases, some individuals within an organization may adopt and use the Internet and related technologies to perform some aspects of their work before an institution as a whole makes the decision to adopt these given technologies. A common problem for many teaching organizations

and individuals is how to speed up the rate of diffusion of an innovation, this being because even when a new idea has obvious advantages, it is often very difficult to get it adopted (Rogers, 1995). According to Roger, opinion leadership is the "degree to which an individual is able to influence other individuals' attitudes or overt behavior informally in a desired way with relative frequency."

Rogers classifies the rate at which individuals or groups adopt technology in their societies. These groups are entitled "innovators, early adopters early majority, late majority," and "laggards." Early adopters are the most important category because they carefully consider an innovation before it is widely accepted and used. Because early adopters have the highest degree of "opinion leadership," an organization needs them "for advice" on adopting new technologies. "This adopter category is generally sought out by change agents (policymakers) as a local missionary for speeding the diffusion process." Roger's model explains how innovation is first adopted by new members of a society, and how other members then consider joining, using, or rejecting innovations. In the process, policymakers can play a role as opinion leaders because they can see how a specific innovation may fit into a culture and then decide to adopt or reject it. In Chepkoilel University and library management act as opinion leaders, they should make a decision on the best way to adopt the Internet.

Rogers further explains the role of a change agent as "an individual who influences clients' invention-decision in a direction deemed desirable by a change agency. The change agent usually seeks to obtain the adoption of new ideas, but may also attempt to slow down diffusion and prevent the adoption of undesirable inventions." Currently, Chepkoilel library management is trying to improve Internet infrastructure and educate its community about Internet technologies in order to prepare the campus as a whole for a new IT era. To achieve this goal, library policymakers have to understand their role as change agents. They should take responsibility in making decisions on the integration of the Internet into overall services offered by the library.

1.8 Definitions of key terms used in this study

Library user: anyone who visits the library at least three times in a week is considered a library user.

The Internet: is “a world wide computer network linking countless computer networks through a mixture of private and public data and telephone lines”, according to Dr. John Onunga (1999). It occupies a status as one of the most significant cultural phenomena and information resource of the current age. No one is in charge of the Internet. There are organizations that develop technical aspects of this network and set standards for creating applications on it, but no governing body is in control. For example The World Wide Web Consortium, led by Web founder Tim Berners-Lee coordinates the efforts of standardizing HTML. Private companies own the Internet backbone, through which Internet traffic flows.

The World Wide Web: provides a single interface for accessing almost every protocol type available on the Internet. This includes email, File Transfer Protocol (FTP), Telnet, and Usenet News. In addition to these, the World Wide Web has its own protocol, Hypertext Transfer Protocol (HTTP). This creates a convenient and user-friendly environment. It is no longer necessary to be conversant in these protocols within separate, command-level environments. The Web gathers together these protocols into a single system. Because of this feature, and because of the Web's ability to work with multimedia and advanced programming languages, it explains why the World Wide Web is the fastest-growing component of the Internet.

Access to Internet: anyone who responds that he or she had access to the Internet at the library, at home, at work, at a friend's or at a cyber cafe was considered to have access to the Internet.

Internet User: anyone who reports that he or she has used the Internet within the last two weeks is considered an “Internet user”.

Traditional library services: includes all services that are offered by the library before the onset of the Internet. These services wholly depended on books and journals and electronic sources of information such as CD-ROMs, Audio-Visual materials and databases held by the library.

1.9 Assumptions of the study

1. The academic community has accepted that electronic information sources have had an impact on their work, yet they do not make good use of the services currently available to them and some are hardly being used.
2. Users experience considerable difficulties when using the Internet to find information.
3. Lack of access to Internet deprives the university community access to the knowledge that public, private and academic sectors make available publicly through the internet

4. There is lack of information on the extent of use and perception of the Internet in Chepkoilel Campus and this makes it difficult for the librarian to plan for its growth.

2.0 Literature review

2.1 Introduction

Whereas the Internet is seen as a driving force in globalization and much research has been conducted on the Internet's impact, awareness usefulness, accessibility, user satisfaction and usage at universities in developed countries not much has been done in the East African region where Internet penetration rate is very low. In case of Kenyan universities little has been done on the impact of Internet on library use. Previous research has often focused on Internet use by university academics for example the use of the Internet by academics and which points out the ways in which the Internet's potential can be utilized for scholarly activities in Bangladesh (Uddin, 2003). Others have looked at the frequency and type of use that academics make of the Internet; perception of users towards the Internet and the implications for university administrators. They observed that e-mail and the Web, in particular, have become essential for academics at all levels to enhance their research, publication, professional contributions and communicate with colleagues and students, locally and internationally, while also keeping in touch with administrative processes (Applebee, 2000).

The following sections will review Internet development in Kenya, Internet services in Chepkoilel campus and Internet as an information resource, its utilization in fulfilling the information needs of users and how it is competing with traditional library services in Kenya particularly in the institutions of higher learning.

2.2 The Internet development in Kenya

African Regional Computing Centre (ARCC) launched the first full Internet service in Kenya in the last quarter of 1995. Since then, 73 more Internet Service Providers (ISPs) have been licensed as of April 2004 although not all are operational. There were over 1,000 cyber cafes and telephone bureaus by April 2004 (Okoth, 2005). This has unleashed competition, which has brought down prices, increased the Points of Presence (PoP) in all major towns and generally raised Internet awareness. The rate of growth in the Internet user population is expected to level

off within a couple of years, once the early adopters (broadly defined) have joined up. Further penetration of the Internet will depend on increased investments in the necessary infrastructure and the application of policies and regulations that are favourable towards the spread of Internet services.

International connectivity is the monopoly of Telkom Kenya Ltd (ended in June 2004), which continue to price bandwidth highly, consequently, Internet charges are extremely high. Full Internet per month now range from Ksh 3000 – Ksh 5 000 to the customer. Typical service packages offered by ISPs include dial-up and leased lines services, web design and hosting as well as training and consultancy. The industry has yet to establish a regular means of collecting data and therefore track Internet development as well as its impact in various sectors including e-commerce.

In addition to the connectivity provided by the ISPs, another new industry is emerging. Content creation through web design, creation and implementation on Intranets and extra-nets, web hosting, training and consultancy has developed to be a fast growing industry in the country. While the bulk of the Internet work coalesces vertically around the ISPs, there is a notable horizontal development in the industry. Independent specialized companies have been established including universities and are entering the Internet industry market. This is an indication of a maturing industry and in the next few years, the industry will see specialization in hosting services, connectivity, countrywide Intranets, e-mail services, and consultancy services.

The government has not yet fully embraced Internet technologies and therefore has not taken advantage of this technology for information dissemination and/or communication within itself or to citizens. When the government becomes a major user of Internet, many psychological barriers will be overcome and the ensuing customer base will force down prices further based on economies of scale. One of the most significant steps the government needs to take is the formulation and pronouncement of an official policy of Internet technologies and its adoption as tool for communications internally and externally.

2.3 Internet services in Chepkoilel campus

Chepkolel community comprise of about 5,000 users (students, teaching and non-teaching staff). Internet services are provided within the library through 12 workstations via a microwave link to Main Campus. The services are available between Monday to Saturday, 9.00am to 10.00pm. Other places that one can access the Internet include the postgraduate and computer science labs, the administration and new academic buildings. An Internet user has access to a wide variety of services: electronic mail, file transfer, vast information resources including peer reviewed E-journals through several portals such as EBSCO, AJOL, AGORA and HINARI among others, interest group membership, interactive collaboration, multimedia displays, real-time broadcasting, shopping opportunities, breaking news, and much more. Access to Internet in the campus is well below the needs of the users. Campus wide Internet infrastructure is lacking and most departments are not connected. Thus most students and staff access the Internet from cyber cafes in Eldoret town which is about nine kilometers from campus.

2.4 The Internet as an Information resource

The Internet is a vast resource and it is growing at an ever-increasing rate. As a user, shifting through the overwhelming number of websites in the search of scholarly information can be a challenging experience. There are many factors that contribute to the difficulties confronting users in finding quality information on the Internet. The biggest factor is the Internet size and rate of growth. According to Lawrence and Lee (Lawrence, 1999) the Internet is growing at an extraordinary rate and the large commercial search engines cannot keep up with the present growth. Consequently, no single search engine is currently able to index the entire Internet. Other factors include the following: a large part of the Internet is not accessible to the commercial search engines; indexing biases often yield results that are irrelevant to the searcher of scholarly information; tools for searching the Internet lack in comprehensiveness and timeliness; not all of the information in the Internet is available to the public; instability of the resources - Internet sites change over time according to the commitment and inclination of the creator; durability of Internet resources – Internet site might remain unchanged and thus lose their currency; the Internet is poorly organized making information retrieval a nightmare; and each search engine is competing against the other for users and not cooperating with the other for greater good of enhanced information organization and retrieval.

These factors notwithstanding the Internet has continued to attract more and more users thus necessitating the need for librarians to intervene so as to give users control of their information environment. The Internet provides the library the best chance to maintain services important to its user communities in the turbulent years ahead. According to Carol Ann Hughes (Hughes, 2000), Librarians will have to respond to shifts in higher education that move the entire institution toward greater involvement in corporate-university partnerships, increased outsourcing, and promotion of commercial services and products for both the faculty and students.

Whereas a lot of research has been done on academic libraries and factors affecting their performances including the utilization of the Internet, there is no available literature on their use in fulfilling the information needs of users and how they are competing with traditional library services in Kenya particularly in the institutions of higher learning. Practices and policies adopted for organizing access to free Internet resources in large university libraries gives an impression of how libraries are integrating free Internet resources (Burnett and Seuring, 2001). A study on Internet use among faculty members of universities in Ghana observed that in spite of the benefits of the Internet its use among faculty is still very low. The main reasons given for the observation was lack of access and the need for training (Adika, 2003). Luambano and Nawe (2004) looked at the purpose for which students of the University of Dar es Salaam use the Internet and the level of students' access to the Internet, as well as the problems students faced in Internet use. They observed that the Internet become an important component in academic institutions as it plays a pivotal role in meeting information and communication needs of institutions and that recent information can easily be accessed world-wide with little or no effort and at a very modest cost. They also observed that the internet provides up-to-date information. Adogbeji, and Blessings (2005) in their study on the “Impact of ICT (Internet) on Research and Studies: The Experience of Delta State University Students in Abraka, Nigeria” observed that the internet has affected research and studies positively in the institution by helping students obtain information materials relevant to their research work, have quick access to study materials in their field of studies without traveling, and have access to all kinds of databases and other sources of information. They suggested the need for more access to the Internet at reduced costs and having it near the campus.

Younis (2002) study was mainly concerned with the extent of Internet utilization in Jordanian university libraries. The study also aimed to investigate the administrative effect of the Internet in academic libraries in Jordan and the effect of the Internet on the acquisition of traditional and non-traditional information sources (i.e. CD-ROMs), problems and solutions. Results of that study indicated that librarians perceive the Internet as a supplement to libraries' collections, as a substitute for databases on CD-ROMs, and a way of saving on subscription charges for printed journals, but not as a replacement for printed books. How use of the Internet as a source of information is impacting on the library services was not addressed in that study.

3.0 Materials and methods

3.1 Introduction

This chapter presents the procedures and methods that the researcher used when conducting the study. It describes the area of study and the research design in terms of target population and sample design, sampling procedure, data collection instruments, and data analysis.

3.2 Research design

The study is a descriptive survey that looks at the impact of Internet as a supplement to the resources within Chepkoilel library. The population of the study was Chepkoilel campus community and comprised of students, postgraduate and undergraduate, and teaching and non-teaching staff (male and female). The groups identified for study were developed from a modified model given by D'Elia and Rodger (2000). They defined the segments of this community as follows: Segment 1) People who use the library but do not use the Internet; Segment 2) People who use the library, and Internet; Segment 3) People who do not use the library, and do not use the Internet; Segment 4) People who do not use the library but use the Internet.

3.3 Target Population and Sample Design

A survey method was used in this study. This was based on data recorded on students, teaching and non-teaching staff representing the Chepkoilel university community. As at the time of data collection, there were approximately 1000 teaching and non-teaching staff and 4800 registered students in Chepkoilel campus. The sample selected for this study comprised a subset of 700 undergraduate students, 100 postgraduate students, 100 non-teaching staff and 100 teaching that

represented the Chepkoilel community. The sampling used was non-probability sampling which involves purposive or deliberate selection of particular units, based on the ease of access, which is convenience sampling, Kothari (2003). This method was used because it allowed the researcher to use cases that have the required information with respect to the objectives of the study. Mugenda (1999) agrees with type of method.

3.4 Data collection instruments

Both primary and secondary source of data collection were employed. Secondary data was obtained from both published, unpublished materials. Other library materials and internet formed part of the data used. Primary data was obtained by use of a questionnaire.

An extensive questionnaire was developed to capture the data necessary to describe the behavior of the users identified above. The questionnaire was used because of the advantages it has; it provides more responses than interviews and requires fewer skills to administer, it provides the means to gather and record simple information on the incidence of attitudes, meanings and perceptions among the population (Veal, 1997). The questionnaire had twenty four sets of questions divided into two sections. Section A consisted of items focusing on library use and access to, use of the internet and perception of the library and the Internet. Section B of the questionnaire contained 6 items on respondent's bio-data information and status. These questions set out to find out: to what extent are students and faculty members using the library/Internet; what are the characteristics of the library and internet users; whether there is any significant relationship between Internet use and category of users (undergraduate, postgraduate, teaching and non-teaching)?; what are the reasons for using either the library or the Internet?; what criteria are used by users in deciding whether to use the library or the internet; what are the reasons for potential reluctance or dissatisfaction in using the library/Internet; whether there are any significance differences between the reasons given for not using the internet and the library; in what areas is the library and the internet competing or complementing; what are the effects of the internet on library usage; and whether there are any significant changes that the library needs to undertake in order to improve on its products and services. The questionnaire was tested and retested through a pilot study for reliability before use. This was done within the library using twenty questionnaire given to students and teaching staff who visited the library.

A total of 1000 questionnaires were administered among the students in the university campus through class representative cutting across all years of study and to teaching and non-teaching staff in their offices. A total of 573 (57.3%) questionnaires were returned and used for the analysis of this forty eight did not indicate the category they belonged to.

3.5 Data analysis procedure

Data was analyzed using frequencies to produce counts and percentages for each set of question to derive statistical inferences. Data was coded and entered into the statistical package for social sciences (SPSS). Frequency tables were used for each set of questions. It is expected that the findings will show the type of services provided, customer's perception of the Internet and library, expectations and satisfaction. This will help improve the services provided in the library, consequently effective services and more satisfied users.

4.0 Data Analysis, Presentation and Interpretation

4.1 Introduction

This section presents the results of the study. Presentations include the characteristics of the library and Internet users, the extent to which library and Internet is being used, level of satisfaction or dissatisfaction with the library or the Internet among the various categories of users, the criteria used by users in deciding whether to use the library or the internet, the areas that the library and the Internet are competing and complementing A comparison of the reasons given for not using the internet and the library has also been computed.

4.2 Results

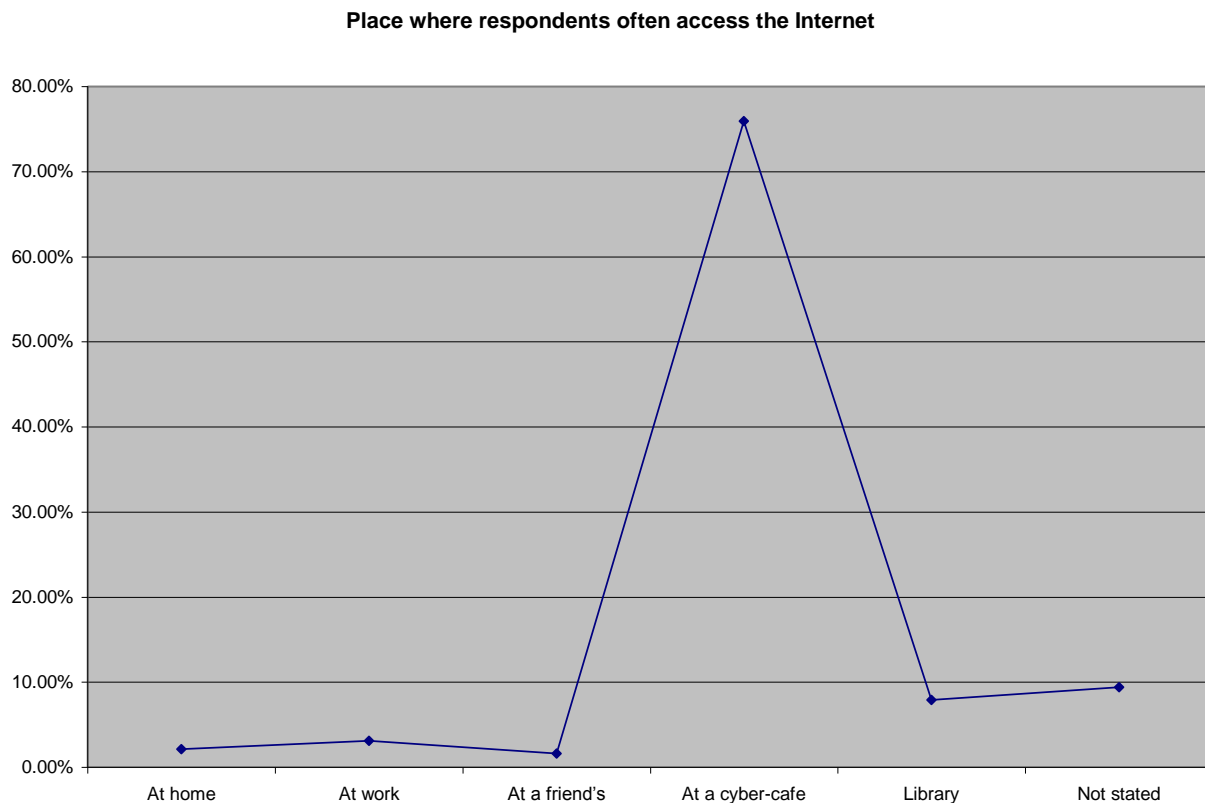
This chapter presents the results of the study. Presentations include the characteristics of the respondents; extent of using the library/Internet; relationship between Internet use and category of users (undergraduate, postgraduate, teaching and non-teaching); reasons for using either the library or the Internet?; criteria used by users in deciding whether to use the library or the internet; reasons for potential reluctance or dissatisfaction in using the library/Internet; differences between the reasons given for not using the internet and the library; areas the library

and the internet are competing or complementing; effects of the internet on library usage; and changes that the library needs to undertake in order to improve on its products and services.

Question set 1: Do students and faculty members have access to the internet

Data recorded indicates that many users have access to the internet from various locations. Figure 1 shows the percentage of the various places respondents often access the Internet. A high percentage of respondents indicated having access to the internet. When asked from which place do they often access the internet only 8.7% said they access the Internet in the library while 83.8% indicated accessing the internet at a cyber-café.

Figure 1: Percentage of the various places respondents often access the Internet

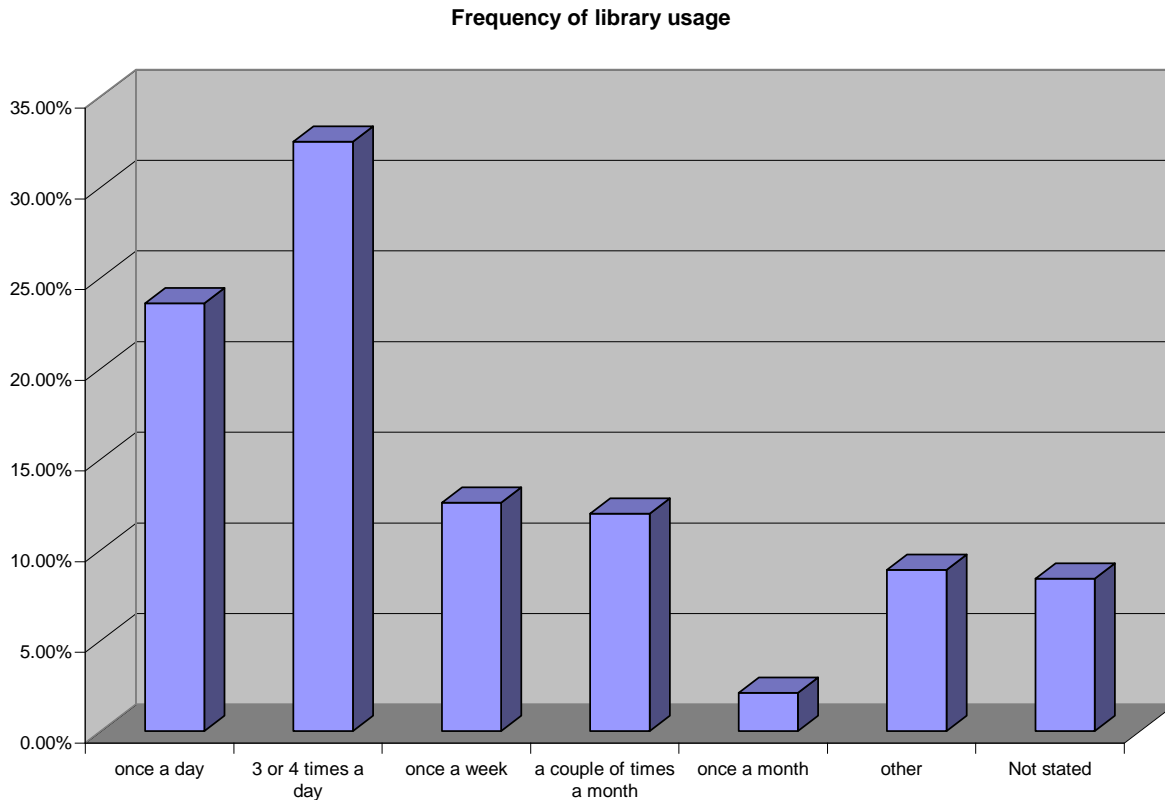


This shows that a majority of the Chepkoilel community have access to the Internet but not in the library. Thus most of those who visit the library they do so to get library services and not Internet services.

Question set 2a: To what extent are students and faculty members using the library?

Figure 2 shows the respondents frequency of using the library. Majority of respondents (96.1%) admitted to making use of the library frequently. 32.5% of users indicated that they made use of the library 3 or 4 times a day as opposed to only 2.1% of users who indicated that they used the library only once a month.

Figure 2: Frequency of using the Library

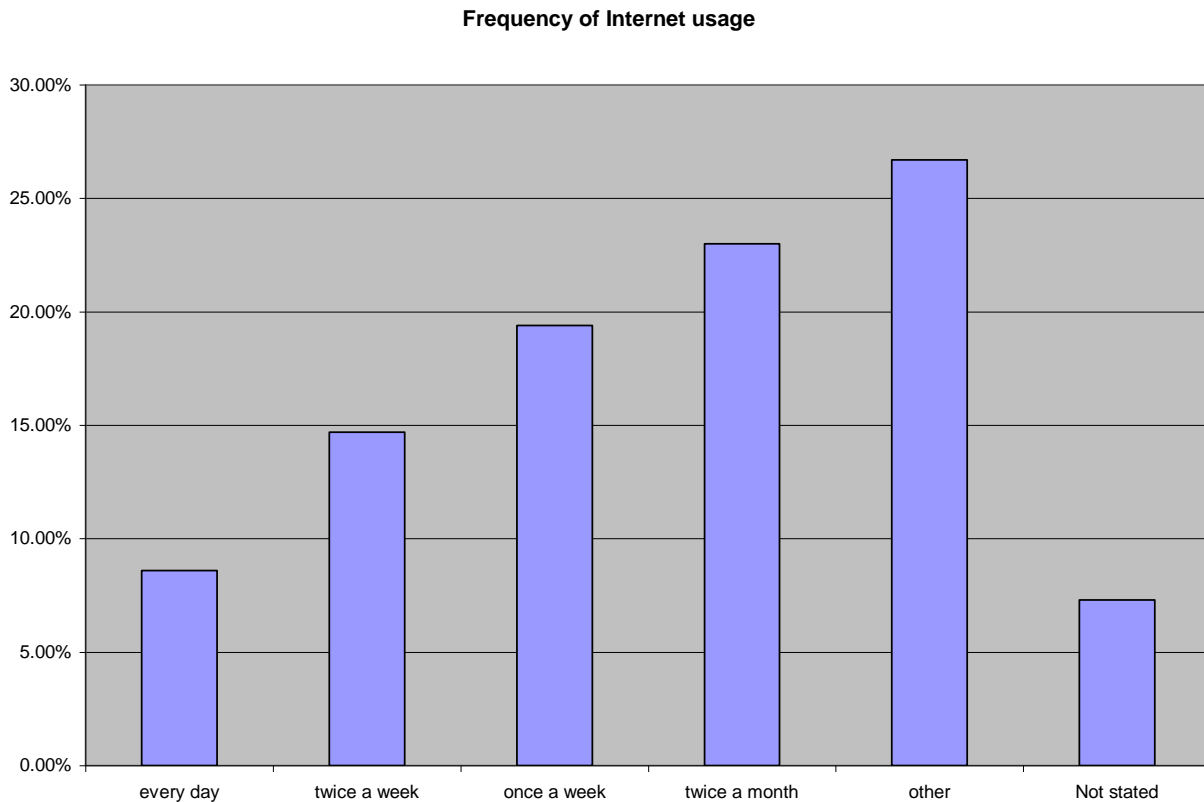


This clearly indicates that library usage is high with majority of the respondents using the library 3 or 4 times a day. When the respondents were asked from which place do they often access the Internet only a very small percentage of users (8.7%) said they visit the library to use the Internet.

Question set 2b: To what extent are students and faculty members using the Internet?

On the usage of the internet 55.2% of the respondents indicated using the internet in the last two weeks. 8.6% indicated using the internet on a daily basis compared to 23.6 for the library while 14.7% indicated using the internet twice a week and 19.4% once a week (figure 3).

Figure 3: Frequency of using the Internet



This indicates that most of the Chepkoilel community prefers using the library more than the Internet. This supports our earlier observation that library usage is higher than that of the Internet. There were several reasons given by respondents that made them not use the Internet, among which included bandwidth and cost of being online.

Question set 3: What are the characteristics of the library and internet users

The characteristics of the library and internet users were captured by a set of questions in section B of the questionnaire. This was in terms of age, gender, category (undergraduate, postgraduate, teaching and non-teaching) and place of residence of the respondent.

Age

From the responses of the participants (table 1) it is evident that the Internet is mostly used by those who are 30yrs and below in all the categories of the users. Still a bigger majority do not use the Internet, 44.1% as compared to those who use it in the two age brackets.

TABLE 1: Library and Internet usage pattern by Age

Service	Percent usage			
	< 30yrs	>30yrs	Do not use Internet	Not stated
Library	64.3%	24.0%	6.2%	5.2%
Internet	32.4%	18.3%	44.1%	5.0%

Gender

From the responses of the participants, 96.8% of males use the library as compared to 86.6 % of the females (table 2). In case of the Internet 58.5% of male respondents use the internet compared to 40% of the female.

TABLE 2: Library and Internet usage pattern by Gender

Service	Percent usage		
	Male	Female	Not stated
Library	96.8%	86.6%	10.4%
Internet	58.5%	40.0%	48.9%

This shows that there may be a gender gap in Internet and library usage and more so in the Internet usage. Males are more likely than females to come to the Internet cafes to use the Internet.

Category of users

A high percentage of respondents from all the categories of users indicated that they use the library. It is interesting to note that 73.6% of non-teaching staff use the library and the explanation given is that many are attending classes (table 3). On the other hand data recorded indicates that a higher percentage of postgraduate students (82.3%) and teaching staff (80%) use the Internet as compared to undergraduates (44.5%) and non-teaching staff (47.8%), table 2.

TABLE 3: Library and Internet usage pattern by category of users

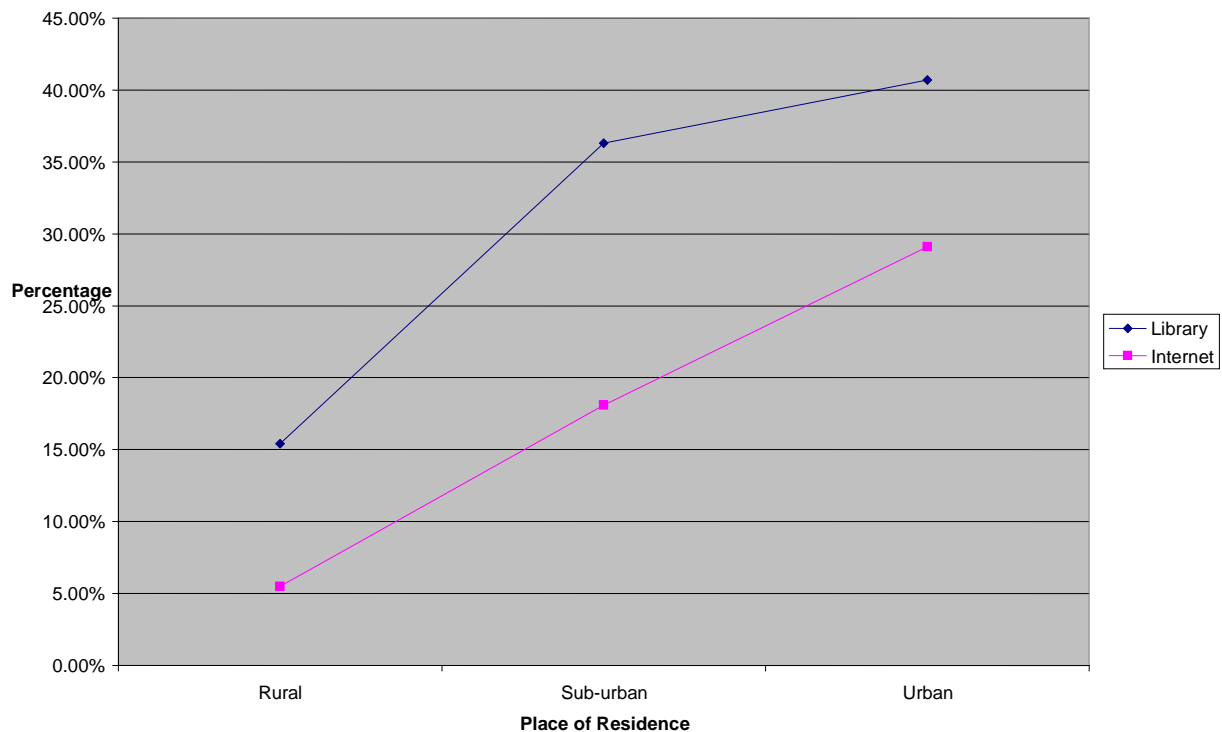
Service	Percent usage				
	Undergraduate	Postgraduate	Non-teaching staff	Teaching staff	Not stated
Library	99.1%	94.1%	73.6%	100.0%	8.3%
Internet	44.5%	82.3%	47.8%	80.0%	8.3%

This can be explained by the fact that these categories of users are mostly involved in research. On the other hand the university subscribe to online journals and not hard copies thus to access this journals one has to use the Internet. Similarly browsing the Internet cost an average of 1 Ksh. per minute, making it hard for most undergraduate to use it.

Place of residence

From the responses given by the participants, the place of residence have an effect on usage of both the library and the Internet with those from the urban having a higher percentage than those from the rural (figure 4). The results agree with earlier research (Xueping, 1999) which observed that those who use the Internet are generally cosmopolite, as the Internet is considered to be an urban phenomenon, partly because of the concentration of PCs and telecommunication access in major towns. This results also shows that most of the respondents consider themselves living in the urban or sub-urban areas and not rural.

Figure 4: Percentage of library and Internet usage by place of residence



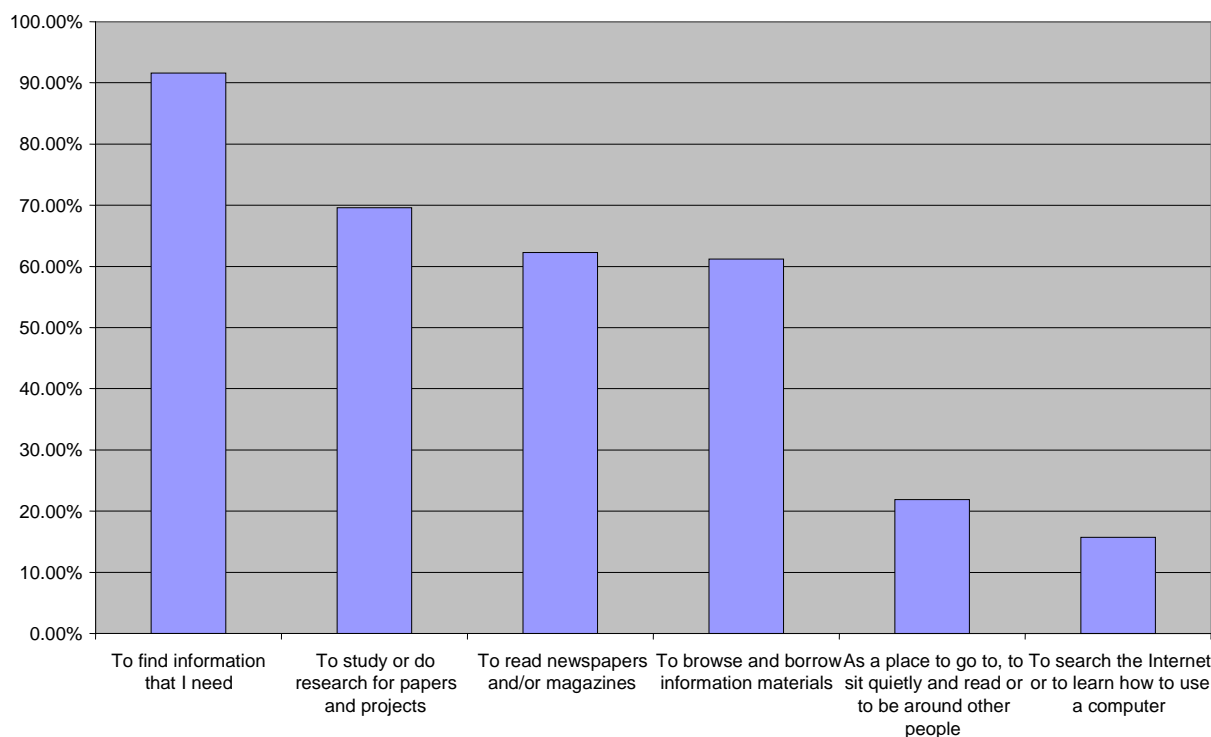
From the result of the findings the internet is mostly used by those who are 30yrs and below in all the categories of the users and majority of them are from the urban and sub-urban. It is also evident that a higher percentage of males use both the library and the Internet more frequently

than the females. Rhee and Kim (2004) observed that Internet usage is more likely to expand among younger people who are the main participants in shaping mainstream culture. This is so because in the process of socialization, young people are commonly exposed to new cultural trends, technologies and tools, which they can then easily assimilate for their own various purposes. This conclusion is consistent with previous adoption research which has shown that early adopters of innovations tend to be younger, male, better educated, with higher income levels (Rogers, 1995; Lin, 1998; Cheong, 2002).

Question set 4a: What are the reasons for using the library?

This question set was designed to describe why people use the library. We wanted to find out what the library does for, or offers to the users in a bid to meet their needs, why they use the library, the reasons they use the library and the kind of services they used. Most respondents said they used the library mainly to study or do research for papers and projects, to find information that they need or to read newspapers and/or magazines. We generated a set of reasons as to why people used the library. Figure 5 below indicates the percentages of affirmative responses to these reasons for using the library.

Figure 5: Reasons for using the library



Data recorded indicated that 96.1% of respondents used the library for various reasons. 91.6 percent used the library to find information that they needed, 61.2% to browse and borrow information materials, 62.3% to read newspapers and/or magazines and 69.6% to study or do research for papers and projects. When respondents were asked to rank the reasons for using the library, to find information was ranked as very important (90.6%) followed by to do research for papers and projects (74.3%), table 4. To search the Internet or to learn how to use a computer was ranked 14.4% in terms of importance and as a place to sit quietly and read or to be around other people was ranked highly as not important. These analyses provide no evidence, at this time, that the use of the internet is changing the reasons why people use the library.

TABLE 4: Respondents ranking of library usage

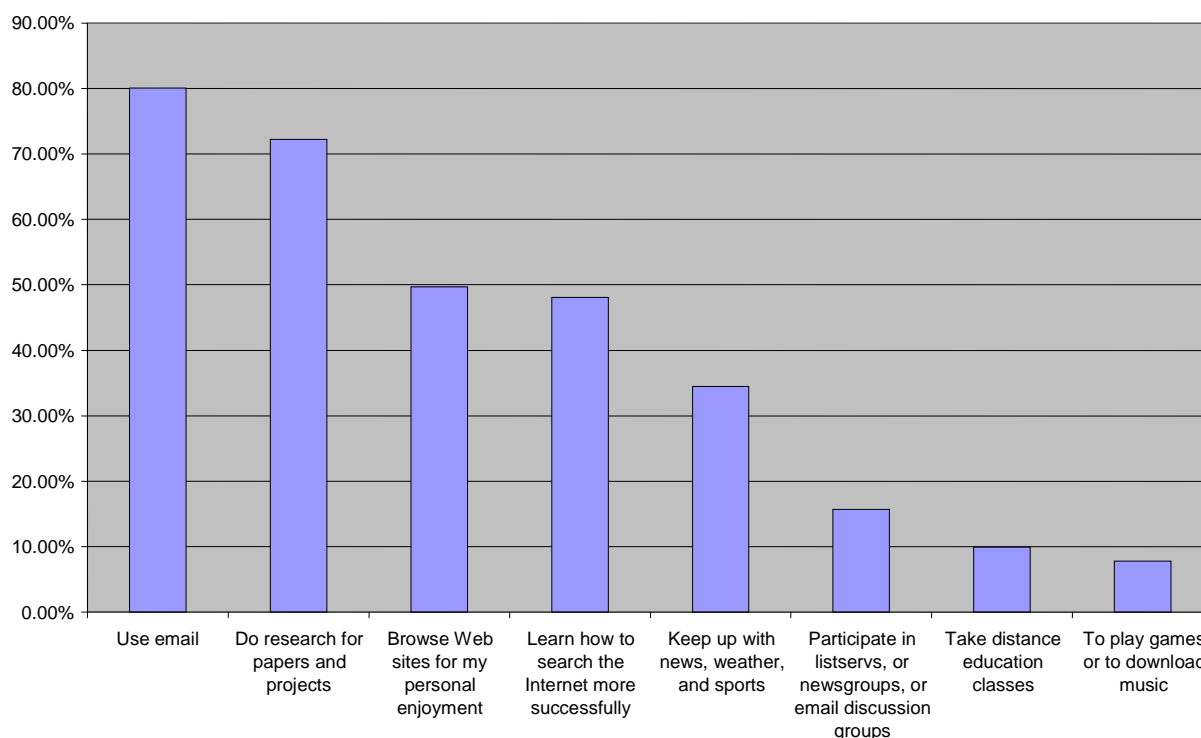
Reasons	Very important	Quite important	Not important	Not Very important
To find information that I need	90.6%	7.2%	0.6%	1.7%
To study or do research for papers and projects	74.3%	18.9%	2.3%	4.6%
To read newspapers and/or magazines	15.0%	41.0%	10.4%	33.5%
To search the Internet or to learn how to use a computer	14.4%	25.0%	31.3%	29.4%

As a place to go to, to sit quietly and read or to be around other people	8.5%	10.3%	50.3%	30.9%
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Question set 4b: What are the reasons for using the Internet?

This set of questions was designed to describe why people use the internet. A lot of literature is available giving reasons why people use the internet. Some of the reasons people use the internet include: to find general information about a subject; to access information not easily available elsewhere; to correspond with far away friends using email, which offers a cheap and easy alternative to traditional methods of correspondence; to discuss interests with like-minded people for example through WIKI; to learn through on-line distance education; and to buy and trade things among others. But of course that's not all; currently it is possible to do many things that are part of ones normal way of life. One can access government information or do banking online or publish online. Questions were developed with reasons for using the internet that corresponds to the list of reasons for using the library. We had a set of common reasons for using academic libraries and the internet which enabled us to describe which services were complementary and why users chose one provider over the other. According to the responses given, many people said they use the internet to find information, to do research for papers and projects, for email and for basic literacy, among others.

Figure 6: Reasons for using the Internet



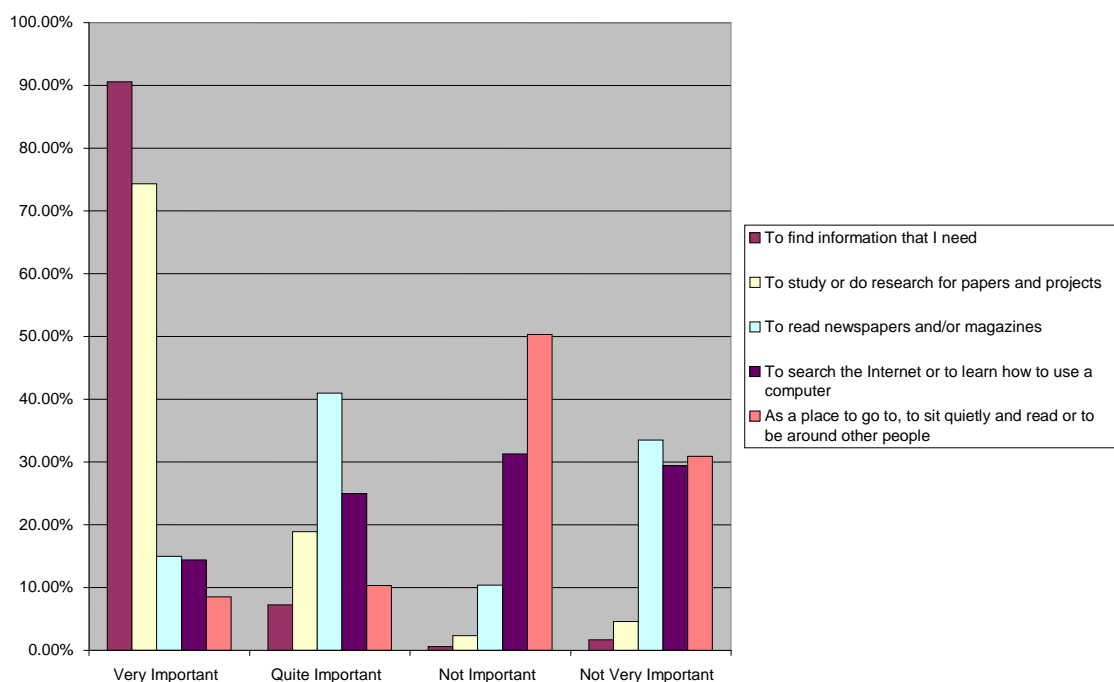
According to data recorded figure 6, a high percentage admitted to using the internet for email services, for personal enjoyment, to do research for papers and projects, and to learn how to search the internet. Others admitted to using the internet to take long distance education classes and participate in online discussion groups. 49.7% indicated using the internet for personal enjoyment, 34.5% use the internet to keep up with news, weather and sports, a massive 80.1% use the internet for email, 72.2% use it to do research for papers and projects while 48.1% indicated using it so as to learn how to search more successfully. It is particularly noteworthy that the number of those who responded to using the internet is lower than those who responded to using the library (55.2% Internet and 96.1% library). This suggests that the library is being used more than the internet for the same reasons. These differences however do not represent a preference for one of the two providers because other factors such as pricing (1Ksh. per minute) militate against Internet usage.

Question set 5: What criteria are used by users in deciding whether to use the library or the internet

These questions were developed to ascertain the users' opinions about the service characteristics of the two providers. It was designed to give an insight into the criteria that people used when

deciding whether to use the library or the internet and for what reason. These decision criteria included availability, accessibility, ease of use, range of available materials, etc. We designed a set of possible reasons as to why people visit the library such as: to find information that they need, to read newspapers and/or magazines, to browse and borrow information materials, to study or do research for papers and projects, as a place to go to, sit quietly and read or to be around people, to search the internet or to learn how to use a computer. Possible reasons were also designed to find out why people used the internet. Respondents indicated using the internet to browse web sites for personal enjoyment, to keep up with news, weather, and sports, to use email, to do research for papers and projects, to take distance education classes, to participate in listservs, or newsgroups, or email discussion groups, to learn how to search the internet more successfully.

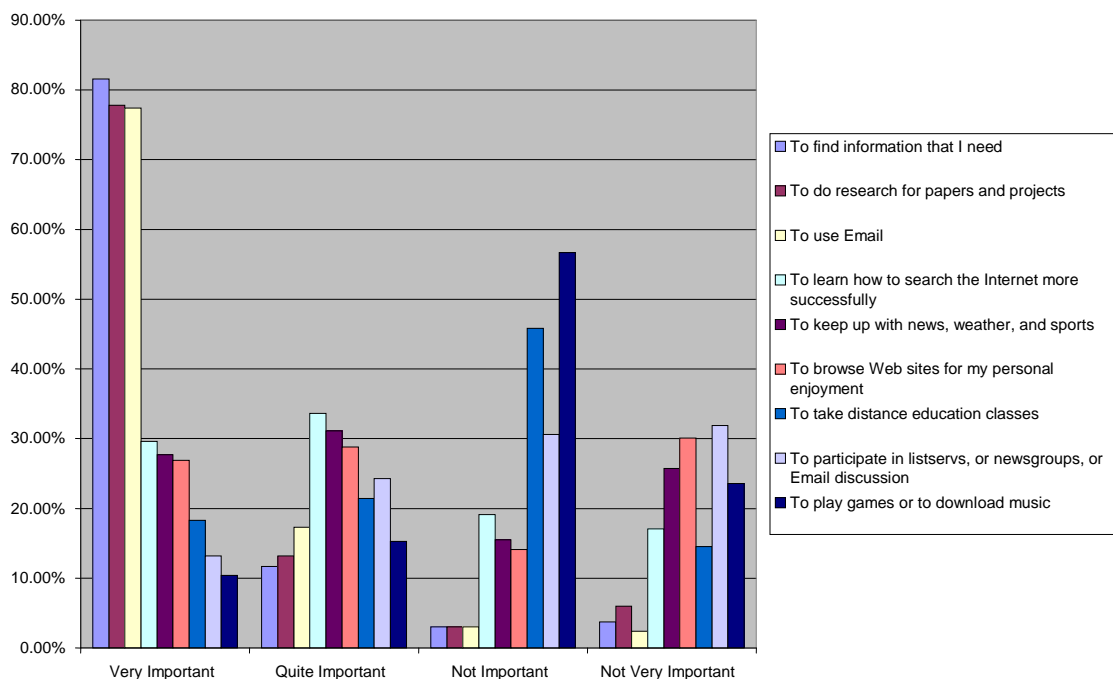
Figure 7: Ranking of library usage



Data recorded indicates that to find information was the reason that was rated highest for using the library with 90.6% rating it as very important (figure 7). To study or do research for papers and projects was also rated highly with 74.3% rating it as very important. Similarly only a small number of respondents used the library as a place to sit quietly and read or be around other

people 24.7% and to search the Internet or to learn how to use the Internet 17.8%. Both reasons were also rated as not very important 14.4% and 8.5% respectively.

Figure 8: Ranking of Internet usage



On the other hand a high number of respondents indicated that they use the Internet for e-mail 84.5%, to research for papers and projects 76.2%, to browse Web sites for personal enjoyment 52.5%, and to learn how to search the Internet more successfully 50% (figure 8). Only a small number of respondents 10.4% indicated they use the Internet to play games or to download music. The reason that was rated highest for using the Internet was to find information with 81.6% rating it as very important followed by to study or do research for papers and projects 77.8% and to use Email 77.4%. This result agrees with what was said about the library that the major reason for visiting the library is to find information and to study or do research for papers and projects.

Question set 6a: What are the reasons for potential reluctance or dissatisfaction in using the internet

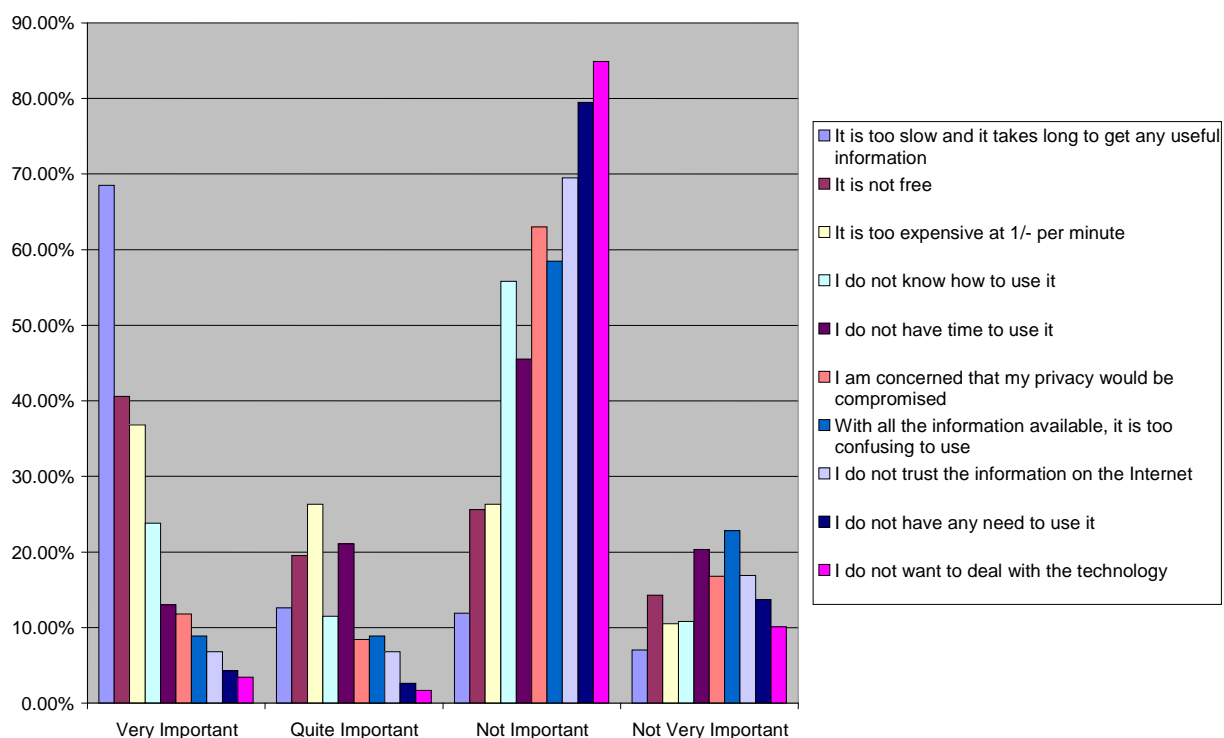
Table 5 below shows respondent's reasons for not using the Internet. Pricing and slow connection speed were the major reasons why the respondent felt reluctant to use the internet. Only 2.6% indicated they do not want use the Internet because they don't want to deal with the technology. Surprisingly 22.5% indicated that they do not use the Internet because they do not have time to use it.

TABLE 5: Respondents reasons for not using the Internet N=573

Reasons	Frequency	Percent
Because it is too slow and it takes long to get any useful information	333	58.1%
Because it is too expensive at 1/= per minute	216	37.6%
Because it is not free	198	34.5%
I do not have time to use it	129	22.5%
I do not know how to use it	93	16.2%
With all the information available, it is too confusing to use	63	10.9%
I am concerned that my privacy would be compromised on the Internet	57	9.9%
I do not trust the information on the Internet	39	6.8%
I do not have any need to use it	21	3.6%
I do not want to deal with the technology	15	2.6%

When respondents were asked to rate the reasons why they do not use the Internet, figure 9 shows that there was a strong consensus that at present, the Internet is expensive to use and the connection speed is low.

Figure 9: Respondents perception of the Internet services



However, respondents do not consider the new technology and computer skills as severe barriers to the use of Internet, which indicates large-scale use of Internet is possible if it is made free and the connection speed improved. On the other hand respondents gave several reasons why they do not use internet even when available in the library.

Table 6: Respondents reasons for not using Chepkoilel Library Internet services

Reasons	Frequency	Percent
Total	573	100.0%
Not stated	267	46.6%
Computers are few, slow, occupied and crowded	237	41.0%
Costly, expensive, lack money	27	4.6%
No idea	12	2.1%
Not interested	9	1.5%
Lacks time	6	1.0%
Computer illiterate	3	0.5%
Internet had a problem	3	0.5%
Have internet in office	3	0.5%
Out of service	3	0.5%
Transferred recently	3	0.5%

Table 6 shows respondents reasons for not using Chepkoilel Library Internet services. 41.0% of the respondents reported that computers are few, slow, occupied and crowded in the library cyber café and only 4.6% gave cost as a reason for not using it. This implies that Infrastructure and social support within the environment itself can reinforce or inhibit the adoption of new media.

Question set 6b: What are the reasons for potential reluctance or dissatisfaction in using the library

Data recorded in the frequency table 7 to find out why people do not use the library indicate some respondents did not have time to go to the library. Others indicated that the library did not have the materials they needed while others indicated that they did not like returning borrowed materials. Others felt that library staff were not friendly and that they did not feel welcome in the library. Only 15.1% indicated using books that have been borrowed by their friends while only 5.7% indicated a preference to buying their own books. A paltry 4.7% indicated not feeling welcome in the library while only 5.7% indicated that the library staff are not friendly.

TABLE 7: Respondents reasons for not using the library N=573

Reasons	Frequency	Percent
The library does not have the materials that I need	252	43.9%
The services at the library are not very good	150	26.1%
I do not have time to go to the library	102	17.8%
I use books that have been borrowed by my friends	87	15.1%
The library staff are not friendly	33	5.7%
I prefer to buy my books and other materials	33	5.7%
I do not like having to return borrowed materials	27	4.7%
I do not feel welcome at the library	27	4.7%
I do not feel safe in the library	21	3.6%

These analyses do not seem to provide evidence, at this time, that the reasons for not using the library are affected by use of the internet.

Question set 7: Are there significant differences between the reasons given for not using the internet and the library

Data analyzed indicates that there were significant differences between the reasons given for not using the internet or the library. Respondents suggested they did not use the library due to lack of furniture, limited space, and poor cataloguing/shelving. Others indicated that they did not like

returning borrowed materials. Reasons given for not using the Internet were it is too slow and it takes long to get any useful information, it is not free and that it is too expensive at 1/= per minute. Others reasons cited included the internet being crowded, always occupied and privacy. It was interestingly to note that in both cases, respondents indicated that they do not have time to either go to the library 17.8% or to use the Internet 22.5% (table 5 and 7). This was interesting because at university we expected students and faculty to create time to look for information that they will use for projects and research either from the library or the Internet or both.

Question set 8a: In what areas are the library and the internet competing

Data analyzed indicate that there are areas in which the library and the internet are competing. Respondents ranked highly the same reasons for using the library as the same reasons that they used the internet. Some indicated using the library to find information they need, to read newspapers and/or magazines, to study or do research for papers and projects. These same reasons were cited by internet users as being very important. Data recorded indicates that 90.6% ranked as very important to find information they needed as a reason for using the library while 81.6% indicated the same for using the internet. 74.3.1% of users ranked as very important to study or do research for papers and projects as a reason to use the library while 77.8% ranked the same for using the internet (figure 7 and 8). This was a clear indication that there are areas where the library and the internet are competing.

Question set 8b: In what areas is the library and the internet complementing

Data analyzed indicate that there are areas in which the library and the internet are complementing. A high percentage of respondents used the internet for services that the library did not provide such as taking distance education, to participate in listservs, or newsgroups, or email discussions. 80.1% indicated using the internet for email services, 77.4% rated it as a very important reason for using the internet. This is a service that the library does not provide. 49.7% indicated using the internet to browse web sites for personal enjoyment but only 26.9% rated this reason as being very important (figure 6 and 8). On the other hand respondents indicated that they visit the library to browse and borrow information materials and to sit quietly and read or to be around other people. It is noteworthy, at this time, that the internet is providing services that the library is not providing and likewise there are services that the library is providing that the internet is not.

Therefore it is evident that there are areas in which the library and the internet are complementing.

Question set 9: What are the effects of the internet on the library usage

Data was analyzed to determine if library users who also use the internet, segment 2 in our model use the library for different reasons than library users who do not use the internet, segment 1 (figure 2 appendices). The question of interest here is whether use of the internet is having an effect on the reasons why people use or do not use the library. The analysis so far suggests that respondents are consumers of information resources and they access it both from the internet and the library but not necessarily the same services. Data recorded and analysed indicate that the percentage of respondents who used both the Internet and the library was 53.3% (segment 2) and those who used the library and not the Internet was 42.3% (segment 1). Out of those who do not use the library (3.9%) only 1.9% used the Internet which is a very small percentage.

Similarly when asked why they stopped using the library only 9.4% of the respondent indicated the Internet as the reason for not using the library (table 8). Other reasons given for not using the library do not precisely indicate that the Internet is having an effect on library usage.

TABLE 8: Percentage of respondents who reported that they stopped using the library because of the Internet N=573

Reasons	Frequency	Percent
Internet	54	9.4%
other	114	19.9%
Not stated	405	70.7%
Total	573	100.0%

On the other hand reasons given for using the Internet indicate that it is mostly complementing rather than competing with the library (figure 6). The Internet was also found to offer new and emerging services such as online distance education, email, and discussion groups among others that the library may not be able to offer. This analysis indicates that the Internet complements the services offered by the library and that there is little evidence at this time to suggest that Internet usage is affecting library use.

Question set 10: Are there any significant changes that the library needs to undertake in order to improve on its products and services

According to data collected the percentage of users who indicated using the Internet and the library to find information was rated very high by the respondents. Likewise, respondents who indicated using the Internet to do research for papers and projects, rated higher than respondents who used the library for the same reason (figure 7 and 8).

Figure 10: Respondents perception of the library and Internet in meeting their information needs

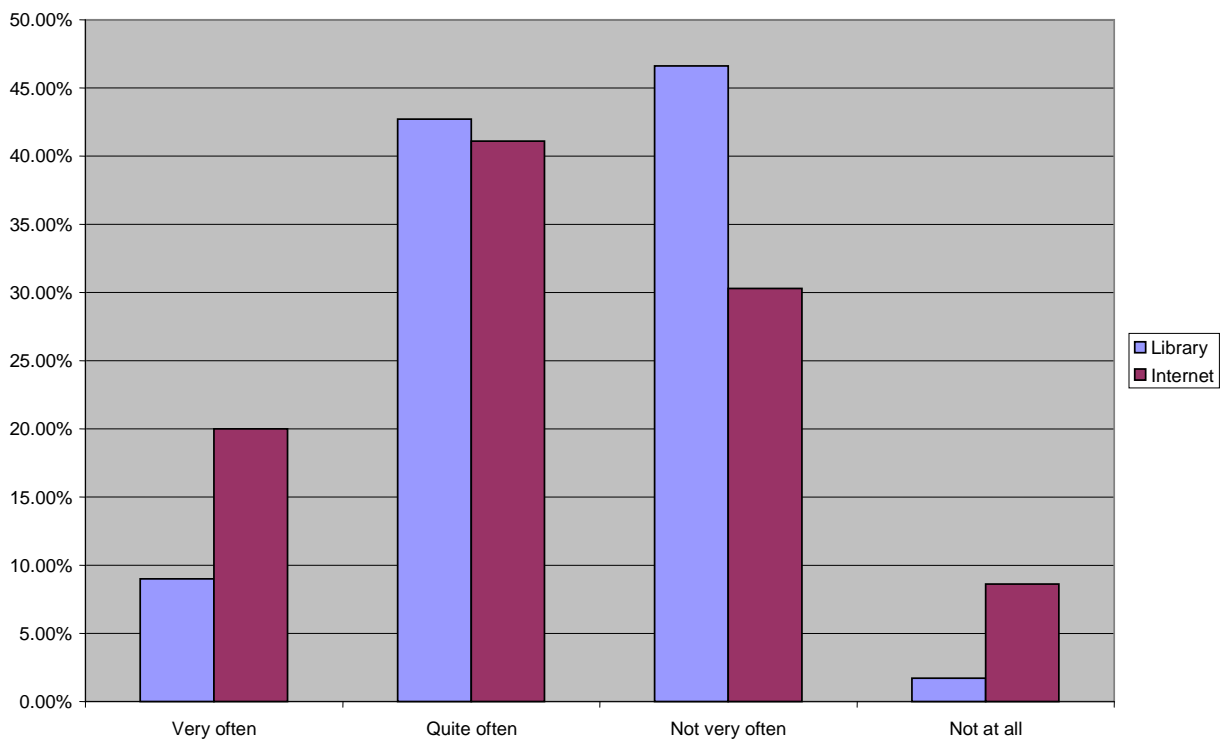


Figure 10 shows respondents perception of the library and Internet in meeting their information needs. The results shows that the Internet was ranked higher than the library with 20% saying that the Internet very often meets their information needs as compared to library which scored 9%. Thus there is need for the library to make changes and improve on its products and services. Some of these changes include integrating the resources available on the Internet in the overall library services.

Regarding perceived attributes, the results of this study are consistent with Lin (1998) observation, who reported that motivations that entail resources, complexity, advantages, and need for innovativeness could influence adoption. She concluded that along with the cost issue, factors such as whether a person perceived the innovation to be complex, useful, or relatively advantageous, and whether a person possessed a certain adventurousness or strong novelty-seeking motive might affect willingness to use or adopt the innovation.

5.0 Conclusion

The most critical issue affecting the future of academic libraries is the potential impact of the internet. The questions commonly asked are “in this age of the internet do we still need academic libraries? What role will the academic library play in the 21st century?” The future of the academic library will be determined by the consumer market, the academic community. People are now integrating the services and resources of the internet into their daily lives. Many of these services appear to be in direct competition with the services offered by the academic library. It is evident from the data analyzed that the Internet is increasingly becoming an important source of academic information and a tool for communication. It was observed that respondents were choosing which information provider to use for different reasons. The usage of the library was high as compared to the usage of the Internet. This could be explained by the fact that the Internet services are not free while library services are free. The Internet was also too slow and due to the few terminals provided, it was also always congested and occupied as indicated by respondents. Getting Internet services from other cyber cafes would entail incurring more expenses due to the fact that they are located far from campus. On the other hand, though library services were free, a high percentage of respondents indicated using the Internet for the same reasons such as doing research, and at other times for services that the library does not offer such as emails among others. Therefore, cost and slow speed were found to be the biggest barriers to widespread usage of Internet in Chepkioliel campus an issue that needs to be addressed urgently. From these findings the Internet is without a doubt a tool that holds great potential in assisting the library achieve its objectives. The Academic library will continue to exist, but it will have to adjust its services in order to respond successfully to the competition from the Internet and to the changing demands of the users. The Internet will complement the library and the two will coexist. Thus the onus is on the library management to integrate internet services as part of the

overall services offered in the library by making it free, improving the speeds and developing Internet infrastructure and content that will allow Chepkoilel community to access it from anywhere within the campus. But widespread usage of this powerful information resource depends not only on the innovativeness of the library but more on the efforts made by the university management to promote its access, advantages and ease of use for lack of administrative support and vision at universities is in general the main factor responsible for the failing in the use of an innovation (Sherry, 1998).

6.0 Recommendations

The objective of this study was to examine Chepkoilel campus user perception of the Internet and the library, the extent to which the Internet is being used and how the library can adjust its services in order to meet the needs of the user.

It was verified that a little more than half (55.2%) of the Chepkoilel community use the Internet as a tool to find information for their academic work and that perception of the Internet is more favourable than the library in meeting their information needs. The percentage suggests that academic libraries need to change considering the extraordinary pace with which knowledge is moving to the Internet. Authority control and classification is no longer important. The academic library needs to invest in new products and services and articulate their roles in the current and future information era that is being powered by the Internet. As indicated above, there is a high use of general Internet information resources among students and staff who regularly use search engines, emails, discussion groups and WIKIs to obtain and share information and the library is not the only place for these information seekers. It is for this reason that libraries have to realize that they cannot stand alone and therefore need to make changes so that they can compete in the information superhighway. These changes entail utilizing the potential provided by the Internet. It is evident from data analysed that the library by utilizing traditional services is not able to meet the needs of its users and that library users are turning to the Internet for information that they need. 43.9% of the respondents indicated not using the library because it did not have the materials they needed. Thus the library should integrate print and electronic collections. These should be in form of CD-ROMS, full text online journal content and academic e-books. The library needs to move from purchasing content to open access where the number of open access journals has steadily increased. Open access is digital, free of charge and free of most copyright

and licensing restrictions. Open access removes price barriers such as subscriptions, licensing fees, pay per view fees and permission fee barriers. Open access literature is free to the user which means that high quality scholarly material is freely available to users.

The library should redevelop as an informal learning space and focus on bringing technology into the library. It should develop space that is conducive to group work and include Multimedia centers, presentation rooms and technological support. The aim is to create a comfortable, lively and an active environment where students and other users can interact with each other and with technology. The library should provide for points of access to the Library database and Internet, which because of wireless networks can be used anywhere either in the library or within the campus.

Similarly the library tools, resources and expertise need to be where the users are. 29.6% of respondents indicated that services at the library are not good while 13.8% indicated that the library was too confusing to use. Libraries will need to develop skills and infrastructure to manage the information resources available online. There will be need to develop new technologies and services. There will also be need to train staff so as to attain the required qualifications to run and manage a digital library. On the other hand more technical staff should be employed or trained so that they can assist and teach students and staff on how to efficiently and effectively use the internet. Ultimately the librarians' roles will change. But the ultimate challenge remains the same, to be the mechanism for making knowledge available to our users. Further research is necessary to fully reveal future trends for Academic library planning and policy development.

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Good paper but too long.
Requires proof reading and shortening.